

Handbook of
Evidence-Based
Practices for
Emotional
and Behavioral
Disorders

Applications in Schools

edited by
Hill M. Walker
Frank M. Gresham



ebook

THE GUILFORD PRESS

**HANDBOOK OF EVIDENCE-BASED
PRACTICES FOR EMOTIONAL
AND BEHAVIORAL DISORDERS**

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Cognitive-Behavioral Interventions
for Emotional and Behavioral Disorders: School-Based Practice

*Matthew J. Mayer, Richard Van Acker,
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*To all those professionals whose work enhances the lives
of our most vulnerable children and youth*

—H. M. W.

*To all of my past, present, and future students,
who provide me with continuous motivation and insight
into the field of emotional and behavioral disorders*

—F. M. G.

About the Editors

Hill M. Walker, PhD, is Founder and Co-Director of the Institute on Violence and Destructive Behavior and Professor in the Department of Special Education and Clinical Sciences at the University of Oregon. The only faculty member to receive the University of Oregon's highest honor, the Presidential Medal, Dr. Walker is also a recipient of honors including the Distinguished Achievement Award from the Association of University Centers on Disabilities and the Kauffman–Hallahan Distinguished Researcher Award from the Division for Research of the Council for Exceptional Children. His research and more than 175 publications focus on social skills assessment, intervention and curricular development, early intervention and prevention with at-risk children and students, longitudinal research on students with emotional and behavioral disorders (EBD) and their families, and behavioral-ecological approaches to school intervention. A few of Dr. Walker's books include *The Acting-Out Child: Coping with Classroom Disruption, Antisocial Behavior in School: Evidence-Based Practices* (2nd ed., with Elizabeth Ramsey and Frank M. Gresham), and *Interventions for Achievement and Behavior Problems in a Three-Tier Model Including RTI* (with Mark R. Shinn).

Frank M. Gresham, PhD, is Professor in the Department of Psychology at Louisiana State University. He is a Fellow of the American Psychological Association (APA) and of APA Divisions 16 (School Psychology), 5 (Evaluation, Measurement, and Statistics), and 53 (Society of Clinical Child and Adolescent Psychology), and is one of the few psychologists to be awarded Fellow status in the American Association for the Advancement of Science. Dr. Gresham is also a recipient of the Lightner Witmer Award and the Senior Scientist Award from APA Division 16. His research and more than 250 publications address topics including social skills assessment and training, response to intervention, and assessment and intervention for students with EBD. Some of Dr. Gresham's books include *Interventions for Children With or At-Risk for Emotional and Behavioral Disorders* (with Kathleen L. Lane and Tam E. O'Shaughnessy), *Social Skills Improvement System Intervention Guide* (with Stephen N. Elliott), and *Cognitive-Behavioral Interventions for Emotional and Behavioral Disorders: School-Based Practice* (with Matthew D. Mayer, Richard Van Acker, and John E. Lochman).

Contributors

R. Allan Allday, PhD, Department of Early Childhood, Special Education, and Rehabilitation Counseling, University of Kentucky, Lexington, Kentucky

Erin E. Barton, PhD, BCBA-D, Early Childhood Education, School of Education and Human Development, University of Colorado Denver, Denver, Colorado

Gregory J. Benner, PhD, Center for Strong Schools, University of Washington Tacoma, Tacoma, Washington

Jacquelyn B. Blocher, MS, Clinical Psychology Doctoral Program, Department of Psychology, Long Island University, Brookville, New York

Janet Bohaty, MA, Department of Special Education and Communication Disorders, University of Nebraska–Lincoln, Lincoln, Nebraska

Edward H. Bovey, MA, Center for Collaborative Educational Leadership, School of Education and Human Development, University of Colorado Denver, Denver, Colorado

Nicole E. Caporino, PhD, Department of Psychology, Temple University, Philadelphia, Pennsylvania

Douglas A. Cheney, PhD, Division of Special Education, College of Education, University of Washington, Seattle, Washington

Clayton R. Cook, PhD, School Psychology Program and Center for Leadership in Athletics, College of Education, University of Washington, Seattle, Washington

Cynthia J. Cress, PhD, Department of Special Education and Communication Disorders, University of Nebraska–Lincoln, Lincoln, Nebraska

Therese M. Cumming, PhD, School of Education, University of New South Wales, Sydney, Australia

Colleen M. Cummings, PhD, Department of Psychology, Temple University, Philadelphia, Pennsylvania

John Delpont, MA, Department of Special Education, University of Washington, Seattle, Washington

- Glen Dunlap, PhD**, Nevada Center for Excellence in Disabilities, University of Nevada, Reno, Reno, Nevada; Department of Child and Family Studies, University of South Florida, Tampa, Florida
- George J. DuPaul, PhD**, Department of Education and Human Services, Lehigh University, Bethlehem, Pennsylvania
- Lucille Eber, EdD**, Illinois PBIS Network, La Grange Park, Illinois
- Stephen N. Elliott, PhD**, Learning Sciences Institute, Arizona State University, Tempe, Arizona
- Michael H. Epstein, EdD**, Department of Special Education and Communication Disorders, University of Nebraska–Lincoln, Lincoln, Nebraska
- Steven W. Evans, PhD**, Department of Psychology, Ohio University, Athens, Ohio
- Edward G. Feil, PhD**, Oregon Research Institute, Eugene, Oregon
- Amanda A. M. Fixsen, PhD**, Oregon Research Institute, Eugene, Oregon
- Ami Flamini, MSW**, Illinois PBIS Network, La Grange Park, Illinois
- Steven R. Forness, EdD**, Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, Los Angeles, California
- Lise Fox, PhD**, Department of Child and Family Studies, University of South Florida, Tampa, Florida
- Andy J. Frey, PhD**, Kent School of Social Work, University of Louisville, Louisville, Kentucky
- Shelley Neilsen Gatti, PhD**, Department of Special Education and Gifted Education, University of St. Thomas, Minneapolis, Minneapolis
- Kathryn A. Germer, MEd**, Department of Special Education, Peabody College of Vanderbilt University, Nashville, Tennessee
- Annemieke M. Golly, PhD**, Oregon Research Institute, Eugene, Oregon
- Matthew J. Gormley, MEd**, Department of Education and Human Services, Lehigh University, Bethlehem, Pennsylvania
- Frank M. Gresham, PhD**, Department of Psychology, Louisiana State University, Baton Rouge, Louisiana
- Keith C. Herman, PhD**, Department of Educational, School, and Counseling Psychology, University of Missouri, Columbia, Missouri
- Kimberly Eaton Hoagwood, PhD**, Department of Child and Adolescent Psychiatry, New York University School of Medicine, New York, New York
- Kristine Jolivet, PhD**, Department of Educational Psychology and Special Education, Georgia State University, Atlanta, Georgia
- James M. Kauffman, EdD**, Department of Curriculum, Instruction, and Special Education, University of Virginia, Charlottesville, Virginia
- Philip C. Kendall, PhD**, Department of Psychology, Temple University, Philadelphia, Pennsylvania
- Dean E. Konopasek, PhD**, Department of Counseling and Special Education, College of Education, University of Alaska, Anchorage, Anchorage, Alaska
- Tonya L. Lambert, MA**, Department of Psychology, Syracuse University, Syracuse, New York
- Kathleen Lynne Lane, PhD, BCBA-D**, Department of Special Education, University of Kansas, Lawrence, Kansas

Seth D. Laracy, MEd, Department of Education and Human Services, Lehigh University, Bethlehem, Pennsylvania

Jon Lee, PhD, Department of Early Childhood Education, University of Cincinnati, Cincinnati, Ohio

Stephen S. Leff, PhD, Department of Pediatrics, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

JoAnne M. Malloy, PhD, MSW, The Institute on Disability, University of New Hampshire, Concord, New Hampshire

Brion Marquez, IRIS Educational Media, Eugene, Oregon

Brian K. Martens, PhD, Department of Psychology, Syracuse University, Syracuse, New York

Richard E. Mattison, MD, Department of Psychiatry, Stony Brook University, Stony Brook, New York

Maryellen Brunson McClain, MEd, Department of Counseling and Educational Psychology, Indiana University, Bloomington, Indiana

Holly Mariah Menzies, PhD, Charter College of Education, California State University, Los Angeles, Los Angeles, California

Laura V. Middelberg, MS, Department of Counseling and Educational Psychology, Indiana University, Bloomington, Indiana

Christopher J. Murray, PhD, Department of Special Education and Clinical Sciences, University of Oregon, Eugene, Oregon

C. Michael Nelson, EdD, Department of Teaching and Learning, University of Louisville, Louisville, Kentucky

J. Ron Nelson, PhD, Department of Special Education and Communication Disorders, University of Nebraska–Lincoln, Lincoln, Nebraska

Wendy Peia Oakes, PhD, Mary Lou Fulton Teachers College, Arizona State University, Mesa, Arizona

Regina M. Oliver, PhD, Department of Special Education and Communication Disorders, University of Nebraska–Lincoln, Lincoln, Nebraska

Julie Sarno Owens, PhD, Department of Psychology, Ohio University, Athens, Ohio

Brooke S. Paskewich, PsyD, Department of Pediatrics, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

Wendy M. Reinke, PhD, Department of Educational, School, and Counseling Psychology, University of Missouri, Columbia, Missouri

Jennifer Rose, PhD, Illinois PBIS Network, La Grange Park, Illinois

Tiffany Rybak, BA, Department of Psychology, Ohio University, Athens, Ohio

Edward J. Sabornie, PhD, Department of Curriculum, Instruction, and Counselor Education, North Carolina State University, Raleigh, North Carolina

Danielle Sauro, MS, Clinical Psychology Doctoral Program, Department of Psychology, Long Island University, Brookville, New York

Hannu Savolainen, PhD, Philosophical Faculty, University of Eastern Finland, Joensuu, Finland

Laura A. Scudellari, MA, Clinical Psychology Doctoral Program, Department of Psychology, Long Island University, Brookville, New York

- John R. Seeley, PhD**, Oregon Research Institute, Eugene, Oregon
- Loretta A. Serna, PhD**, Department of Education Specialties, University of New Mexico, Albuquerque, New Mexico
- Herbert H. Severson, PhD**, Oregon Research Institute, Eugene, Oregon
- Mark R. Shinn, PhD**, Department of Counseling and Educational Psychology, National Louis University, Skokie, Illinois
- Russell J. Skiba, PhD**, Department of Counseling and Educational Psychology, Indiana University, Bloomington, Indiana
- Tal Slemrod, MES**, College of Education, University of Washington, Seattle, Washington
- Jason Small, BA**, Oregon Research Institute, Eugene, Oregon
- Keith Smolkowski, PhD**, Oregon Research Institute, Eugene, Oregon
- Jeffrey R. Sprague, PhD**, Institute on Violence and Destructive Behavior, College of Education, University of Oregon, Eugene, Oregon
- Phillip S. Strain, PhD**, Center for Collaborative Educational Leadership, School of Education and Human Development, University of Colorado Denver, Denver, Colorado
- Holly Strickland, BA**, Department of Psychology, Ohio University, Athens, Ohio
- Lisa Strycker, MA**, Oregon Research Institute, Eugene, Oregon
- W. Carl Sumi, PhD**, SRI International, Menlo Park, California
- Anna J. Swan, MA**, Department of Psychology, Temple University, Philadelphia, Pennsylvania
- Charles V. Thompson, MSW, LCSW**, Kent School of Social Work, University of Louisville, Louisville, Kentucky
- Deanne K. Unruh, PhD**, Department of Secondary Special Education and Transition, College of Education, University of Oregon, Eugene, Oregon
- Hilary B. Vidair, PhD**, Clinical Psychology Doctoral Program, Department of Psychology, Long Island University, Brookville, New York
- Claudia Vincent, PhD**, IRIS Educational Media, Eugene, Oregon
- Robert J. Volpe, PhD**, Department of Counseling and Applied Educational Psychology, Bouve College of Health Sciences, Northeastern University, Boston, Massachusetts
- Christine Waanders, PhD**, Department of Pediatrics, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania
- Tracy Evian Waasdorp, PhD**, Department of Pediatrics, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania
- Mary Wagner, PhD**, SRI International, Menlo Park, California
- Hill M. Walker, PhD**, College of Education, University of Oregon, Eugene, Oregon
- Stacy L. Weiss, PhD**, Department of Special Education, Foundations, and Research, East Carolina University, Greenville, North Carolina
- Michelle Woodbridge, PhD**, SRI International, Menlo Park, California
- Pamela Yeaton, MSW**, IRIS Educational Media, Eugene, Oregon
- Mitchell L. Yell, PhD**, Department of Educational Studies, University of South Carolina, Columbia, South Carolina

Preface

This handbook is designed for use by practicing professionals who are charged with accommodating the needs of students having emotional and behavioral disorders (EBD) and problems within the context of schooling. Graduate students who are preparing for careers and professional roles in disciplinary specializations such as school mental health, school psychology, special education, counseling, positive behavioral supports, and early intervention with at-risk students will also find the book of value. Although many of the chapters advocate for early intervention in the trajectories of risk that so many children follow in their school careers, the book also describes numerous practices and approaches that can be applied in the full K–12 age–grade range and directly addresses issues and problems at the high school level in some of the chapters. The *Handbook* provides coverage of a broad range of topics that impact the success of students with EBD in school settings.

The target population for this handbook is broadly rather than narrowly defined. The small student population with emotional disorders (ED) that qualifies for federal services, supports, and legal protections—and represents slightly less than 1% of K–12 students—is not its primary focus. Rather, the material applies to the approximately 20% of today’s students (inclusive of the students with ED) who have significant emotional and behavioral challenges that impact their academic performance, peer and teacher relationships, and school success. While a majority of these students typically access general education classroom settings, they are capable of experiencing success and growth within a range of settings if provided with the necessary services, supports, and assistance.

The theoretical foundations for the *Handbook* are perhaps best captured by behavioral ecology and social learning models of human performance. Behavioral ecology refers to the interactions between person-specific and setting-specific dimensions in accounting for behavioral outcomes, and social learning defines a body of knowledge that explains how classes of behavior are acquired, shaped, increased or decreased, and sustained over time. Many of the important relationships a student develops with teachers and peers are governed by principles derived from these two conceptual for-

mulations. Numerous methods for ensuring that these principles play out in a positive, beneficial manner for students with EBD are described herein.

The editors are fortunate in having been able to assemble a distinguished set of contributors to the *Handbook*. All of them are leaders in their fields and respected scholars with long histories of success in their specializations. Collectively, they bring enormous expertise to the task of capturing and demonstrating the essence of best practices in serving students with EBD in today's challenging school environments.

We are particularly grateful that James Kauffman, PhD, a distinguished scholar in emotional and behavioral disorders, has written a compelling prologue and epilogue. He reviews the history of our field in its struggles to identify, adopt, and implement practices and strategies that are effective, and calls for the investment in a science of behavior disorders that will enhance the lives of the student with EBD. We hope that the content and organization of this volume does justice to the eloquence and vision that he displays in his commentaries.

This handbook consists of 32 chapters and is divided into six sections as follows: (I) Foundations; (II) Screening, Performance Monitoring, and Assessment; (III) Interventions Targeting Specific Disorders and Settings; (IV) Generic Intervention Approaches; (V) Early Intervention; and (VI) Research Methods. The foundations section contains information on topics essential for EBD professionals, such as the meaning of evidence; proven and promising EBD practices; multicultural issues in school discipline; legal, regulatory, and policy issues relating to accommodation of students with EBD; the post-schooling status and experiences of students with EBD; and the important interface between the disciplines of psychiatry and special education. The next section, on screening, performance monitoring, and assessment processes, addresses the strong demand for easy-to-collect data on behavioral-performance indicators that allow quality decision making about student instruction, support, and placement (curricular and setting-based). Interventions and approaches are the focus of Parts III and IV. Part III presents profiles of interventions that have been developed to target specific disorders and settings, while Part IV is focused on intervention approaches of a more general or universal nature. Part V describes exemplary program practices in early intervention for specific disorders (autism, externalizing behavior problems) and also best-practice principles in the field of early childhood education as applied to behaviorally at-risk students. Finally, Part VI examines recommended practices, lessons learned, and critical issues in the conduct of both qualitative and quantitative methods of inquiry. This section also describes an applied example of implementing randomized controlled trials of behavioral and pharmacological interventions within school settings.

The editors are excited about the potential of this handbook. We view it as a compendium of accessible best practices that, if adopted and applied with high levels of treatment integrity, will produce a strong impact on the emotional and behavioral problems that challenge the school success of students with EBD.

H. M. W.
F. M. G.

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Prologue

On Following the Scientific Evidence

James M. Kauffman

Saying that we should use evidence-based practices is so easy, and the idea seems so intuitive, that virtually everyone says it. We can safely say this about calling for evidence-based practices: As a rule, everyone likes the idea, and virtually no one says we shouldn't do it. Suggesting that we should base educational practices on something *other* than evidence is tantamount to an apostasy that leaves most people agape. But *saying* that we should use evidence-based practices is the easy part.

Only when people start thinking seriously about just what should count as “evidence” and what actions must be taken based on that evidence do disagreements arise. Then—when evidence is defined, and especially when action is contemplated—the barriers go up. Then we find objections to science and the protection of “sacred cows,” the denial of evidence that doesn't fit beliefs, a hedge toward beliefs that cast suspicion on unwelcome evidence. We want our cake, and we want to eat it, too—to have our beliefs, and at the same time to find and act upon only the evidence that confirms them, even if this is not consistent with what science demands (see Sagan, 1996; Shermer, 2011; Specter, 2009).

Science is a cruel mistress. It demands doubt and brooks no choice to believe an alternative explanation when the evidence served

up by fidelity to its method undermines faith in that alternative. This is a bitter pill for many to swallow, so it is not at all surprising that many politicians and educators—even many special educators, including some of those who study emotional and behavioral disorders (EBD)—find science unpalatable (see Anastasiou & Kauffman, 2011; Crockett, 2001; Kauffman, 1999, 2011; Kauffman, Brigham, & Mock, 2004; Kauffman, Nelson, Simpson, & Mock, 2011; Kauffman & Sasso, 2006a, 2006b; Sasso, 2001, 2007). Denial of scientific evidence has become de rigeur in some religious groups, popular philosophical enclaves, and certain political circles. In fact, denial of science has become so commonplace that humorists have poked fun by suggesting that only snobs and elitists appeal to “evidence” in the scientific sense (e.g., Idle, 2011).

Issues of science in EBD cannot be separated entirely from issues of science in other areas of study. In any area of study, EBD included, four caveats apply: (1) An individual may compartmentalize logical analysis, so that scientific evidence guides thinking and action in one endeavor but not in another; (2) all scientific truths are tentative (although some are far less tentative than others), so that a claim of having found absolute, unquestionable truth offers a kind of security and comfort that science cannot; (3)

scientists remain agnostic about answers to questions at the leading edge of their work, so that they are often unwilling to embrace even a tentative truth about the phenomenon they are investigating (they may have hypotheses, but they do not consider them confirmed or rejected in advance of reliable data); and (4) scientists do not assume that if we desire a phenomenon, we can create the conditions under which it will occur (e.g., if we desire perpetual motion, then we should seek the conditions under which motion will be perpetual; if we desire the miniaturization of human beings such that their height is measured only in millimeters or only in microns, then the question is not whether we can create such miniature humans, but what are the conditions under which we can do so).

Perhaps the fact that a science of EBD meets considerable resistance in schools should come as no surprise. Pseudoscientists often suggest that nothing is impossible, that science can find a way to accomplish anything we desire. Yet, as I have noted elsewhere (e.g., Kauffman, 2011), science itself is regularly attacked and disbelieved in many areas of contemporary life. Many people seek alternative explanations of phenomena in the physical world (cf. Specter, 2009), and scientific explanations of phenomena in the social world are often said to be unsatisfying, if not impossible (cf. Brooks, 2011). We may conclude that the barriers to science are many, but that they are particularly troubling in assessing and treating EBD, especially in schools.

In considering the science of EBD, we are left, then, with questions of what should count as evidence and what the evidence demands of us. Answers to these two questions reveal the primary barriers to the realization of a science of EBD in the context of schooling. I begin with the issue of what should count as evidence.

A very popular tactic in convincing ourselves that our practices are evidence-based is accepting only the evidence we like because it confirms what we already believe. At the same time, people using this tactic often deny any bias in their evaluation of evidence. That is, confirmatory findings are accepted as reliable evidence; nonconfirmatory findings are rejected as flawed. But a flaw of

some kind can be found in the findings of nearly any scientific experiment, especially experiments in the social sciences. Thus any claim in education, even if science supports it, is open to criticism on some ground; and claims are sometimes made on the basis of findings that are unreliable by reasonably rigorous scientific criteria, which do not include absolute perfection in research design and data analysis. I note here that findings confirming a belief and disconfirming another do not necessarily indicate bias.

One view accepted by many is that personal experience or testimony is sufficiently robust evidence. “I’ve seen it work,” “It worked for me,” and similar claims are often accepted as convincing. In spite of the unreliability of personal testimony, which has been exposed by many empirical tests and logical analyses, appeals to idiosyncratic experience or belief are taken as conclusive proof in some cases (see, e.g., Sagan, 1996; Specter, 2009). Such personal testimony or assertion without confirmatory data is characteristic of advertising and, unfortunately, of many educational practices, but testimonial evidence is not consistent with the demands of science.

Another approach to “evidence” that is in many ways compatible with personal testimony but inconsistent with science is the citation of an authority that is not considered questionable. Religions have their deities and holy books that are not to be questioned, but authoritarianism is not exclusive to religions. Educators may base a claim on a text or personal statement that they believe is unquestionable. They may confuse “authoritative” with “authoritarian.” Sources (either texts or persons) may be authoritative, in that they summarize and integrate the most reliable current findings on particular topics, but they remain nonetheless questionable and may change their statements to reflect newer findings that qualify or even contradict the older.

Another, and much trickier, ploy is to accept evidence that is indeed the outcome of one or more empirical experiments—but that is either (1) inconsistent with a large body of evidence to the contrary, so that acceptance is based on experiments that are clearly outliers in the body of work on a problem; or (2) poorly designed, so that

acceptance of an interpretation requires the unjustified dismissal of alternative hypotheses. People unacquainted with the scientific method or research design are particularly prone to highly questionable or mistaken conclusions deriving from this ploy. But they are often successful in fooling both themselves and others because they can cite a study—perhaps even a published experiment, perhaps even several—in support of their assertions, which are inconsistent with the preponderance of the evidence or with a more carefully designed experiment or superior data analysis.

Arguments that nonscientific evidence should count—that evidence not meeting the standards of science should be seen as scientific evidence, or that individuals are merely expanding the definition or understanding of science—have plagued many disciplines for many years, but they are particularly problematic in education (for discussions of such difficulties in education, see Engelmann & Carnine, 2011; Kauffman, 2011; Sasso, 2001, 2007). Many ostensible scholars would like to be known as scientists, but they are simply unwilling to embrace Enlightenment ideas about what science is and is not. Astronomer Carl Sagan described them as longing “for the scientific seal of approval, but . . . unwilling to put up with the rigorous standards of evidence that impart credibility to that seal” (1996, p. 58). Often such educators describe their work as “qualitative research” or as some form of inquiry in which the quantitative aspects of science are said to be unnecessary or even an impediment to the best understanding of a phenomenon. This has been a problem in education more generally, not just in special education or the educational treatment of EBD. Towne, Wise, and Winters (2005, p. 15) described the problem succinctly in discussing criticism of a book on scientific research in education:

Critics faulted the book [Shavelson & Towne, 2002, *Scientific Research in Education*] for accepting uncritically the premise that scientific research in education is possible and worthwhile, for depicting a flawed or outmoded view of what constituted scientific inquiry into education phenomena, or for being silent on the role of politics in defining scientifically-based research in education.

(Erickson & Gutierrez, 2002; St. Pierre, 2002; Eisenhart & Towne, 2003)

Given the difficulty of agreement on what should count as “evidence” in educational research more generally, one might expect very little consensus about the meaning of “behavior,” “disorder,” “intervention,” or the effects of teaching or other practices among educators of children with EBD. Polenick and Flora (2012) have stated succinctly the problem often encountered in implementing evidence-based practices in schools:

Sensory integration therapy (SIT) is a controversial practice that is commonly used to treat children with autism spectrum disorders (ASD), other developmental and learning disorders, and functional behavior problems. Although SIT has been researched and practiced for nearly 40 years, and is purported to be grounded in neuroscience, its underlying theory, accompanying diagnoses, and treatments lack scientific support. Even proponents of SIT acknowledge that its effectiveness has failed to be demonstrated objectively, and that there are no objective methods to diagnose the sensory processing problems that are hypothesized to require SIT. Moreover, SIT shares many characteristics of pseudoscientific treatments, reminiscent of other unproven, ineffective therapies that have been heavily promoted for use with children who have developmental problems (e.g., facilitated communication and holding therapy). Nevertheless, SIT is used by approximately 90% of occupational therapists working in school settings. (p. 28)

Children with disabilities and behavioral problems that interfere with daily functioning deserve no less than the provision of proven, empirically validated treatments. To do otherwise would inevitably decrease the chances that these children will achieve their optimal level of functioning and highest quality of life. (p. 34)

Polenick and Flora (2012) describe the problem involving occupational therapists working in schools, but the same problem of pseudoscience is pervasive among other professionals working in schools, including teachers. Unfortunately, the list of those who willingly accept pseudoscience rather than insisting on the application of scientific evidence for the treatment of children with

EBD in schools is long and includes at least the following: voters (taxpayers and citizens in general), boards of education, teachers and school administrators, teacher educators and other faculty in higher education, staff members of state certifying agencies, and staff members of federal agencies (see Kauffman, 2011). Using logic and demanding evidence that meets the standards of science should be characteristics of all those who work in school contexts, but unfortunately they are not.

Besides the botched uses of data I have mentioned, there is also the problem of unfettered belief that science can find a solution to any problem if we desire it. This belief has led some to disregard the laws of physics (see Park, 2000). It has also led to the belief that inclusive education is limitless—that our task is to discover and disseminate the instructional techniques that will allow general education to provide a felicitous educational experience for all children, no exceptions, so that the need for a separate special education for any child will be obviated.

As you read the chapters in this book, you might keep these comments on science in mind. More specifically, you might consider the science related to children with EBD in school. We all must ask ourselves about the nature of the evidence that we believe supports what we do. “Follow the money” is good advice for investigative journalists, and “Follow the scientific evidence” is the best advice for educators. Reliance on logical analyses of the scientific evidence we do have, even if it is only analogous to a particular problem we face, is also important. Data are critically important, but so is logical analysis of them, even if the data are relevant but do not directly involve the phenomenon in question. It is always important, even in education, to ask this simple question when something is proposed: “Is this possible?” Based on what we know about mathematics and learning, an educational objective may or may not be possible. We are not wise to pursue an outcome or solution that a logical analysis of available data indicates is impossible.

Nevertheless, the fruitless pursuit of the impossible is a minor problem compared to failure to pursue answers that can be found. Recognizing that some questions have no scientific answer isn’t the same as failing to

find more effective ways of achieving the possible. This book is dedicated to the pursuit of scientific evidence that will help us achieve more of what we can.

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PART I

FOUNDATIONS

Evaluating the Evidence Base for Emotional and Behavioral Disorder Interventions in Schools

Frank M. Gresham and Hill M. Walker

In order to be a sophisticated consumer of approaches to preventing, intervening with, and remediating emotional and behavioral disorders (EBD), professionals need to understand the criteria and standards used to identify and judge approaches that embody acceptable levels of evidence. Among the most popular descriptors used in referring to applied school research over the past several years are “evidence-based treatments” (EBTs) and “evidence-based practices” (EBPs). It is important for educational consumers to understand exactly what the term “evidence-based” means and how it can be used to evaluate any program, assessment procedure, or intervention practice. Professionals often conflate EBTs with EBPs and use the terms interchangeably.

EBTs are particular interventions that have been shown to be efficacious and/or effective through rigorous research methods, most notably the “randomized controlled trial” (RCT). In contrast, EBPs are approaches to intervention rather than specific intervention procedures. In education, EBTs are used to make decisions about individual students (e.g., students may be classified as “responders” or “nonresponders,” depending on how they respond to an intervention). EBPs are based on scientific research that supports implementation of certain intervention approaches. A good example of an EBP is the “response-to-intervention” (RTI) para-

digm, which is used to change, continue, or terminate an intervention strategy for an individual student through sensitive progress monitoring.

It is important to note that there is not universal agreement about this distinction. For example, in a recent special issue of *Exceptional Children* that builds upon important prior work in school mental health (Burns & Hoagwood, 2002; Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001; Schoenfeld, 2006) and educational practice (Odom, 2005, 2009), Cook and Odom (2013) define EBPs as programs *and* practices that show meaningful effects on student outcomes achieved through high-quality research from which causality can be inferred. In this paradigm, promising or proven interventions are identified through research that meets rigorous standards and are translated into effective practices through procedures drawn from implementation science. Fixsen, Blasé, Metz, and Van Dyke (2013) provide a formula in which they argue that effective interventions combined with effective implementation equal improved outcomes.

EBTs and EBPs are based on scientific research that supports the use of certain intervention procedures or practices. Evidence for these treatments and practices can be established by using a variety of research strategies. These strategies include carefully summarizing the extant research lit-

erature via meta-analytic methods; conducting experimental and quasi-experimental research studies to support various treatments and practices; analyzing moderators and mediators of various treatments and practices; and conducting tightly controlled single-case experimental design studies. We discuss these strategies further below.

Strength of Evidence and EBTs/EBPs

The research strategies that can be used to marshal evidence (and the strength of the evidence they provide) include, but are not limited to, the following: experimental designs (the strongest evidence), quasi-experimental designs (somewhat weaker evidence), regression discontinuity designs (powerful but seldom used in EBD research), correlation/regression studies (correlational but not causative), single-case experimental designs, quantitative syntheses (meta-analyses), and qualitative syntheses. Numerous syntheses of the evidence literature have attempted to categorize interventions and practices into a false dichotomy of either “evidence-based” or “non-evidence-based.” In our view, research evidence does not fall neatly into these two categories, but rather exists on a continuum anchored by evidence-based and non-evidence-based poles. This continuum necessitates thinking in terms of levels or strata of evidence as expressed in categories of stronger or weaker evidence. For example, see Kazdin (2004) for a discussion of the “absolute threshold” versus “hierarchical” approaches to evaluating evidence and judging the strength of applied research. The threshold method is an absolute standard, whereas the hierarchical method is a relative standard that considers a range of evidence generated by differing research methods, in addition to the gold standard of RCTs (e.g., quasi-experimental designs; pre–post outcome studies; correlational studies; descriptive studies using observational methodology; and qualitative, ethnographic and anecdotal evidence). As a rule, we subscribe to the hierarchical approach for establishing evidence as promoted by Kazdin. Ultimately, determining whether a treatment or practice is evidence-based requires evaluating the research methodology used and how well this methodology controls for threats to

internal validity, external validity, construct validity, and statistical conclusion validity.

Meta-analyses dating back to the 1970s have shown that a majority of the published intervention procedures for EBD are effective in treating a broad range of externalizing and internalizing behavior problems (Kazdin & Weisz, 2003, 2010). Effect sizes of social-behavioral interventions for children and adolescents often equal or exceed those of widely accepted medical treatments (Ferguson, 2009; McHugh & Barlow, 2012; Rosenthal & Matteo, 2001). However, interventions that have not been subjected to controlled trials are typically considered unproven and/or ineffective. Such interventions cannot be assumed to be either effective or ineffective until they have been rigorously tested and alternative explanations for their achieved effects have been ruled out (see Smolkowski, Strycker, & Seeley, Chapter 31, this volume). Furthermore, Cook and Odom (2013) argue that it is important to distinguish between practices that are not considered evidence-based (1) because they have been shown through a series of high-quality studies to be ineffective, as they do not demonstrate causality; and (2) because an evidence-based review has not been conducted or there is insufficient research evidence to confirm that the practices are effective. There is a consensus among professionals in our field that the most effective interventions, if implemented poorly or incompletely, will not produce acceptable outcomes, and that ineffective interventions, no matter how well implemented, will yield similar results (see Gresham, Chapter 25, this volume).

Types of Research Evidence

The goal of establishing EBPs in our field is to garner the best research evidence related to intervention strategies, types of EBD, and settings in which these interventions are delivered. Multiple types of research evidence can be used to support EBPs; these include (1) efficacy studies, (2) effectiveness studies, (3) cost–benefit/cost-effectiveness investigations, and (4) epidemiological studies. Different types of research designs are better suited to address certain questions than others. These are described below.

- Observation of EBD within target settings, including case studies, can be a valuable source of hypotheses concerning behavioral difficulties of children and youth.
- Qualitative research (see Sabornie & Weiss, Chapter 30, this volume) can be used to describe the subjective or “real-world” experiences of individuals undergoing a particular intervention procedure.
- Single-case experimental designs are useful for drawing causal inferences about the effectiveness of interventions for individuals in a controlled manner (see Smolkowski et al., Chapter 31, this volume).
- Epidemiological research can be used to track the availability, utilization, and acceptance of various intervention procedures.
- Moderator/mediator studies can be used to identify correlates of intervention outcomes and to establish the mechanisms of change in specific intervention procedures.
- RCTs (efficacy studies) provide the strongest type of research evidence and the most protection against various threats to the internal validity of a study (see Smolkowski et al., Chapter 31, this volume).
- A meta-analysis of the research literature provides a quantitative index concerning the effects of multiple studies across various populations, age groups, and settings.

The types of research evidence obtained by using these methodologies can be rank-ordered in terms of their strength based on research design logic. Thus observations can be used to formulate hypotheses, but cannot be used to draw causal inferences about a phenomenon. Single-case experimental designs can be used to draw causal inferences about the effect of an intervention on a given individual, but these effects cannot be generalized to other individuals with somewhat different types of problems. RCTs can be used to draw causal inferences about the efficacy of a given intervention under tightly controlled conditions, but cannot be generalized to other populations, settings, or conditions under less controlled conditions. Quantitative research syntheses (meta-analyses) can provide estimates of the effect

sizes of given interventions, but cannot necessarily be used to draw causal inferences about the effects of specific interventions on specific individuals.

Threats to Drawing Valid Inferences

The purpose of research methodology is to design studies uncovering relations among variables that might not be readily apparent from casual observation. Research designs assist in simplifying a complex situation in which many variables are operating concurrently, and in helping researchers to isolate variables of interest. Research designs thus aid researchers in the crucial task of ruling out alternative explanations for the data that are collected in a study. The extent to which any given research design is successful in ruling out plausible rival hypotheses is not absolute, but rather one of degree. In particular, researchers use validity arguments to assist them in ruling out alternative explanations for their data. As noted earlier, four types of validity are typically considered: internal, external, construct, and statistical conclusion (Campbell & Stanley, 1963; Shadish, Cook, & Campbell, 2002). These are described in the following paragraphs.

“Internal validity” refers to the degree to which a researcher can attribute changes in a dependent variable (outcome) to a systematically manipulated independent variable (intervention) while simultaneously ruling out alternative explanations. There are various threats to the internal validity of research studies; these include history, maturation, instrumentation, statistical regression, selection biases, attrition, and interaction of selection biases with other threats to internal validity (see Shadish et al., 2002). The RCT is the gold standard for protecting against virtually all these threats to the internal validity of a research study. Single-case experimental designs also provide protection from many, but not all, of these internal validity threats. Quasi-experimental (nonrandomized studies) designs do not provide this level of protection against internal validity threats.

“External validity” refers to the generalizability of the results of a research study. That is, it asks this key question: To what extent can the results of the study be generalized to

other populations, settings, treatment variables, and measurement variables? The issue of external validity concerns the boundary conditions or limits of research findings. Whereas internal validity is concerned with attributing changes in a dependent variable to an independent variables, external validity is concerned with demonstrating the extent to which the same effect would be obtained with other participants, in other settings, with other treatments, and with different methods of measuring outcomes.

Internal validity is the key concept in “efficacy studies” (investigation of a phenomenon under tightly controlled conditions), whereas external validity is the key feature in “effectiveness studies” (investigation of a phenomenon in “real-world” settings) (Nathan, Stuart, & Dolan, 2000). Several threats to external validity have been identified, and these are classified into four broad categories: sample, stimulus, contextual, and assessment characteristics (Bracht & Glass, 1968).

“Construct validity” refers to the basis for interpreting the causal relation between an independent variable and a dependent variable, whereas internal validity is concerned with whether an independent variable is responsible for change in a dependent variable. Construct validity focuses on the reason for or interpretation of the change in a dependent variable brought about by an independent variable.

The construct validity of a study is based on two questions: What is the intervention? And what explains the causal mechanism for change in the dependent variable? For example, it has been demonstrated that modeling and behavioral rehearsal are two well-established and effective procedures for teaching social skills. The causal mechanism for why these two procedures are effective can be found in research on social learning theory (Bandura, 1977), which has consistently demonstrated that vicarious learning (via modeling) and practice (via behavioral enactment or rehearsal) explain why changes in social skills occur.

“Statistical conclusion validity” refers to threats in drawing valid inferences that result from random error and poor selection of statistical procedures. Statistical conclusion validity deals with those aspects of the statistical evaluation of a study that affect

the conclusions drawn from the experimental conditions and their effect on the dependent variable. There are several threats to statistical conclusion validity, including low statistical power (failure to reject a true null hypothesis), unreliability of treatment implementation (poor treatment integrity), unreliability of dependent measures (errors of measurement), random irrelevancies in the experimental setting, and random heterogeneity of respondents.

Levels of Scientific Evidence

Various professional groups have adopted differing but related criteria and nomenclatures for classifying different levels of scientific evidence for interventions. Division 12 (Clinical Psychology), Division 16 (School Psychology), Division 53 (Clinical Child and Adolescent Psychology), and Division 54 (Pediatric Psychology) of the American Psychological Association all have published separate documents specifying criteria for classifying treatments based on the quality of research supporting those treatments. Although there is some variation among these divisions’ documents, all have agreed upon what the criteria should be in the classification of scientific evidence. These criteria are described below.

- *Criterion 1: Well-established treatment.* There must be two “good” group design experiments, conducted in at least two independent research settings and by independent research teams, demonstrating efficacy by showing the intervention to be (1) statistically superior to a pill or psychological placebo or to another treatment, *or* (2) equivalent (or not significantly different) to an already established treatment in experiments with sufficient statistical power to detect moderate differences; *and* (3) treatment manuals or their logical equivalent were used for the treatment, conducted with a target population, treated for specific problems, for whom inclusion criteria have been delineated, reliable and valid outcome measures were selected, and appropriate data analyses were used.
- *Criterion 2: Probably efficacious treatment.* There must be at least two good

experiments showing that the treatment is superior (statistically significantly so) to a wait-list control group, *or* one or more good experiments meeting the criteria for well-established treatments with the one exception of having been conducted in two independent research settings and by different investigatory teams.

- *Criterion 3: Possibly efficacious treatment.* There must be at least one “good” study showing the treatment to be efficacious in the absence of conflicting evidence.
- *Criterion 4: Experimental treatment.* The treatment has not yet been tested in trials meeting established criteria for methodology.

Other codifications of standards of evidence, and descriptions of design approaches that produce varying levels of evidence, have been produced by the What Works Clearinghouse of the Institute of Education Sciences and the Society for Prevention Research (see Flay et al., 2005). Glasgow, Vogt, and Boles (1999) have developed a widely cited framework for evaluating the public health impact of health promotion interventions. This framework, called RE-AIM, has five evaluation dimensions:

1. Reach—the proportion of the target population that participated in the intervention.
2. Efficacy—its success rate if implemented according to recommended guidelines and defined as positive outcomes minus negative outcomes.
3. Adoption—the proportion of settings, practices, and plans that will adopt the intervention.
4. Implementation—the extent to which the intervention is implemented as intended in the real world.
5. Maintenance—the extent to which a program is sustained over time.

This RE-AIM framework is directly transferable to the professional subspecialties of school mental health and the field of EBD. Furthermore, it provides a basis for asking searching questions about the nature, efficacy, and effectiveness of approaches commonly used in our field. We encourage professionals to adopt this framework when-

ever possible in evaluating innovations that are being considered for possible adoption to accomplish prevention and intervention outcomes.

The adoption of interventions and practices for students with EBD in school settings and contexts is increasingly viewed as a consumer protection issue (Detrich, 2008). That is, approaches that are promoted as efficacious or effective need to be accessible and cost-efficient, and must hold the potential to produce acceptable consumer outcomes. “Acceptable” in this instance means that the adopted approach has a reasonable likelihood of solving a problem or remediating a disorder in such a way that (1) the investment of time, effort, and fiscal resources is more than justified by the positive benefits achieved; and (2) participants who are targets and implementers of the approach show high levels of satisfaction based on their exposure to it. We urge professionals to pose two key questions in evaluating the outcomes of an innovation: (1) Is there research evidence that exposure to it moves the participants into or close to the normal range of performance on the outcome measures used? (2) Are outcomes of the intervention and methods used to achieve them acceptable to target consumers (parents, students, teachers)?

Numerous lists and inventories of recommended interventions and approaches are now broadly available, but many have not been thoroughly vetted against the four criteria described above, codified evidence standards (Cook & Odom, 2013), the RE-AIM framework, or the approaches and evaluative guidelines described by Smolkowski and colleagues in Chapter 31 of this volume. We believe that the measures, interventions, and practices reviewed and recommended by contributors to this handbook provide a basis for judging whether they can be considered promising and/or proven and meet the standards of acceptable evidence. Practicing professionals who adopt and implement them can have reasonable confidence that they will work as described, provided that they are implemented with high levels of treatment integrity and that obstacles to such implementation are systematically addressed.

We are hopeful that our field will adopt a science of educational and school-related

EBD research within the next decade along the lines so well described by Kauffman herein. If this occurs, we believe that many of the current school-based barriers to the adoption of effective practices for the student population with EBD are likely to be reduced and attenuated.

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Empirically Supported School-Based Mental Health Programs Targeting Academic and Mental Health Functioning

An Update

**Hilary B. Vidair, Danielle Sauro, Jacquelyn B. Blocher,
Laura A. Scudellari, and Kimberly Eaton Hoagwood**

Schools are one of the major settings where children and adolescents receive mental health (MH) services (Burns et al., 1995; Rones & Hoagwood, 2000). However, the types of MH services, their quality, and their intensity vary drastically from one school to another (Forman, Olin, Hoagwood, Crowe, & Saka, 2009). In part, this may be a function of the inconsistencies that exist between mandated laws and the practices implemented in school-based mental health (SBMH) services. In the United States, the use of evidence-based interventions is mandated through national laws and policies, such as the Individuals with Disabilities Education Improvement Act of 2004 and the No Child Left Behind Act of 2001. Despite these regulations, interventions employed in schools are typically those that are most compatible with current and past practices, even if they lack scientific support. When evidence-based interventions are implemented in schools, the implementations often lack fidelity (Hallfors & Godette, 2002). This situation is not unique to schools; poor implementation quality and limited fidelity to effective interventions are common problems in health care quality improvement (Aarons, Hurlburt, & Horwitz, 2011; Proctor et al., 2009).

Evidence-based task forces and other organizations are addressing and emphasizing these implementation issues in schools. The Institute of Education Sciences' What Works Clearinghouse and the Society for Prevention Research promulgate standards for conducting reviews of evidence-based interventions that are applicable to school settings and education. In addition, the American Psychological Association (APA) Task Force on Evidence-Based Practice for Children and Adolescents has synthesized the current knowledge and provided recommendations for future practice in specified areas, such as school settings (Kratochwill et al., 2012).

For the implementation of evidence-based practices to be meaningful in schools, issues that are relevant to school systems (i.e., academic outcomes and behavioral outcomes) must be addressed. The field has been slow to develop interventions that systematically target both of these domains. Due to differences in the implementation of SBMH programs, outcomes of these services are also varied. In the literature, some studies report mental health outcomes, academic outcomes, or both. Schools have limited resources or may lose resources as a penalty for poor academic performance. Therefore, academic outcomes

are valuable information and are often more of an immediate concern for schools than MH outcomes when interventions are assessed (Adelman & Taylor, 2010). Evaluating both MH and academic outcomes is important for children with emotional and behavioral problems, as studies have found an association between social-emotional functioning and academic functioning (Roeser, Eccles, & Freedman-Doan, 1999; Wagner et al., 2006). For example, difficulty in concentrating may be an MH issue that has a negative impact on academic functioning.

Hoagwood and colleagues (2007) conducted a systematic search of SBMH programs published between 1990 and June 2006 to identify and review those with significant effects on both MH and academic functioning. The majority of SBMH interventions failed to include basic measures of school-related outcomes. Of 64 programs found, only 24 (38%) assessed both MH and academic outcomes, with 23 (96%) demonstrating some positive impact. Those that were effective in both of these domains were time-intensive and complex, involving students, parents, and teachers in school and at home. The Hoagwood and colleagues review underscored the paucity of studies purporting to have relevance to schools that paid attention to academic outcomes. The authors emphasized the importance of documenting positive effects of SBMH programs on educational performance because without such evidence, these programs will probably be the first ones cut when there is pressure to focus on test scores and limited resources.

Despite the benefits of schools' investment in academic performance, child MH on its own has intrinsic value, of course. For example, bullying is an unfortunately common phenomenon that educators aim to reduce, whether or not it is related to academic performance. Of the 40 SBMH studies that examined only MH outcomes in the Hoagwood and colleagues (2007) review, 38 (95%) had positive effects. In contrast to these findings, a recent meta-analytic review of SBMH programs for low-income urban youth found that 55% of studies assessed did not improve child MH (Farahmand, Grant, Polo, & Duffy, 2011). An updated systematic review of SBMH studies that only include MH outcomes is warranted to

determine factors related to effectiveness. It is especially valuable, however, when viewed in comparison to studies that target both academic and mental health outcomes.

Even when a program has been demonstrated effective in a research study, this does not necessarily ensure that it will be adopted, implemented, or sustained in a school setting. For example, Gottfredson and Gottfredson (2002) assessed a nationally representative sample of schools and found that only 25–50% adhered to the number of sessions provided in similar research-based programs. Transporting efficacious interventions into community-based settings is a complex process (Domitrovich et al., 2008; Forman et al., 2009; Schoenwald & Hoagwood, 2001). Therefore, it is important to understand the implementation factors that are necessary for a program to progress and then to be maintained.

Forman and colleagues (2009) assessed facilitators to SBMH program implementation and sustainability by interviewing developers of evidence-based interventions. Implementation facilitators included support of school staff and administrators, financial resources, program adherence via training and consultation, the program's fit with the school's goals, and active collaboration with parents and students. Additional implementation facilitators have been outlined by Rones and Hoagwood (2000). These included program delivery through multiple modalities (e.g., school and family components), integration of the program into the classroom, and developmentally appropriate curricula.

The purpose of this chapter is to expand upon Hoagwood and colleagues' (2007) review by assessing the most up-to-date SBMH programs in the literature, including factors that facilitated their implementation. This important extension of prior reviews reflects the field's development and the recognition that improvement in quality and outcomes is more likely when effective practices are not only provided, but installed with attention to their fit, relevance, and likely sustainability. Studies reviewed in this chapter include programs that targeted both MH and academic outcomes and MH outcomes only. Results of these studies, as well as their target populations (prevention and

education level), intervention components (content, duration, staff), implementation facilitators (classroom integration, training/supervision, fidelity, compensation, assessment of satisfaction, efforts to engage parents), and types of measurement are compared and contrasted. Recommendations for future SBMH research and practice are then provided.

Identifying SBMH Programs for Review

Hoagwood and colleagues' (2007) review included studies between 1990 and June 2006. Consistent with their review, we used the search engines MEDLINE, PsycINFO, and ERIC to gather articles published between June 2006 and April 2012. We created 44 combinations of the following key words to find relevant articles: "mental health," "emotional/behavioral problems," "academics," "educational outcomes," "achievement," "school-based programs," "school-based health," "intervention," "prevention," "treatment," "children," and "adolescents." Additional searches were conducted in an attempt to include all relevant studies. First, we searched through literature reviews of school-based interventions for additional eligible studies. Second, we searched for articles meeting our inclusion–exclusion criteria that were identified in Forman and colleagues' (2009) list of evidence-based interventions in school settings. Finally, we included articles that were well known by experts in the field, but not available through the search engines used in our review.

Eligible studies had to implement a prospective, longitudinal design with either random assignment or a quasi-experimental comparison with at least two assessment points. We included peer-reviewed articles published between July 2006 and April 2012 that examined the effect of SBMH programs on students' MH, as well as their academic performance when this was assessed. MH outcomes were broadly defined and included behavioral issues, emotional problems, impaired functioning, or psychiatric diagnoses. Academic performance outcomes were defined by academic progress (e.g., grades, achievement tests) or academic functioning

(e.g., teacher reports, observations). Attendance was used as either an MH outcome or an academic performance outcome, depending on the authors' description of its purpose. The programs had to target the universal school population or a specific MH group in that school (e.g., children with anxiety or behavioral problems). We excluded studies that consisted of the following: primarily focused on tobacco or substance use, conducted in charter or private schools (due to differing rules and regulations), conducted in universities, solely examined special groups (e.g., children with specific medical illnesses, AIDS orphans, teen mothers, immigrant children), and international studies (due to differing educational regulations and laws).

Summary of Findings

Fifty-three articles met our inclusion criteria. After we accounted for multiple articles about the same study, there were a total of 47 studies, including 23 studies that reported both academic and MH outcomes and 24 that reported MH outcomes only. Appendix 2.1 (pp. 26–39) is an overview of studies that reported both academic and MH outcomes (referred to as "BOTH studies" below). The appendix is organized by the following categories: participants and design, program content and duration, implementation facilitators, types of outcome measures, and between-group outcomes. For BOTH studies, 16 (70%) reported significant academic and MH outcomes, 5 (22%) reported significant MH outcomes only, and 2 (9%) reported no significant between-group outcomes. Appendix 2.2 (pp. 40–53) reviews studies that reported MH outcomes only (referred to as "MH-only studies" below). This appendix includes the same categories as Appendix 2.1. For MH-only studies, 22 (92%) reported significant between-group outcomes, while 2 (8%) reported no significant differences. Table 2.1 provides a breakdown of the percentage of BOTH studies versus MH-only studies that fall within each of the categories above. Only studies with significant between-group outcomes have been included in this table and are outlined below.

TABLE 2.1. Characteristics of School-Based Mental Health Programs with Significant Effects

	% (n) programs			% (n) programs	
	BOTH	MH-only		BOTH	MH-only
<u>Target population</u>			<u>Duration</u>		
Universal	62% (13)	45% (10)	Less than 1 month	0% (0)	5% (1)
Selective	38% (8)	50% (11) ^a	1–3 months	24% (5)	41% (9)
Preschool	14% (3)	9% (2)	3.5–8 months	19% (4)	14% (3)
Elementary school	50% (11)	36% (8)	1 year (or school year)	19% (4)	14% (3)
Preschool/elementary school	5% (1)	0% (0)	2–3 years	24% (5)	18% (4)
Middle school	10% (2)	18% (4)	4–5 years	10% (2)	5% (1)
Grades K–8	5% (1)	5% (1)	>5 years	5% (1)	5% (1)
Grade 5 and/or 6	10% (2)	18% (4)	<u>Implementation facilitators</u>		
Adolescence	0% (0)	9% (2)	Program integrated into classroom curricula	62% (13)	36% (8)
High school	5% (1)	5% (1)	Training and supervision or support	67% (14)	64% (14)
Ethnic-minority sample	48% (10)	55% (12)	Training only	19% (4)	5% (1)
<u>Design</u>			Support only	10% (2)	5% (1)
RCT	81% (17)	91% (20)	No training/supervision/support mentioned	5% (1)	27% (6)
Quasi-experimental	19% (4)	9% (2)	Fidelity assessed	57% (12)	55% (12)
No treatment/usual practice	90% (19)	50% (11)	Parent, teacher, and/or student compensation/incentive	43% (9)	50% (11)
Wait list	5% (1)	23% (5)	School compensation	5% (1)	5% (1)
Attention control group only	0% (0)	14% (3)	Parent, teacher, and/or student satisfaction	24% (5)	14% (3)
Attention control and no treatment	5% (1)	14% (3)	Parent engagement ^c	43% (9)	41% (9)
<u>Program content^b</u>			<u>Measures^d</u>		
Social-emotional well-being	43% (9)	27% (6)	<i>Academic measures</i>		N/A
Prevention/reduction of problem behaviors	52% (11)	41% (9)	Standardized test scores	48% (10)	
Anxiety/depression prevention/reduction	5% (1)	27% (6)	School data	24% (5)	
Enhancing parenting practices	5% (1)	0% (0)	Student reports	19% (4)	
Academic skills	29% (6)	9% (2)	Parent reports	10% (2)	
Other	0% (0)	18% (4)	Teacher reports	43% (9)	
<u>Teacher/parent involvement</u>			Observer reports	24% (5)	
Teachers	33% (7)	23% (5)	<i>Mental health measures</i>		
Parents	24% (5)	23% (5)	Assessment	10% (2)	9% (2)
Both teachers and parents	38% (8)	36% (8)	School/archival data	24% (5)	18% (4)
<u>Program staff</u>			Diagnostic criteria	14% (3)	14% (3)
Teachers or school staff	43% (9)	27% (6)	Parent reports	24% (5)	23% (5)
Research/outside staff	29% (6)	41% (9)	Teacher reports	67% (14)	45% (10)
School/teachers and outside staff	29% (6)	27% (6)	Observer reports	14% (3)	14% (3)
<u>Program setting</u>			Student reports	48% (10)	68% (15)
School only	76% (16)	81% (18)	More than one informant	90% (19)	55% (12)
School and home	24% (5)	19% (4)	Student-only informant	5% (1)	36% (8)

Note. BOTH, studies that assessed both mental health and academic outcomes ($n = 21$); MH-only, studies that assessed mental health outcomes only ($n = 22$).

^aGillham et al. (2007) was not included here. The study was technically selective, but selected children *without* a depressive disorder.

^bSome studies included more than one type of program content.

^cOf studies that involved parents in programs, 69% of BOTH studies and 85% of MH-only studies reported efforts to engage parents. The percentages presented in the table reflect all studies (even those not including parents).

^dSome studies utilized more than one type of measure.

Participants and Design

BOTH studies were more likely than MH-only studies to implement universal programs (62% vs. 45%) and less likely to implement programs for a select group (38% vs. 50%). Across all studies, 44% focused on children in elementary school. Over half of studies reported using a primarily ethnic-minority sample of African American/black and/or Hispanic/Latino students.

Over 80% of studies utilized a randomized controlled trial (RCT) design (81% BOTH outcomes, 91% MH-only), while the remaining studies were quasi-experimental. Regarding type of control group, 95% of the BOTH studies utilized some type of no-treatment control/school as usual, whereas only 64% of MH-only studies did so. MH-only studies used an attention control group in their design more commonly than BOTH studies did (27% vs. 5%).

Program Content and Duration

Evaluation of program content included the focus of the program, its setting, and whether there was parent and/or teacher involvement. BOTH studies were more likely than MH-only studies to have program content focused on students' social-emotional well-being (43% vs. 27%), and/or prevention or reduction of problem behavior (52% vs. 41%). Twenty-nine percent of BOTH studies included academic skills content, as opposed to 9% of the MH-only studies. MH-only studies were more likely than BOTH studies to focus on anxiety or depression prevention/reduction (27% vs. 5%). Teachers were more likely to be involved in programs in BOTH studies than MH-only studies (71% vs. 59%), whereas parents were almost equally likely to be involved (62% vs. 59%). BOTH studies were more likely than MH-only studies to have programs conducted solely by teachers and/or school staff members (43% vs. 27%), while MH-only studies were more likely to have programs conducted solely by researchers and/or outside staff (41% vs. 29%). Although all studies took place in a school setting, 21% also included a home component. Regarding duration, BOTH studies lasted longer than MH-only studies (57% vs. 41% 1 year or more, 24% vs. 45% less than 3 months, respectively).

Implementation Facilitators

Variables that were considered to facilitate implementation included integration of program material into the classroom curriculum, provision of training and supervision/support, inclusion of teachers and/or school staff, assessment of program fidelity, provision of compensation, assessment of satisfaction, and efforts to engage parents. BOTH studies were more likely than MH-only studies to integrate program material into class content (62% vs. 36%). The percentages of other implementation facilitators were similar in BOTH studies and MH-only studies. Across all studies, approximately two-thirds reported both training and additional supervision/support for the program staff; however, MH-only studies were more likely than BOTH studies not to report training or supervision/support (27% vs. 5%). More than half of all studies assessed some type of fidelity to the program, including adherence and implementation quality. Overall, 47% of all studies reported offering compensation to participants, while only 5% mentioned providing compensation to schools. Only 19% of all studies assessed parent, teacher, or student satisfaction. Among studies that involved parents in the program, 77% (69% BOTH studies, 85% MH-only studies) reported some type of parent engagement (e.g., flexible hours/location, food, transportation, child care); however, only 42% of all studies reported some kind of parent engagement.

Types of Measures

Measures were categorized into the following types: standardized test scores, archival data (school and court data), questionnaires (student reports, parent reports, and teacher reports), observer reports, and assessments/diagnostic criteria. Among BOTH studies, standardized test scores were the most common measure of academic performance (48%), followed by teacher report (43%). Only 24% utilized school data (e.g., grades, attendance records), while another 24% used observations. To assess MH, BOTH studies were more likely than MH-only studies to utilize teacher reports (67% vs. 45%), while MH-only studies were more likely to use student reports (68% vs. 48%).

Across studies, the next most common ways to measure MH were parent reports (26%) and school/archival data (21%). Across outcome types, MH-only studies were less likely than BOTH studies to utilize multiple informants (55% vs. 90%), while sole informants were often the students themselves (36% vs. 5%).

Conclusions

This literature review of recent SBMH programs shows an expansion in the number of studies assessing such programs, with a shift toward the inclusion of academic outcomes. Of the 47 recently published SBMH studies found, BOTH studies and MH-only studies were similarly represented. We found 23 BOTH studies in the 6 years we examined (2006–2012), whereas Hoagwood and colleagues (2007) found 24 in the prior 15½ years. This indicates that the average number of BOTH studies conducted per year has more than doubled. The number of SBMH studies without academic outcomes is also growing, but not as fast. We identified 24 MH-only studies in 2006–2012, while Hoagwood and colleagues found 40 in the previous 15½ years. Overall, 91% and 92% of the BOTH studies and MH-only studies demonstrated some significant between-group outcomes, respectively.

The majority of BOTH studies having some significant positive impact were universal in scope, targeted children in elementary school, and were administered as part of classroom curricula. These programs most commonly focused on prevention/reduction of behavior problems, followed by social-emotional well-being. Such broad intervention topics make sense when programs are integrated into classroom environments, where emotional regulation, social skills, and behavior management are key. BOTH studies tended to last a full school year or more, often following the academic calendar. Over 40% of programs were implemented solely by teachers or school staff, while academic and MH outcomes were commonly assessed via teacher reports. School personnel may have been chosen to implement programs that were meant for the classroom or had academic targets. Conversely, the rationale for utilizing school staff and assessing aca-

ademic outcomes may have been to match the schools' goals.

In comparison to the BOTH studies with positive effects, effective MH-only studies were more likely to target select populations and gather only one type of informants' reports of MH outcomes. These programs were also distributed more widely across grades and less likely to be integrated into classroom curricula. Although content frequently focused on behavior problems, they were more likely than BOTH studies to span a range of specific mental health issues, such as anxiety, depression, and bullying/violence. The majority lasted for less than 1 year, with 41% lasting only 1–3 months. When interventions focused on specific MH concerns, outside researchers or trained professionals were more likely to implement the interventions than teachers or school staff. The utilization of personnel outside the school staff could account for why selective interventions were typically shorter, were not incorporated into classroom lessons, and lacked academic outcomes.

Schools are likely to be more amenable to MH programs that incorporate a focus on academic learning. For example, the program described in Bierman and colleagues (2008) included books in an interactive reading program related to weekly social-emotional themes and feeling words for vocabulary. Children were then administered various language development tests. This is an exemplary model for how to integrate social-emotional skills directly into standard scholastic curricula and assess relevant academic outcomes. Despite the increased number of programs targeting such outcomes, most did not include academic skill content. Four of the six BOTH studies demonstrated some significant positive changes in academic outcomes between groups (Bierman et al., 2008; Brackett, Rivers, Reyes, & Salovey, 2010; Hawkins, Kosterman, Catalano, Hill, & Abbott, 2008; Newgent, Featherston, Stegman, & Lee, 2009). Only two MH-only studies included academic content, but did not assess any academic outcomes (Conduct Problems Prevention Research Group [CPPRG], 2007, 2010b, 2011; Reid, Webster-Stratton, & Hammond, 2007). We recommend that future SBMH studies incorporate academic curricula and relevant academic outcomes.

Reasons for the lack of effective academic outcomes in the five studies targeting both academic and MH outcomes are difficult to ascertain (Bradshaw, Mitchell, & Leaf, 2010; Brotman et al., 2011; DeSocio et al., 2007; Hennessey, 2007; Jones, Brown, Hogle, & Aber, 2010). One explanation may be the use of distal measures (e.g., academic standardized tests, teacher reports of general academic competence), which may take longer to change rather than more proximal measures of educational success. For example, studies that utilized observational reports of academic engagement, school readiness, and task orientation at school found positive program effects (Bierman et al., 2008; Iovannone et al., 2009; Seeley et al., 2009; Walker et al., 2009; Webster-Stratton, Reid, & Stoolmiller, 2008). Future studies should assess whether these types of measures mediate the relationship between SBMH programs and academic achievement.

Beyond identifying effective program content, we assessed what factors facilitated program implementation. This is an important addition, and it reflects a growing awareness among program developers and researchers that closing the research-to-practice gap requires more than having an effective program and an interest from a school in its adoption. Instead it attends to the social and organizational issues—issues relevant to context—that may facilitate or hinder the delivery and sustained use of effective programs. These contextual issues include factors such as training and consultation approaches, fidelity to the intervention, funding, and the extent to which parents are involved. Across effective BOTH and MH-only studies, over half reported providing training and supervision/support to program implementers, as well as assessment of program fidelity. Among BOTH studies, the number of studies assessing fidelity increased from approximately 9% in the preceding review (see Hoagwood et al., 2007) to 57%. This is an important development and speaks to the growing recognition among program developers that fidelity to active ingredients or elements of the intervention is critical to obtaining positive outcomes. Program developers have indicated that high-quality training and consultation are necessary for protocol adherence (For-

man et al., 2009). In our review, training, supervision, and support were less likely to be described in MH-only studies than in BOTH studies. This finding may be related to the tendency for BOTH studies to be working with school staff, some of whom were likely to be implementing an evidence-based program for the first time; however, some articles may not have mentioned the training provided, or authors may have reported it in prior articles (e.g., Gunlicks-Stoessel, Mufson, Jekal, & Turner, 2010).

Providing funding for SBMH programs has been reported to facilitate implementation and sustainability (Forman et al., 2009). Although 47% of studies reported offering compensation to teachers and families, only two studies reported providing compensation specifically to schools (Jagers, Morgan-Lopez, Howard, Browne, & Flay, 2007; Snyder et al., 2010). Financial assistance to specific participants may facilitate specific studies, but it is unlikely to translate into continued practice or adoption of programs into new schools. Forman and colleagues (2009) recommend that program developers support schools interested in evidence-based practice implementation by providing guidance about financial issues.

Parents have also been identified as important collaborators in SBMH implementation. Approximately 61% of all studies with significant outcomes involved parents in the programs, with 77% of those programs reporting specific efforts to engage parents. This too is an important finding and underscores the importance of attending to parent/caregiver/consumer perspectives as relevant outcomes for program sustainability (Hoagwood et al., 2012). It suggests that program developers should focus on involving parents/caregivers in real as opposed to token roles, to improve the traction of positive impacts.

We did not find that studies reported implementation facilitators related to program adoption and sustainability, such as a program's fit with a school's goals. Future SBMH research should pay careful attention to which groups of persons the school community includes and what they identify as their needs and interests.

Over half of recent SBMH studies included a predominantly minority sample; this represents a major development in addressing the

needs of a diverse student population. The increase in the number of studies focused on African American/black and Hispanic/Latino students is more representative of public schools in the United States. Unfortunately, children from Asian and Native American groups are still vastly underrepresented. The results reported here thus may not be generalizable to students from other ethnic backgrounds or students in nonpublic school systems. A literature review of international SBMH programs is also warranted, as we excluded over 60 such studies.

Implications for Practice

Evidence-based and effective SBMH programs are most useful if they are adopted, implemented, and sustained in the school systems. The findings from this review suggest that a substantial number of programs targeting academic and MH outcomes have been carefully studied in schools. Some important implementation facilitators have been addressed. Some have not. The goal of improving youth functioning in school can be attained if school practitioners and researchers mutually inform the process. Researchers can ensure that their program information is readily available and includes goals that are relevant for school personnel, such as a focus on academic outcomes. School psychologists and counselors who are trained in SBMH can advocate for the use of evidence-based programs to principals and other key stakeholders. Both the research community and school staff (teachers, counselors, school psychologists, school administrators) can localize the existing and robust research knowledge to make it relevant to their particular school context. In this way, the research-to-practice gap will be closed. And scientific knowledge and practical experience can be combined to effectuate the public health and utilitarian goal of promoting the greatest good for the greatest number, thus improving child functioning and well-being.

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APPENDIX 2.1. School-Based Mental Health Programs That Assessed Both Academic and Mental Health Outcomes

Program information	Program details	Outcome measures	Outcomes
<p>Name: Head Start Research-based, Developmentally Informed (REDI)</p> <p>Author: Bierman et al. (2008)</p> <p>Participants: 356 4-yr-old children in 44 Head Start classrooms in Pennsylvania</p> <p>Design: Pre-post RCT; classrooms assigned to intervention vs. usual practice</p>	<p>Content: Designed to promote and integrate social-emotional development and language/literacy skills by using brief lessons and group activities (e.g., puppets, role plays) into classroom curriculum; based on Preschool PATHS curriculum focused on social, emotional, self-control, and problem-solving skills; targeted vocabulary, syntax, and phonological/print awareness</p> <p>Duration: 33 lessons delivered 1/wk over 1 yr</p> <p>Facilitators: Teachers received 3-day training initial workshops and 1-day booster, as well as weekly mentoring support by local educational consultants; detailed manuals and kits; take-home material provided to parents to enhance skills at home; children took home stickers to prompt positive support from parents; parent interviews conducted at parents' convenience; trainers assessed fidelity and quality of implementation; parents and teachers compensated</p>	<p>Emotional understanding and social-cognitive skills: ACES; Emotion Recognition Questionnaire; variation of Challenging Situations Task (social problem solving)</p> <p>Social competence and aggression: Social Competence Scale (PR/TR/OR); TOCA-R and Preschool Social Behavior Scale (TR)</p> <p>Language and literacy skills: EOWPVT; Test of Language Development (two subtests); Sentence Imitation; Test of Preschool Early Literacy (three subtests)</p> <p>Learning engagement: self-regulation and compliance (TR); task orientation at school (OR); ADHD Rating Scale (PR/TR); language, communication, and reading at home (PR)</p>	<p>Mental health: Intervention group had significant improvements over controls in emotion recognition, social problem-solving skills, and aggression (TR)</p> <p>Academic: Intervention group had significant improvements over controls in vocabulary, phonological processing, deconstruction of compound words, task orientation, and language/communication at home</p>
<p>Name: RULER Feeling Words Curriculum</p> <p>Author: Brackett et al. (2012)</p>	<p>Content: Designed to foster social, emotional, and academic competence; classroom social and emotional learning curriculum integrated into classroom curriculum (English and history); class discussion/essays focused on feeling words and their relationship</p>	<p>Social and emotional competence: BASC (TR)</p> <p>Academic performance: Report card grades</p>	<p>Mental health: Intervention group had significantly higher ratings of social and emotional competence (e.g., leadership, social skills, and study skills) and</p>

Participants: 273 students in grades 5–6 from 15 classrooms in three schools

Design: Pre–post quasi-experimental; classrooms assigned to RULER vs. school as usual

to academic material, current events, and family situations

Duration: 30 wks

Facilitators: Teachers in both groups received 3-hr overview of emotional literacy; intervention group teachers received additional 9 hrs of training about classroom lessons; researchers visited school 4×/yr for quality assurance (OR)

lower ratings of school behavior problems than controls

Academic: Intervention group had significantly higher year-end grades than controls

Name: Schoolwide positive behavioral interventions and supports (SWPBIS)

Author: Bradshaw et al. (2010)

Participants: 37 ES from five rural and suburban school districts in Maryland

Design: RCT; schools assigned to SWPBIS vs. comparison schools

Content: Designed to reduce disruptive behavior problems through the application of behavioral, social learning, and organizational behavioral principles; schoolwide universal prevention strategy (e.g., reinforcement and discipline systems) created, shared with school staff and students, and used in class; promotes positive change in school staff and student behavior

Duration: 5 yrs

Facilitators: District and state partners helped recruit; teachers and administrators attended 2-day training; additional support provided to schools' behavior support coaches 4×/yr; teams attended annual 2-day summer booster training; when change in school administrator occurred, met with research coordinator to review goals/expectations; implementation fidelity assessed (OR/SR); small incentives provided to staff members

ODR: Discipline referral data using the School-wide Information System (only assessed in SWPBIS schools, yrs 1–4)

School-level suspension rates: Obtained from Maryland State Department of Education (assessed at baseline, yrs 1–4)

Academic achievement: Maryland School Assessment standardized achievement tests measured third- and fifth-grade math and reading achievement each year after baseline (baseline test unavailable)

Mental health: Intervention group had a significant reduction in percentage of students receiving suspensions, than controls; significant reduction in ODRs over time in SWPBIS schools

Academic: No significant differences between groups

Program information	Program details	Outcome measures	Outcomes
<p>Name: ParentCorps</p> <p>Author: Brotman et al. (2011)</p> <p>Participants: 171 4-yr-old children (39% black, 24% Latino, 12% Asian, 12% mixed ethnicity) enrolled in prekindergarten in eight schools of a large urban school district in New York City</p> <p>Design: Pre–post RCT; schools assigned to intervention vs. prekindergarten as usual</p>	<p>Content: Designed to enhance effective parenting practices (e.g., positive reinforcement, behavior management) and decrease child behavior problems; parent group included group discussions, activities, and HW; child group taught children skills parents learned (e.g., star charts) to promote familiarity; group sessions conducted by teachers and university mental health professionals (MHPs) at school during early evening hrs</p> <p>Duration: 13 2-hr weekly group sessions</p> <p>Facilitators: MHPs received training by program developers and supervision; school staff received group leader’s guide; emphasis on reducing barriers to engagement (e.g., communication with teachers, meal distribution, child care); cultural values discussed; implementation fidelity assessed (SR); parent satisfaction assessed; school staff compensated</p>	<p><i>Effective parenting practices:</i> Parenting Practices Interview (PR); Effective Parenting Test (PR); Global Impressions of Parent Child Interactions—Revised (OR)</p> <p><i>Child behavior:</i> BASC (TR); New York Teachers Rating Scale (TR)</p> <p><i>Parent involvement in child education:</i> Involvement Questionnaire (TR)</p> <p><i>School readiness skills:</i> Developmental Indicators for the Assessment of Learning–3</p>	<p>Mental health: A significant intervention effect on parenting practices, test on parenting knowledge, and child externalizing, internalizing, and adaptive behavior</p> <p>Academic: No significant differences between groups</p>
<p>Name: FRIENDS (modified version)</p> <p>Author: Cooley-Strickland et al. (2011)</p> <p>Participants: 98 African American and biracial students in grades 3–5 rated as “at risk” for anxiety disorders (assessments and TR) and endorsed at least mild exposure</p>	<p>Content: Designed to teach children strategies for coping with anxiety via cognitive-behavioral techniques (e.g., relaxation, cognitive strategies, problem solving); group-oriented anxiety prevention program; parent session reviewed child management skills</p> <p>Duration: Children attended 13 biweekly 1-hr group sessions; parents offered three 1-hr sessions (only one held due to low attendance)</p> <p>Facilitators: Group leaders received training and</p>	<p><i>Exposure to community violence:</i> Children’s Report of Exposure to Violence (SR)</p> <p><i>Mental health disorders:</i> Computerized Diagnostic Interview Schedule for Children</p> <p><i>Anxiety symptoms:</i> Revised Children’s Manifest Anxiety Scale (SR)</p>	<p>Mental health: Intervention group showed significant decreases in life stressors and reduced victimization by community violence than controls; no significant between-group differences in anxiety or total exposure to community violence</p> <p>Academic: Intervention group had significantly more</p>

to community violence (SR) from two Title I ES in an urban area in Maryland

Design: Pre–post RCT; intervention vs. WL

supervision; doctoral-level African American group leader; makeup sessions given to children who missed sessions; incentives: class pizza party for high response rates, lottery for parents, and small gifts for students

Adverse life events: Multicultural Events Schedule for Adolescents

Academic achievement:

Wechsler Individual Achievement Test—Screener (basic reading, mathematics reasoning, and spelling)

improvement in standardized mathematics achievement scores than controls

Name: Truancy intervention pilot project

Author: DeSocio et al. (2007)

Participants: 103 students (58% African American, 25% Hispanic/Latino) ages 16 or younger in an urban northeast U.S. HS with 15 or more days of unexcused absences in the prior school year

Design: Pre–post RCT; intervention vs. unable to enroll in intervention vs. usual school services

Content: Designed to increase school engagement in students with high absentee rates; provided teachers as mentors; mentors provided daily one-on-one interactions, two weekly after-school tutoring sessions, links to learning services, student–teacher mediations, encouraged student interests; parent involvement with school reentry plan; enrollment in SBMH center

Duration: January–June (two grading periods)

Facilitators: Mentor collegial support group; school-based coordinator hired to conduct home visits for consent, have regular contact with families, f/u with absentees, parents, and teacher mentors (“tag-team” approach), and encourage drop-in student appointments; small grants to promote student interests; public transportation tokens for two in-school family meetings; expanded SBMH center hours; mentors compensated for 3 hrs/wk

Truancy: Attendance records

Academic performance: GPA

Mental health: Intent-to-treat group significantly more likely to remain in school and complete the school year than controls; intervention group had significantly better attendance than controls or group unable to enroll after one grading period

Academic: No significant differences between groups

Program information	Program details	Outcome measures	Outcomes
<p>Name: Challenging Horizons Program, Consultation Model (CHP-C)</p> <p>Author: Evans et al. (2007)</p> <p>Participants: 79 students in grade 6 (ages 10–14) diagnosed with ADHD from five MS in rural Virginia</p> <p>Design: RCT; CHP-C vs. community care control group; four schools randomly assigned, one school added as a control; evaluated every 6 mos for 3 yrs</p>	<p>Content: Designed to help children with ADHD; training and consultation program; manualized weekly group sessions focused on academic skills (e.g., note taking, organization) and social skills; monthly teacher and parent monitoring to assist in treatment planning</p> <p>Duration: Up to 3 school yrs (excluding summers)</p> <p>Facilitators: Developed by a team of parents, school staff, physicians, and researchers; staffed by educators, SBMH professionals, and paraprofessionals; 1-day training; each student had a coordinating mentor; school psychologist provided consultation to mentors; some mentors provided parents with a training video and HW management strategies; school consultant (OR) and mentor (SR) adherence ratings</p>	<p>Inattention and hyperactivity: BASC (PR), DBD (PR/TR)</p> <p>Social skills: SSRS (PR)</p> <p>General functioning: Impairment Rating Scale (PR [social and academic functioning]; TR [academic functioning])</p> <p>Academic performance: GPA and academic functioning on Impairment Rating Scale (PR/TR)</p>	<p>Mental health: No significant differences between groups</p> <p>Academic: No significant differences between groups</p>
<p>Name: Seattle Social Development Project</p> <p>Author: Hawkins et al. (2008)</p> <p>Participants: 589 students from 15 ES in high-crime neighborhood in Seattle</p> <p>Design: Quasi-experimental; schools assigned to full-intervention group (FIG; grades 1–6) vs. late-intervention group (LIG; grades 5–6) vs. no-treatment control; <i>f/u</i> at ages 24 and 27 (study focused on <i>f/u</i>)</p>	<p>Content: Designed to promote child social and emotional skill development and active involvement in school and family life; universal intervention (based on social development model); teachers used cognitive and social skills training curriculum; offered parents seven sessions of behavioral management skills (grades 1–3), four sessions of supporting children's academic development (grades 1–3), and five sessions for parents to strengthen skills to reduce children's risk of problem behavior (grades 5–6); study consultant taught students refusal skills in grade 6</p> <p>Duration: Grades 1–6 or 5–6</p> <p>Facilitators: Grade 1 teachers received instruction in a cognitive and social skills training curriculum; teachers participated in annual 5-day inservice training</p>	<p>Substance use: Substance abuse and dependence criterion index (SR)</p> <p>Criminal behavior: Past-year crime index (official state/federal reports; SR)</p> <p>Mental health: Diagnostic Interview Schedule, past yr</p> <p>School and work functioning: Median SES attainment (SR); integration at school (SR); degree of job responsibility (SR); constructive engagement at school/work (SR); constructive self-efficacy (SR)</p>	<p>Mental health: FIG had significantly fewer symptoms of mental disorders than controls at ages 24 and 27 and fewer suicidal thoughts at age 27; no other significant differences between groups</p> <p>Academic: FIG was significantly more likely than controls to have an SES at or above the median by age 27; no other significant differences between groups</p>

<p>Name: Open Circle program (OCP)</p> <p>Author: Hennessey (2007)</p> <p>Participants: 154 students in grade 4 (M age = 9.24 yrs) from eight classrooms in four schools in a large metropolitan area</p> <p>Design: Quasi-experimental; classrooms assigned to OCP vs. no-treatment control; assessed once in fall and once in spring</p>	<p>Content: Designed to enhance social skills; use of circle time with children and their teachers with lessons designed to improve communication, self-control, and social problem-solving skills; cooperative classroom environment: listening and respectful communication emphasized</p> <p>Duration: 1 school yr; 2–3x/wk, 35 lessons</p> <p>Facilitators: OCP implemented in schools with strong commitment (e.g., OCP active for 10+ yrs); school staff used OCP terminology/skills with students; on-site teacher consultation; peer observation to encourage teachers to reflect on performance</p>	<p>Social skills: SRSS (SR/TR)</p> <p>Problem behaviors: SRSS (TR)</p> <p>Academic competence: SRSS (TR)</p>	<p>Mental health: Intervention group had significant improvement in social skills (TR, not SR) and problem behaviors when compared to controls; largest gains made by OCP children in urban areas</p> <p>Academic: No significant differences between groups</p>
<p>Name: Schoolwide positive behavioral support (SWPBS)</p> <p>Author: Horner et al. (2009)</p> <p>Participants: 63 ES (61% nonwhite ethnicities) in Hawaii and Illinois; grades K–5</p> <p>Design: RCT; schools randomly assigned to SWPBS vs. WL control (trained 1 yr later) within each state; assessed at baseline, about 1 yr after beginning SWPBS training, and after WL schools initiated SWPBS training</p>	<p>Content: Designed to create a culture in which students expect and support appropriate behavior, and teaching and learning are maximized; study focused on whole-school model of primary prevention; schoolwide behavioral expectations, behavior management system (e.g., rewards and consequences), and systematic data collection to facilitate decision making</p> <p>Duration: 3 yrs</p> <p>Facilitators: Researchers trained state SWPBS trainers; school teams trained by state SWPBS trainers via three to four trainings (1–2 days each) per yr over 2 yrs; technical assistance; local coaches trained by state SWPBS trainers; coaches met monthly with school teams; implemented with typical resources; observed level of implementation (OR); use of fidelity measures (SR) and ODRs for decision making; training and technical assistance related to improved implementation</p>	<p>Problem behavior: Rate of ODRs per 100 students per day (assessed at post-SWPBS time points only)</p> <p>Academic achievement: Proportion of grade 3 students meeting state reading standard on a standardized test</p>	<p>Mental health: ODR rates in schools that implemented SWPBS were comparatively lower than ODR rates from 1,010 other schools; however, lack of pre-SWPBS ODR data limits understanding of the impact of SWPBS</p> <p>Academic: No significant differences between groups</p>

Program information	Program details	Outcome measures	Outcomes
<p>Name: Prevent–Teach–Reinforce (PTR) tertiary intervention</p> <p>Author: Iovannone et al. (2009)</p> <p>Participants: 245 students in grades K–8 (<i>M</i> age = 8.17 yrs) rated as having critical behavioral problems (TR) from 65 schools across five school districts in central Florida and Colorado</p> <p>Design: RCT; assigned to PTR vs. school as usual; assessed at baseline, posttest, and 6- to 8-mo f/u (f/u data not reported)</p>	<p>Content: Designed for students with intense/chronic problem behaviors; five-step tertiary intervention; teachers develop individualized functional behavior assessment and goals resulting in an intervention “package”; includes antecedent manipulations (Prevent), strategies for replacing problem behavior (Teach), and consequences (e.g., Reinforce); at least three interventions provided in class, with evaluation of intervention and related modifications</p> <p>Duration: About 2½ mos</p> <p>Facilitators: Systematic collaborative approach: PTR implemented by teachers, received assistance from school team, including a PTR consultant and manual; team meetings (30 mins–2 hrs) and teacher HW for each step; teacher training and coaching provided by PTR consultant, including 12 hrs of postimplementation support; implementation assessed by PTR consultant (OR); teachers rated acceptance of PTR</p>	<p>Social skills and problem behaviors: SSRS (TR)</p> <p>AET: Observations by a trained data collector using AET (OR)</p>	<p>Mental health: Intervention PTR group had significantly higher social skills and lower problem behavior scores than controls</p> <p>Academic: Intervention group had significantly higher rates of AET than controls</p>
<p>Name: The 4Rs Program (Reading, Writing, Respect, and Resolution)</p> <p>Author: Jones et al. (2010, 2011)</p> <p>Participants: 942 students in grade 3 (<i>M</i> age = 8.07 yrs; 45.6% Hispanic, 41.1% black) from 18 urban New York City ES</p> <p>Design: Pre–post RCT; schools assigned to 4Rs vs. school as</p>	<p>Content: Designed to change how children think, feel, and behave in interpersonal conflict; universal, integrated intervention in social-emotional learning and literacy development; literacy-based curriculum including readings and discussions, seven units (e.g., understanding and dealing with feelings)</p> <p>Duration: 3 school yrs; 21–35 lessons</p> <p>Facilitators: 25 hrs of teacher training and coaching provided by a 4Rs staff developer (minimum 12 coaching contacts per yr); coaching included group meetings, co-planning/teaching, observation, and feedback; low-cost program; implementation of activities assessed (TR);</p>	<p>Social-cognitive processes: Hostile attribution biases; normative beliefs about aggression; aggressive and prosocial fantasies; aggressive interpersonal negotiation strategies (SR)</p> <p>Behavioral symptoms: Aggression, social competence, ADHD symptoms (TR); depressive symptoms (SR)</p> <p>Literacy skills and academic achievement: Academic skills (TR); standardized math and</p>	<p>Mental health: Intervention group had significantly lower levels of hostile attribution biases and depressive symptoms than controls; no other significant differences between groups (2010), but intervention group had significant improvements in hostile attributional biases, aggressive interpersonal negotiation strategies, depression, ADHD, aggression (TR), and social competence compared to controls at 2-yr f/u (2011)</p>

<p>usual; assessed effects after 1 yr (2010); 1,184 students assessed at 2-yr f/u (2011)</p>	<p>parents and teachers compensated for completing surveys</p>	<p>reading achievement scores; attendance rates</p> <p>Academic: No significant differences between groups overall; children with highest aggression at baseline (TR) in 4R had significantly greater academic skills and attendance (2010) and greater reading achievement and math at 2-yr f/u (2011) than those in controls</p>
<p>Name: Good Behavior Game (GBG)</p> <p>Author: Kellam et al. (2008), Wilcox et al. (2008)</p> <p>Participants: 1,918 students in grades (two cohorts; 66% African American in Cohort 1) from 41 classrooms in 19 urban ES in Baltimore (Wilcox et al., 2008); Kellam et al. (2008) included 922 of those students</p> <p>Design: Pre–post RCT; schools assigned to GBG vs. Mastery Learning (ML); reading achievement curriculum) vs. school as usual; both studies focused on f/u at ages 19–21</p>	<p>Content: Designed to reduce disruptive and aggressive behavior; universal preventive intervention; involves classroom behavior management to socialize children to student role; interdependent team behavior-contingent reinforcement; class divided into equal groups (equal number of disruptive and shy students in each group); group is rewarded for four or fewer infractions; game time during class increases with each week</p> <p>Duration: Grades 1–2 (2 yrs); 3x/wk between 10 mins and 3 hrs per game with delayed reinforcement over time</p> <p>Facilitators: GBG and ML teachers received 40 hrs of training; teachers provided incentives and reinforcement regardless of condition; supportive mentoring to teachers throughout grade 1 school year; could be implemented by teachers during a regular school day without too much student/teacher burden; participants offered compensation for f/u interviews</p>	<p>Mental health: Generally, GBG had significantly lower lifetime rates of alcohol and drug abuse/dependence, regular smoking, and antisocial personality disorder; males in GBG who were aggressive/disruptive in grade 1 (TR) benefited most (Kellam et al.); GBG had significantly reduced risk for suicidal ideation and suicide attempt in comparison to controls; no significant impact for ML; substance use did not have a mediating effect on suicidality (Wilcox et al.)</p> <p>Academic: Males in GBG who were aggressive/disruptive in grade 1 (TR) had significantly higher HS graduation rates than those in controls; no significant difference in HS graduation for females (Kellam et al.); academic self-competence did not have a mediating effect on suicidality (Wilcox et al.)</p>
<p>Disruptive/aggressive behavior: TOCA-R Authority Acceptance subscale (assessed in grade 1; TR)</p> <p>Substance use: Alcohol, tobacco, and drug use (assessed in grades 3–4 and 8–9; SR)</p> <p>Mental health: Composite International Diagnostic Interview—University of Michigan (diagnosis, drug/alcohol abuse/dependence, and regular tobacco use; assessed at f/u); NIMH Diagnostic Interview Schedule (Depression, suicide ideation or attempt; assessed at f/u)</p> <p>Academic self-competence: Harter Scholastic Competence subscale (grades 3–4; SR)</p> <p>Academic achievement: Young adults' educational history (assessed at f/u; SR)</p>	<p>Disruptive/aggressive behavior: TOCA-R Authority Acceptance subscale (assessed in grade 1; TR)</p> <p>Substance use: Alcohol, tobacco, and drug use (assessed in grades 3–4 and 8–9; SR)</p> <p>Mental health: Composite International Diagnostic Interview—University of Michigan (diagnosis, drug/alcohol abuse/dependence, and regular tobacco use; assessed at f/u); NIMH Diagnostic Interview Schedule (Depression, suicide ideation or attempt; assessed at f/u)</p> <p>Academic self-competence: Harter Scholastic Competence subscale (grades 3–4; SR)</p> <p>Academic achievement: Young adults' educational history (assessed at f/u; SR)</p>	<p>Disruptive/aggressive behavior: TOCA-R Authority Acceptance subscale (assessed in grade 1; TR)</p> <p>Substance use: Alcohol, tobacco, and drug use (assessed in grades 3–4 and 8–9; SR)</p> <p>Mental health: Composite International Diagnostic Interview—University of Michigan (diagnosis, drug/alcohol abuse/dependence, and regular tobacco use; assessed at f/u); NIMH Diagnostic Interview Schedule (Depression, suicide ideation or attempt; assessed at f/u)</p> <p>Academic self-competence: Harter Scholastic Competence subscale (grades 3–4; SR)</p> <p>Academic achievement: Young adults' educational history (assessed at f/u; SR)</p>

Program information	Program details	Outcome measures	Outcomes
<p>Name: Coping Power (CP) program</p> <p>Author: Lochman et al. (2009)</p> <p>Participants: 531 students in grade 3 (84% African American) from 57 schools in north central Alabama, upper 30th percentile of students rated as aggressive (TR)</p> <p>Design: Pre–post RCT; schools assigned to CP training + feedback (CP-TF), CP basic training (CP-BT), or control comparison</p>	<p>Content: Designed to reduce aggressive behaviors and social skills deficits; multicomponent preventive intervention; group sessions for children to address social-cognitive deficits (e.g., emotional awareness, anger management) and monthly individual sessions; group sessions for parents to develop parenting and problem-solving skills; CP-TF school staff received more intensive training than those in CP-BT</p> <p>Duration: 2 yrs (grades 4–5); 34 child group sessions (50–60 mins) and 16 parent sessions (90 mins)</p> <p>Facilitators: CP-BT and CP-TF school counselors received three initial workshops and 2-hr monthly training sessions; CP-TF counselors also received technical assistance and problem solving, opportunities to contact trainers any time; researchers coded sessions for intervention integrity; trainers reviewed audiotapes and gave prompt feedback about manualized objectives; parental engagement for groups (e.g., travel stipend, snacks, child care); assessed program implementation (OR); parents and children received monetary compensation</p>	<p>Substance use and delinquency: National Youth Survey Questionnaire (SR)</p> <p>Behavioral outcomes: BASC (PR/TR)</p> <p>Academic skills: BASC Social/Academic Composite that included social skills, leadership, adaptation, (PR/TR) and study skills subscales (TR)</p>	<p>Mental health: CP-TF had significantly lower externalizing behaviors (PR/TR) and assaultive behaviors (SR) when compared to all controls</p> <p>Academic: CP-TF had significantly greater improvements in social behavior and study skills when compared to controls (TR); CP-TF did not differ significantly from controls on social behaviors (PR)</p>
<p>Name: The Initiative</p> <p>Author: Newgent et al. (2009)</p> <p>Participants: At-risk children (TR; grades K–5) from four ES</p> <p>Design: Pre–post quasi-experimental; schools assigned to initiative vs. schools as usual; assessed at the end of second and third school years</p>	<p>Content: Designed to identify at-risk children, reduce aggressive/acting-out behavior and difficulty learning, increase parenting skills, help families access community resources, and provide economic assistance if needed; implemented the Primary Mental Health Care Project to optimize school adaptation and learning in children deemed at risk for school maladjustment or failure (TR); consulted teachers about each child's social abilities; provided empirically validated prevention assessment and academic, economic, and social services, (referrals for learning services, social skills groups, family activities at school, and one-on-one parenting sessions); implemented by Initiative researchers/specialists</p>	<p>Early problem identification (at-risk): Teacher–Child Rating Scale (T-CRS; TR): task orientation, behavioral control, assertiveness, peer socialization (administered in two schools); SSRS (TR): social skills, problem behaviors, academic competence (administered in two schools)</p> <p>Behavioral functioning: School office referrals, in-school suspension and out-of-school suspension; attendance</p>	<p>Mental health: Intervention group had significantly fewer absences and office visits than those in control group; children in intervention assessed with T-CRS had significantly more improved scores than controls; children in intervention assessed with SSRS had significantly more improvement in social competence and problem behaviors than controls; no significant differences between groups for suspension rates</p>

Duration: 3 yrs

Facilitators: Home visits and phone consultation with parents; referrals to counseling/therapy and communities groups; collaborations with local agencies; scholarships awarded to parents and students

Academic: Intervention group had significantly higher grades in spelling and language than those in controls, yet had significantly lower grades in social studies; no other significant differences between groups

Name: School-to-Jobs (STJ)

Author: Oyserman et al. (2006)

Participants: 264 students in grade 8 (71.6% African American, 17.4% Latino) from three schools in low-income neighborhoods in Detroit

Design: RCT; assigned to intervention vs. school as usual; assessed at first quarter and end of grade 8, fall and spring of grade 9

Content: Designed to help students define and achieve their “academic possible selves” (APS); manualized group sessions; focused on creating an environment where social and personal identities were congruent (no academic skills content); program included changing the meaning associated with difficulties pursuing APS

Duration: 10 group sessions; 2x/wk over a 7-wk period during elective periods, with two supplemental parent-youth sessions on weekends/evenings

Facilitators: Intensive structured training of protocol (39.5 hrs for outside trainers, 69.5 hrs for observers); fidelity to protocol measured via *in vivo* ratings (OR) and weekly staff meetings

Possible selves: Open-ended format to generate possible selves (expected and feared off-track possible selves; SR)

Social identity: In-group connectedness scale (SR)

Depression: CES-D (SR)

Self-regulatory behavior: Time doing homework (SR); disruptive behavior (TR/SR); initiative taking (TR); school absences

Academic records: GPA, standardized test scores, summer school referral, grade 8 retention

Mental health: Intervention group had significantly more balanced, plausible APS than controls by end of grade 8; also significantly less disruptive behavior, fewer absences, and lower depression scores by end of grade 9; APS and social identity were positively associated for intervention group

Academic: Intervention group had significantly more homework time, better initiative, and GPA than controls by end of grade 9

Name: Coping Power (CP) program, modified version

Author: Peterson et al. (2009)

Participants: 119 students in grades 5–6 (ages 10–12; 43% Hispanic, 3% black, and 0.8% other) at highest risk (TR)

Design: Pre–post RCT; CP vs. usual school support services

Content: Designed to promote social competence, self-regulation, and school bonding with manualized content, activities, and homework; child group sessions during lunch/recess

Duration: 1 school yr; 24 weekly child group sessions

Facilitators: Ongoing systemic feedback on progress from teachers, parents, and students; program facilitators (graduate student assistants) attended 2-day training, participated in consultations with research team and received weekly or biweekly supervision by two project psychologists

Behavior and academic skills: BASC (TR; SR for intervention group only)

Mental health: Intervention group had significantly more improvements in behavioral symptoms, depression, and social and adaptive skills than controls (TR); SR data did not show significant differences over time

Academic: Intervention group had significantly greater decreases in learning difficulties and school problems than controls (TR)

Program information	Program details	Outcome measures	Outcomes
<p>Name: Chicago School Readiness Project (CSR/P)</p> <p>Author: Raver et al. (2011), Zhai et al. (2012)</p> <p>Participants: 467 children (66% black, 26% Hispanic) from 35 classrooms in 18 Head Start sites in economically disadvantaged areas of Chicago (Raver et al., 2011); Zhai et al. (2012) included 361 of these children</p> <p>Design: RCT; schools assigned to CSR/P vs. control condition (Raver et al., 2011); f/u in kindergarten (Zhai et al., 2012); Zhai et al. also evaluated whether students attended a high- vs. low-performing school for kindergarten (via aggregate standardized test scores)</p>	<p>Content: Designed to improve school readiness and foster development of behavioral self-regulation, reduce risk of behavior problems, and increase opportunities for learning through improvement of teachers' positive strategies; mental health consultants (MHC) provided consultation for children with high emotional or behavioral problems (three to four per class)</p> <p>Duration: 1 yr</p> <p>Facilitators: 30 hrs of teacher training, focusing on behavior management strategies (based on Incredible Years teacher training); teachers in intervention group paired with an MHC who attended classes one morning/wk to coach teacher in implementing behavior management strategies; MHCs held 1-day stress reduction workshop for teachers</p>	<p>Internalizing and externalizing problems: Caregiver-Teacher Report Form (TR)</p> <p>Self-regulation skills: Pre-School Self-Regulation Assessment Assessor Report measured attention/impulsivity, executive functioning, and effortful control</p> <p>Preacademic skills: Peabody Picture Vocabulary Test measured vocabulary, letter naming, and early math skills</p> <p>Academic performance: Academic Rating Scale: language and literacy, mathematical thinking (TR)</p>	<p>Mental health: Intervention group had significantly more gains in attention/impulsivity and executive functioning than controls, but not in effortful control (Raver et al.); intervention group had significantly lower internalizing and externalizing problems in kindergarten than controls when they attended high-performing schools, but not when they attended low-performing schools (Zhai et al.)</p> <p>Academic: Intervention group had significantly more gains in vocabulary, letter naming, and early math skills than controls (Raver et al.); intervention group had significantly higher language and literacy scores in kindergarten than controls when they attended high-performing schools, but not when they attended low-performing schools; no significant differences between groups in math (Zhai et al.)</p>
<p>Name: First Step to Success</p> <p>Author: Seeley et al. (2009)</p>	<p>Content: Designed to assist children meeting criteria for ADHD; manualized early behavioral intervention; school and home intervention initially delivered by</p>	<p>Social competence, ADHD, and problem behavior symptoms: SSRS (TR/PR); two scales</p>	<p>Mental health: Intervention group had significantly fewer ADHD or disruptive behavior</p>

Participants: 42 students in grades 1–3 (71% Hispanic) who met ADHD diagnostic criteria

Design: Pre–post RCT; children with ADHD assigned to First Step to Success vs. usual care

behavioral coach (e.g., school counselor, behavioral specialist) in class and gradually implemented by teacher under coach’s supervision; coach then trained parents for 6 weekly visits at home; children earned rewards at school or home by displaying positive behavior in class; peer support via peer reward system

Duration: 30 days

Facilitators: Behavioral coach trained teachers and parents how to implement program under their supervision; parents received in-home training; utilized school and home reinforcement contingencies; assessed implementation fidelity 4× (OR/SR); assessed teacher and parent satisfaction

from the Systematic Screening for Behavior Disorders (TR); Achenbach (TR form for Oppositional Defiant Disorder)

Academic functioning: SSRS (TR); student AET (OR)

symptoms and better social functioning than controls (TR, not PR)

Academic: Intervention group had significantly more AET than controls

Name: Positive Action (PA)

Author: Snyder et al. (2010)

Participants: 20 ES (grades K–5 or K–6) in Hawaii

Design: RCT; randomly assigned to PA intervention vs. control; assessed at baseline, annually for 4 yrs, and 1-yr f/u

Content: Designed to target the positive development of students’ behavior and character; social-emotional character education program; only used the elementary curriculum of PA; 140 in-class lessons (15–20 mins) per grade each academic year with six main units (e.g., continuous self-improvement); school climate kit: material to encourage and reinforce six units (e.g. tokens, posters); interactive class discussions/activities

Duration: 35 hrs per school yr for 4 yrs

Facilitators: Teacher attended 3- to 4-hr initial training session and 1- to 2-hr sessions for each successive year; school booster sessions once a year; manuals for principals; annual conference with school staff across schools; annual evaluation of program implementation (TR); control schools monetarily compensated

Behavioral problems: School archival data (suspensions, absenteeism, retention in grade)

Academic achievement: School archival data (grade 4: math and reading Hawaii Content and Performance Standards–II; grade 5: standardized tests in math and reading; assessed math and reading with TerraNova at f/u)

Mental health: At f/u, intervention group had significantly less absenteeism and suspension than controls

Academic: At f/u, intervention group had significantly higher reading and math scores than controls

Program information	Program details	Outcome measures	Outcomes
<p>Name: Family Check-Up (FCU)</p> <p>Author: Stormshak et al. (2011)</p> <p>Participants: 377 families of grade 6 students in three urban MS</p> <p>Design: RCT; assigned to FCU vs. school as usual; annually assessed at end of school year for 3 yrs</p>	<p>Content: Designed to reduce behavior problems in children and adolescents and to offer parent training; multilevel, family-centered intervention; parent consultants (specialists from University of Oregon) provided services to families in school context (Family Resource Center); three brief FCU sessions based on motivational interviewing; home visits/interview, ecological assessment, and feedback session; f/u sessions available (e.g., parent skills training)</p> <p>Duration: Average intervention time = 2.5 hrs over 3 yrs</p> <p>Facilitators: 1-wk initial training session and additional training workshops throughout 3 yrs for parent consultants; weekly supervision from practitioner; some parent consultants of same ethnicity; consultants attended meetings about child, served as bridge between school and parent; youth compensated</p>	<p>Depression: Survey derived from Children's Depression Inventory (SR)</p> <p>Self-regulation: Survey derived from Early Adolescent Temperament Questionnaire (SR)</p> <p>Academic achievement: Two open-ended questions regarding the student's school engagement (SR)</p>	<p>Mental health: Intervention group had significantly higher self-regulation by grade 7 than controls; improvements in self-regulation by grade 7 predicted reduced depression in FCU group by grade 8</p> <p>Academic: Improved self-regulation by grade 8 in FCU group significantly predicted increased school engagement by grade 9</p>
<p>Name: First Step to Success</p> <p>Author: Walker et al. (2009)</p> <p>Participants: 200 students in grades 1–3 (57% Hispanic) with high rates of externalizing problems (TR) from 34 ES in Albuquerque (two cohorts)</p>	<p>Content: Designed to assess and assist children with behavioral problems; manualized three-step intervention: screening process for behavior problems, classroom intervention, and parent training; school and home intervention initially delivered by behavioral coach (behavior management specialist) in class and gradually implemented by teachers under coach's supervision; coach trained parents for six weekly home visits: use of role playing,</p>	<p>Social skills: SSRS (TR/PR)</p> <p>Behavioral problems: SSRS (TR/PR); Systematic Screening for Behavior Disorders (TR)</p> <p>Academic achievement: SSRS—Academic Competence Scale (TR/PR); AET (OR); Letter Word</p>	<p>Mental health: Intervention group had significantly more improvements in social skills and behavioral problems than controls</p> <p>Academic: Intervention group had significantly higher AET and SRSS scores than controls;</p>

<p>Design: Pre–post RCT; cohort design; assigned to intervention vs. usual care</p>	<p>instruction, prompting, and feedback; rewards for good behavior</p> <p>Duration: 3 mos</p> <p>Facilitators: Support from district obtained first; behavior coach received 2-day training and weekly video conference training; other facilitators same as in Seeley et al. (2009) above</p>	<p>Identification (LWI) subtest from Woodcock–Johnson III; oral reading fluency (ORF)</p> <p>LWI and ORF not significantly affected by First Step</p>
<p>Name: Incredible Years (IY) Teacher and Child Training Programs (Dinosaur School)</p> <p>Author: Webster-Stratton et al. (2008)</p> <p>Participants: 1,786 students from 120 Head Start, kindergarten, and grade 1 classes (14 ES) in culturally diverse, low-income populations in the Seattle area</p> <p>Design: Pre–post RCT; schools assigned to IY vs. usual school curriculum</p>	<p>Content: Designed to promote children’s social competence, emotional self-regulation, and cooperative school behavior; universal prevention program</p> <p>Dina Dinosaur Social Skills and Problem-Solving Curriculum; use of large-group circle time followed by small-group skills practice; research staff member co-led the lessons with teacher in classroom</p> <p>Duration: November–April; 30 biweekly lessons; 15–20 mins large-group circle time; 20 mins of small-group skills practice</p> <p>Facilitators: 4-day training for teachers, including classroom management and parent involvement strategies (e.g., weekly dinosaur HW and teachers’ calls); developmentally appropriate lessons; visual aids (e.g., puppets); teachers promoted circle time activities; fidelity checklists completed by research co-leaders; assessed parent and teacher satisfaction</p>	<p>Disengaged behavior: MOOSEs: social competence, emotional self-regulation, conduct problems (OR)</p> <p>Child problem-solving and feelings testing: (at-risk sample only) Wally Problem Solving Test; Wally Feelings Test (SR)</p> <p>School readiness and conduct problems: COCA-R; emotional self-regulation skills, social skills, and conduct problems (OR)</p> <p>Classroom atmosphere: Interactions between teacher style and group child behavior (OR)</p> <p>Mental health: Intervention group had significantly more improvement in self-regulation, social competence, and conduct problems than controls; intervention group showed significantly better ability to identify positive feelings and generate positive problem-solving solutions than controls</p> <p>Academic: Intervention group had significantly greater improvement in school readiness and classroom atmosphere than controls</p>
<p><i>Notz.</i> ACES, Assessment of Children’s Emotion Skills; ADHD, attention-deficit/hyperactivity disorder; AET, academic engaged time; BASC, Behavior Assessment System for Children; CES-D, Center for Epidemiologic Studies Depression Scale; COCA-R, Coder Observation of Classroom Adaptation—Revised; DBD, Disruptive Behavior Disorders Questionnaire; EOWPVT, Expressive One-Word Picture Vocabulary Test; ES, elementary schools; <i>f/u</i>, follow-up; GPA, grade point average; hr(s), hour(s); HS, high schools; HW, homework; M, mean; mins, minutes; MOOSEs, Multiple Option Observation System for Experimental Studies; MS, middle schools; mo(s), month(s); NIMH, National Institute of Mental Health; ODR, office discipline referral; OR, observer report; PR, parent report; RCT, randomized controlled trial; SBMH, school-based mental health; SES, socioeconomic status; SR, student report; SSRS, Social Skills Rating System; TOCA-R, Teacher Observation Classroom Adaptation—Revised; TR, teacher report; wk(s), week(s); WL, wait-list; yr(s), year(s).</p>		

APPENDIX 2.2. School-Based Mental Health Programs That Assessed Mental Health Outcomes Only

Program information	Program details	Outcome measures	Outcomes
<p>Name: Based on FRIENDS program</p> <p>Author: Bernstein et al. (2008)</p> <p>Participants: 61 children (ages 7–11) with anxiety diagnoses or subthreshold separation, generalized, or social anxiety</p> <p>Design: Pre–post RCT; assigned to group CBT vs. group CBT + parent training vs. WL; f/u at 3, 6, 12, mos; WL offered treatment at 6 mos, 50% declined and became the controls</p>	<p>Content: Designed to teach children strategies for coping with anxiety via CBT techniques; child group for anxiety based on FRIENDS program, with six components of CBT; parent training included the same six components plus parental anxiety and stress management, behavioral contracting, and review of impact of child anxiety on family</p> <p>Duration: Child group was 9 wks plus two booster sessions; child group plus parent training had a concurrent 9-wk parent group</p> <p>Facilitators: Primary therapist (part of research team) had experience in CBT; f/u assessments could be completed at school, families' homes, or community library</p>	<p>Anxiety diagnosis: Anxiety Disorders Interview Schedule—Child/Parent (ADIS-C/P) and Clinical Severity Rating (PR/SR)</p> <p>Anxiety symptoms: Multidimensional Anxiety Scale for Children (PR/SR); SCARED (PR)</p> <p>Change in child's symptoms: Clinical Global Impression (PR)</p>	<p>No significant difference between two treatment groups; collapsed, both had significantly improved anxiety symptoms from baseline to 6-mo f/u as compared to controls (PR, not SR), maintained at 12 mos; no significant differences between groups in diagnostic remission or new anxiety diagnoses; group CBT + parent training had significantly greater improvement in anxiety severity (PR; at 6 mos) and child symptoms (at 3, 6 mos) than controls, not between group CBT and controls</p>
<p>Name: Penn Resiliency Program (modified for cultural relevance)</p> <p>Author: Cardemil et al. (2007)</p> <p>Participants: 168 low-income students in grades 5–6 (M age = 11.12 yrs; 68% African American, 32% Latino) from two MS in urban Philadelphia</p>	<p>Content: Designed to link thoughts and emotions, evaluating negative events, and conflict management; a group depression prevention/coping skills program; group sessions included role plays, exercises, and weekly HW</p> <p>Duration: 12 wks; weekly 90-min groups</p> <p>Facilitators: Group leaders (psychology students) received at least 20 hrs of training prior to group's start; flexible manual; role plays, exercises, etc., modified to be relevant to children</p>	<p>Depressive symptoms: Children's Depression Inventory (SR)</p> <p>Cognitions: Automatic Thoughts Questionnaire (SR)</p> <p>Hopelessness: Hopelessness Scale (SR)</p>	<p>Latino children in intervention had significantly fewer depressive symptoms than Latino controls at posttest, maintained at 1- and 2-yr f/u; benefits for Latinos on cognitions, hopelessness, and self-esteem lost at 2-yr f/u; intervention had greatest impact on Latinos who</p>

Design: Pre–post RCT; assigned to intervention vs. no intervention; f/u at 3, 6, 12, 24 mos (study focused on 2-yr f/u)

from urban low-income communities; biweekly supervision, including evaluation of audiotaped sessions for adherence; children compensated

Self-esteem: Harter Self-Perception Profile for Children (SR)

were initially symptomatic; no significant differences between groups for African American children

Name: Fast Track (FT)

Author: Conduct Problems Prevention Research Group (CPPRG) (2007, 2010b, 2011)

Participants: 891 highest-risk and moderate-risk students (TR/PR; M age = 6.5 yrs, 51% African American) from high-risk ES in four states; compared to normative sample of 387 students

Design: RCT; assigned to FT vs. school as usual; assessed in summer after grades 3, 6, 9 (2007) and grade 12 (2011); record of arrest from ages 11–19; delinquency assessed annually from grades 7–12 (2010b)

Content: Designed to prevent serious behavior problems among those at highest risk; services targeted child social-cognitive and cognitive skills, peer relationships, and parenting. Grade 1: Reading tutoring and peer-pairing sessions. Grades 1–5: Families offered parent training with home visiting, academic tutoring, and social skills training; parent and child group “enrichment program” led by educational/family coordinators (2 hrs each); universal Promoting Alternative Thinking Strategies (PATHS; see CPPRG, 2010a) classroom curriculum. Grades 5–6 focused on transitions, drug use, development. Grades 7–8 focused on identity and vocational goal setting. Grades 7–10 focused on individual intervention plans based on risk assessment and protective factors; individual support via home visiting to help parents generalize group skills and address individual needs

Duration: 10 yrs; group meetings held weekly in grade 1 (22 sessions), biweekly in grade 2 (14 sessions), and monthly in grades 3–6 (nine sessions/yr); PATHS held two to three times/wk (grades 1–5); parents and children received 56, 82, and 27 sessions on positive youth development, family functioning, and academics, respectively, in grades 7–9

Facilitators: Weekly staff training; clinical supervision; manualized program; regular cross-site training and communication; teachers received weekly consultation for PATHS lessons and classroom behavior management; group intervention gradually phased out to focus on individual services (home visiting for parent training, tutoring, mentoring) for those most in need; more interventions for those assessed to be more in need; parents compensated

Psychiatric criterion counts

and diagnoses: National Institute of Mental Health Diagnostic Interview Schedule for Children for oppositional defiant disorder (ODD), conduct disorder (CD), and attention-deficit/hyperactivity disorder (ADHD)

Antisocial behavior (ASB): Self-Report of Delinquency (assessed at grades 6 and 9)

Record of arrest: Court records of juvenile and adult arrest

Delinquency: Self-report of delinquency measure (total of annual reports)

FT children with highest risk had reduced ODD and ADHD criterion counts and lower risk of any externalizing disorders than those in control group after grade 3; in FT group, children with highest risk had significantly lower CD and ADHD criterion counts, lower ASB, and lower risk of externalizing disorders, CD, or ADHD diagnosis than controls after grade 9; limited impact on children only moderately at risk (2007); FT reduced frequency of moderate-severity juvenile arrests, onset of juvenile arrest, and onset of delinquent behavior compared to controls; only higher-risk children in FT had significantly lower frequency of high-severity adult arrests compared to controls; no significant differences between groups on frequency of delinquent behavior (2010b); FT prevented lifetime risk of externalizing disorders over 12 yrs for children at highest initial risk (2011)

Program information	Program details	Outcome measures	Outcomes
<p>Name: Promoting Alternative Thinking Strategies (PATHS) curriculum</p> <p>Author: CPPRG (2010b)</p> <p>Participants: 2,937 students in grade 1 classes of 18 ES in high-risk neighborhoods in three states</p>	<p>Content: Designed to promote social emotional competence (e.g., emotional awareness, social problem solving, self-control) via classroom activities (e.g., feeling identification games) and behavioral consultation; universal intervention; included didactics, storytelling, video presentations, and role playing; teachers generalized skills with children throughout school day; student mailbox to submit problems/concerns</p> <p>Duration: 3 school yrs; 57 lessons in grade 1, 46 in grade 2, 48 in grade 3</p> <p>Facilitators: Teachers received 2-day training, weekly supervision, observation, and consultation; teachers regularly met coaches individually or in group; teachers could adjust material based on developmental level of class; PATHS coordinators consulted with teachers and principals on how to integrate curriculum through entire school; generalized concepts to home via parent updates on content, regular HW designed to engage parents; implementation quality assessed (OR); teachers compensated</p>	<p>Behavior: Teacher Observation of Child Adaptation—Revised (authority acceptance/problem behaviors and cognitive concentration; TR)</p> <p>Prosocial behaviors and emotional regulation: Social Health Profile (TR)</p> <p>Aggressive, hyperactive-disruptive, and prosocial behaviors: Peer nominations of children whose behavior fit these descriptions (OR; spring of each year only)</p>	<p>Intervention group had significantly lower problem levels of authority acceptance, cognitive concentration, and social competence and less of an increase in problem behaviors than controls at end of grade 3; boys in intervention group were significantly less likely to be peer-nominated as aggressive or hyperactive-disruptive; intervention effects stronger in less disadvantaged schools; intervention effects on aggression stronger for those with higher baseline levels of aggression</p>
<p>Name: Adolescent Transitions Program (ATP)</p> <p>Author: Connell and Dishion (2008)</p> <p>Participants: 106 students in grade 6 (44.3% African American, 7.6% Latino) at risk for behavioral or emotional problems (TR/PR) from three MS in a metropolitan community in northwest U.S.</p>	<p>Content: Designed to prevent behavior problems in adolescence, ATP was examined here for prevention of adolescent depressive symptoms; family-focused, multilevel prevention program (universal, selected, and indicated); program based on individual family needs; first level was establishment of a Family Resource Center (FRC) in each school for parent-centered services (brief consultation, feedback, access to videotapes/books) and six in-class life skills lessons; second level was Family Check-Up (FCU), a three-session intervention based on motivational interviewing (see Stormshak et al., 2011, in Appendix 2.1); third level was individual intervention (e.g., 12-session parenting intervention)</p>	<p>Depressive symptoms: Children's Depression Inventory (SR)</p> <p>Internalizing behaviors: Child Behavior Checklist Internalizing scale (PR)</p>	<p>High-risk youth in ATP had significantly decreased growth of depressive symptoms from grades 7–9 (SR/PR) as compared to high-risk controls</p>

Design: RCT; assigned to intervention classrooms vs. school as usual; assessed in spring of grades 6, 7, 8 for level of risky behavior (TR) and high-risk youth assessed in fall of grades 7, 8, 9

Duration: 2 yrs

Facilitators: Outside interventionists trained via didactics, role playing, videotaped supervision over 2 yrs, interventionists' ethnicities closely matched those of participants; FRC designed to support positive parenting and engage parents of high-risk children in FCU; FRC provided parent consultations over the phone and collaborative decision making between interventionists and parents; youth compensated

Name: Preschool PATHS curriculum

Author: Domitrovich et al. (2007)

Participants: 246 3- and 4-yr-old children (47% African American, 10% Hispanic) from 20 classrooms in two Head Start programs in central Pennsylvania

Design: Pre-post RCT; classrooms assigned to PATHS vs. WL (PATHS offered in third year)

Content: Designed to improve children's social competence and reduce problem behavior; universal social-emotional curriculum; units included lessons on compliments, feelings, self-control, and problem solving; curriculum generalization through classroom activities; teachers utilized skills in natural situations with students (e.g., peer problems)

Duration: 30 lessons delivered 1/wk over 1 school yr

Facilitators: Research team collaborated with Head Start staff to create and pilot-test curriculum; teachers given 2-day training in August before school yr and 1-day booster training in January; one to two Head Start supervisory staff per site served as lead PATHS coordinators; program developers provided monthly supervision to PATHS coordinators and monitored cross-site consistency; coordinators met with teachers individually and in groups for support, made monthly classroom visits, and assessed implementation quality (OR)

Emotional knowledge:

Recognition of Emotion Concepts subtest; Assessment of Children's Emotions Scales; Denham Puppet Interview

Inhibitory control: Direct child assessments

Attention: Attention Sustained subtest from the Leiter—Revised assessment battery

Interpersonal problem solving: Challenging Situations Task

Social skills and problem behaviors: Preschool and Kindergarten Behavior Scales (TR)

Social and emotional skills: Head Start Competence Scale (PR)

PATHS group had significantly higher emotional knowledge and social competence (TR/PR) and less social withdrawal (TR) than controls; no significant differences between groups for inhibitory control, attention, or interpersonal problem-solving skills

Program information	Program details	Outcome measures	Outcomes
<p>Name: Build Respect, Stop Bullying</p> <p>Author: Evers et al. (2007)</p> <p>Participants: 1,237 MS and 1,215 HS students (grades 6–11) from 12 MS and 13 HS in the United States</p> <p>Design: Quasi-experimental; assigned to pre–post intervention vs. intervention with posttest only vs. pre–post no-intervention control</p>	<p>Content: Designed to reduce participation in three roles related to bullying (bully, victim, passive bystander); an Internet-based intervention based on a transtheoretical model, or a theory of behavior change that applies change processes such as decision making and reinforcement to help students progress through stages of change; assessment information generated individualized text and graphic normative and ipsative feedback; feedback also reinforced progress and reviewed behavioral strategies for progress; included short testimonial videos about bullying</p> <p>Duration: Up to three Internet-based sessions over 1 school yr</p> <p>Facilitators: Assessments conducted on computer, including text and sound; 10-page manual and activities on the Internet for school staff and parents with optional activities; feedback based on statistical decision making rather than clinical judgment</p>	<p>Role assessment: Asked about child's role as a bully, victim, and bystander (SR)</p> <p>Stage of change: Asked about intention to make changes so they would no longer be participating in each role (SR); stages of change categorized as precontemplation (no intention to stop), contemplation (would stop in next 6 mos), preparation (would stop in next mo), action (stopped less than 6 mos ago), and maintenance (stopped more than 6 mos ago)</p>	<p>Both intervention groups had significantly higher proportions of students no longer participating in each of the three roles than controls; both intervention groups reported significantly more progress in stages of change than controls</p>
<p>Name: Solution-focused brief therapy</p> <p>Author: Franklin et al. (2008)</p> <p>Participants: 67 children with behavior problems (TR) from two MS in an independent school district in rural/suburban Texas</p> <p>Design: Pre–post quasi-experimental; school assigned to solution-focused brief therapy vs. comparison school; 1-mo f/u</p>	<p>Content: Designed to assist children with classroom-related behavior problems; solution-focused therapy; combination of individual sessions (including “miracle question,” scaling of problems, and giving child compliments) plus teacher training, consultations, and collaborative meetings; strategies for improving problems found by building on strengths</p> <p>Duration: Five to seven weekly sessions, 30–45 mins each</p> <p>Facilitators: Practitioners (research staff) received 1- or 4-day training from creators of treatment; teachers/school staff completed 4-hr training; biweekly clinical supervision; three to four teacher–practitioner consultations (10–20 min each); one to two formal collaborative meetings among teacher, practitioner, and student to discuss student progress and teacher behavior that motivated student; implementation fidelity assessed (OR); students and comparison group teachers compensated</p>	<p>Internalizing and externalizing problems: Child Behavior Checklist (TR/SR)</p>	<p>Intervention group had significantly fewer internalizing (TR, but not SR) and externalizing problems at (TR/SR) than controls at posttest and f/u</p>

Name: Penn Resiliency Program (PRP)

Author: Gillham et al. (2007)

Participants: 696 students (M age = 12.13 yrs) without a depressive disorder from 3 MS in a suburban metropolitan area

Design: Pre–post RCT; assigned to PRP vs. Penn Enhancement Program (PEP) vs. no intervention; assessed every 6 mos through 3-yr f/u

Content: Designed to teach cognitive-behavioral (e.g., cognitive restructuring) and problem-solving skills; includes group discussions and HW; group cognitive-behavioral depression prevention program; focused on stressors associated with adolescent depression (e.g., body image, family conflict), discussion-oriented; held after school

Duration: Both PRP and PEP had 12 weekly lessons, 90 mins each

Facilitators: Group leaders (school teachers/counselors, doctoral students) had 30-hr training workshop and biweekly supervision; sessions audiotaped to assess for adherence (OR); families compensated for assessments; parents compensated for child attendance

Depressive symptoms: Children's Depression Inventory (SR) and Children's Depression Rating Scale—Revised (for children with elevated scores on Children's Depression Inventory only)

PRP prevented onset of elevated depressive symptoms relative to no intervention control, but not PEP; no significant between group differences in reduction of depressive symptoms or prevention of high or clinical symptom levels over the f/u period; varied effects by school (in two schools, PRP reduced depressive symptoms significantly more than PEP or controls through 30-mo f/u, but not in third school)

Name: Penn Resiliency Program for Children and Adolescents (PRP-CA) with a parent intervention component (PRP-P)

Author: Gillham et al. (2006)

Participants: 44 students in grades 6–7 with high levels of depression and/or anxiety symptoms (SR) from an MS in suburban Philadelphia area

Design: Pre–post RCT; assigned to PRP-CA plus PRP-P vs. no intervention; 6-mo and 1-yr f/u

Content: Designed to teach cognitive-behavioral and problem-solving skills; PRP-CA included the skills described for the previous PRP study (Gillham et al., 2007); PRP-P designed to increase parental resilience via learning PRP-CA skills and helping parents learn to model and support children in using these skills; implemented by two facilitators on the research team

Duration: PRP-CA was eight weekly lessons, PRP-P was six lessons; both 90 mins each

Facilitators: Parent groups held on different evenings at school, and parents could choose which they attended

Depressive symptoms: Children's Depression Inventory (SR)

Anxiety symptoms: Revised Children's Manifest Anxiety Scale (SR)

Intervention group had significantly lower levels of depression and anxiety symptoms at 6-mo and 1-yr f/u; significantly fewer students in intervention group than in control group reported clinical levels of anxiety across the f/u period; no significant between group effects at posttest

Program information	Program details	Outcome measures	Outcomes
<p>Name: Modular CBT</p> <p>Author: Ginsburg et al. (2012)</p> <p>Participants: 32 children (<i>M</i> age = 10.28 yrs; 84% African American) with anxiety disorders from 14 SBMH clinics in urban Baltimore</p> <p>Design: Pre–post RCT; assigned to CBT vs. TAU; 1-mo f/u</p>	<p>Content: Designed to reduce anxiety; modular CBT for anxiety consisting of eight modules of evidence-based skills (e.g., relaxation, cognitive restructuring, exposure); individually tailored; included parent modules encouraged, with up to three sessions</p> <p>Duration: 12 wks, 30- to 45-min sessions</p> <p>Facilitators: Clinician-friendly, flexible content; detailed written modules and handouts; weekly supervision of school-based therapists who delivered treatment; therapy session time varied to avoid missing same classes; up to three parent sessions encouraged, focused on child's treatment, parent support, and CBT skills; session audiotapes reviewed for adherence and competence (OR); greater use of CBT session structure components and greater implementation competence associated with better treatment response</p>	<p>Anxiety diagnosis: ADIS-C/P (PR/SR)</p> <p>Anxiety symptoms: SCARED (PR/SR)</p> <p>Anxiety severity: Clinical Global Impression—Severity and Improvement scales</p> <p>Global impairment and functioning: Children's Global Assessment Scale</p> <p>Maladaptive cognitions: Children's Automatic Thoughts Scale (SR)</p> <p>Comorbid symptoms: Strengths and Difficulties Questionnaire (PR)</p>	<p>No significant differences between groups</p>
<p>Name: Interpersonal psychotherapy for adolescents (IPT-A)</p> <p>Author: Gunlicks-Stoessel et al. (2010)</p> <p>Participants: 63 12- to 18-yr-old adolescents (<i>M</i> age = 14.67 yrs; 74.6% Latino, 14.3% African American) with depressive</p>	<p>Content: Designed to decrease depressive symptoms via improved relationships and interpersonal interactions; focused on at least one of four interpersonal problem areas: grief, role disputes, role transitions, or interpersonal deficits</p> <p>Duration: 12 sessions over 8 wks, 35 mins each</p> <p>Facilitators: Treatment delivered by SBMH clinicians in SBMH clinics; treatment fidelity/adherence assessed; in TAU, therapists completed checklist of common psychotherapy techniques after each session</p>	<p>Depression symptoms and diagnoses: Schedule for Affective Disorders and Schizophrenia for School-Age Children</p> <p>Parent-child communication and conflict: Conflict Behavior Questionnaire about mothers and fathers (SR)</p>	<p>Among adolescents with high levels of conflict with their mothers at baseline, IPT-A was significantly associated with faster reduction of depression symptoms, but TAU was not; among adolescents who reported high social dysfunction with friends at baseline, IPT-A was associated with significantly</p>

disorders (or adjustment disorder with depressed mood) from five schools in New York City

Design: RCT; assigned to IPT vs. TAU; assessed at 0, 4, 8, and 12 wks

Name: Promoting CARE

Author: Hooven et al. (2010)

Participants: 593 students in grades 9–12 deemed at risk for suicide (SR) from 20 schools in eight urban and suburban school districts in the Pacific Northwest

Design: Pre–post RCT; assigned to brief parent CARE intervention vs. brief child CARE intervention vs. both in combination vs. minimal intervention (MI); f/u between 2.5 and 8 yrs after baseline (study focused on data from posttest to f/u)

Social functioning: Social Adjustment Scale (friends, school, family, dating; SR)

faster reduction of depression symptoms, but TAU was not

Content: Designed as a suicide prevention program; utilized principles of behavior change; focused on enhancing stress management and emotional control skills, social support, motivation, and self-efficacy; child CARE group completed an assessment interview followed by a counseling protocol and facilitating connections with parents and school staff, f/u booster session 2.5 mos after baseline had same components; parent CARE group completed two home visits designed to teach parents suicide prevention; parent f/u call to review teen status and support strategies 2.5 mos after baseline; MI included brief teen interview, risk feedback, and mobilization of support resources at home/school to simulate usual services

Duration: Child assessment 1.5–2 hrs, counseling session 1.5–2 hrs; parent home visit 2 hrs each; MI interview for 15–30 mins

Facilitators: Selected support resource persons at home and at school coached by study staff to understand teens' bids for support and appropriate responses; in accordance with human subjects protocol, participants provided with a booster session if any f/u assessments showed elevated distress

Direct suicide risk behaviors: High School Questionnaire and Young Adult Questionnaire (SR)

Depressive symptoms: Derived from the Center for Epidemiologic Studies Depression Scale (SR)

Anger: Anger Control Problems scale (SR)

Combination CARE and Child CARE groups had significantly earlier and greater reductions in depression and anger than the MI group from adolescence to adulthood; child CARE and combination CARE groups were most likely to achieve low-risk status early and maintain that status

Program information	Program details	Outcome measures	Outcomes
<p>Name: Aban Aya Youth Project</p> <p>Author: Jagers et al. (2007)</p> <p>Participants: 668 low-income students in grade 5 (>80% African American) from 12 metropolitan schools in and around a large city in western U.S.</p> <p>Design: RCT; schools assigned classroom social development (SDC) vs. school, family, community intervention (SC) vs. attention placebo control (health enhancement curriculum); assessed at baseline and annually at end of grades 5–8</p>	<p>Content: Designed to help prevent violence, provocative behavior, school delinquency, drug use, and unsafe sexual behaviors; culturally grounded; SDC integrated African American communal values, teaching strategies, and instructional content to promote cognitive-behavioral skills needed to increase empathy, conflict resolution, self-efficacy; administered by hired health educators; SC combined SDC with parental support (parent-child communication, reinforcement of skills taught in SDC), school climate, and community partnership components</p> <p>Duration: 21 lessons</p> <p>Facilitators: Hired health educators received two trainings before administering each lesson; SC condition worked with school personnel and community members to form school task force for modifying school policy and building school-community partnerships; weekly debriefing about implementation issues; assessed implementation fidelity (OR); intervention schools compensated for each participating classroom</p>	<p>Communal values: Rated importance of cooperating with others, thinking about family, learning about African American culture and history, keeping the neighborhood clean (SR)</p> <p>Empathy: Items from Bryant Empathy Scale and Davis Empathic Concern subscales (SR)</p> <p>Violence avoidance efficacy beliefs: Assessed certainty that they could stay away from a fight, seek help instead of fighting, keep from getting into a fight (SR)</p> <p>Violence: Youth Risk Behavior Surveillance Survey (SR)</p>	<p>Both intervention groups had significant greater growth in empathy than controls; no other significant differences between groups; growth in empathy mediated the impact of both interventions on violence, which was reduced over time</p>
<p>Name: Child-assisted intervention (CHILD) and peer-mediated intervention (PEER)</p> <p>Author: Kasari et al. (2012)</p> <p>Participants: 60 children (grades 1–5) with ASD from 56 classrooms in 30 schools across the greater Los Angeles area (in regular education for at least 80% of day)</p>	<p>Content: Designed to improve social skills in children with high-functioning ASD. In CHILD, direct instruction during recess regarding social engagement with peers (needs assessment conducted, PR/TR/OR); social skills (e.g., entering a game) targeted one at a time, based on individualized needs and using a developmental approach; included didactics, role playing, practice, HW, and reinforcement. In PEER, three typically developing children (recommended by teachers) taught strategies for engaging with children who had difficulty interacting on playground; peers met with interventionist in a group during recess; peers taught to give social support via direct instruction, modeling, role playing,</p>	<p>Social network salience, friendship nominations, nomination of friendships, rejections, reciprocal friendships: Social Network Survey (SR)</p> <p>Peer engagement: Playground observations (OR)</p> <p>Social skills: Teacher Perception of Social Skills (TR)</p>	<p>Combined group and PEER group had significantly higher social network salience scores than CHILD or control group at posttest; PEER group had significantly more friendship nominations, more decline in solitary engagement, and improved social skills than other groups at posttest and more joint engagement at</p>

f/u; no significant differences between groups for rejections, nomination of friendships, or reciprocal friendships; most results maintained at f/u

and rehearsal; target child never directly identified; HW and reinforcement for peers

Duration: Both CHILD and PEER had 12 sessions, 20 mins each in 6 wks

Facilitators: Interventionists (graduate students) all had experience with ASD, received training to deliver intervention and weekly supervision; treatment adherence assessed (OR)

Design: Pre–post RCT; assigned to CHILD vs. PEER vs. both interventions vs. WL; 3-mo f/u

Name: INSIGHTS into Children's Temperament

Author: McClowry et al. (2010)

Participants: 116 students in grades 1–2 (88% black, 10% Hispanic non-black) from 5 schools in an inner-city school district of a northeastern U.S. city

Design: Pre–post RCT; schools assigned to intervention vs. Read Aloud attention control

Disruptive classroom behavior: Sutter–Eyberg Student Behavior Inventory: assessed frequency of behaviors (four factors created: overt aggression, attentional difficulties, emotional–oppositional behavior, covert disruptive behavior) and whether they were problematic (TR)

Children's competence: Teacher's Rating Scale of Child's Actual Competence and Social Acceptance, three subscales: Cognitive Competency, Physical Competency, Peer Acceptance (TR)

Boys in INSIGHTS had significantly greater reductions in overt aggression toward others and attention difficulties, and more cognitive and physical competence, than boys in Read Aloud; teachers in INSIGHTS had fewer problems managing boys' emotional–oppositional behavior, covert disruptive behavior, and attentional difficulties than teachers in Read Aloud; no other significant differences between groups for boys on any variables for girls

Content: Designed to reduce behavior problems and increase self-regulation (e.g., learning about temperament); designed for inner-city primary classrooms; classroom sessions focused on enhancing empathy and problem-solving skills via puppets and videotaped vignettes; separate teacher and parent workshops focused on temperament-based strategies; Read Aloud control group was after-school program where teachers read books to students, had discussions about them, and drew related pictures (no teacher/parent sessions)

Duration: 10 wks; weekly 2-hr sessions for teachers and parents; 45 min/wk for children

Facilitators: Partnered with administrators, teachers, principals, and parents to develop culturally, developmentally appropriate intervention; community stakeholders assessed curriculum, assessments, and research protocol; temperament and cultural experts conducted a validity assessment of relevance/developmental appropriateness; visual aids and detailed manual; teachers attended 30-min information session before invited to participate; incentives given to teachers, parents, and children for data collection; INSIGHTS facilitators took a graduate course and 30 hrs of training; weekly supervision; teacher sessions held after school, parent groups in mornings or evenings; facilitators met with parent/teacher if they missed group; implementation fidelity assessed (SR/OR); teacher satisfaction assessed; parents compensated

Program information	Program details	Outcome measures	Outcomes
<p>Name: Mindfulness and yoga intervention</p> <p>Author: Mendelson et al. (2010)</p> <p>Participants: 97 students in grades 4–5 (83.5% African American, 4.1% Latino) from four urban ES in Baltimore</p> <p>Design: Pre–post RCT; schools assigned to intervention vs. WL</p>	<p>Content: Designed to improve ability to sustain attention, promote better awareness of cognitive and physiological states, and show how to regulate these states; included guided mindfulness practices, breathing techniques, yoga-based physical activities, and brief discussions about how to identify stressors, use mindfulness to respond to them, etc.; students encouraged to practice skills outside of class</p> <p>Duration: 12 wks; 4 days/wk, 45 mins each</p> <p>Facilitators: Students enthusiastic about the program, easy to recruit; instructors from a Holistic Life Foundation were of similar ethnicities to students; assessments were read aloud to facilitate comprehension; teachers supportive of intervention goals; students' satisfaction assessed</p>	<p>Involuntary stress responses: Involuntary Engagement Coping Scale from Response to Stress Questionnaire (subscales: Rumination, Intrusive Thoughts, Emotional Arousal, Physiological Arousal, and Impulsive Action; SR)</p> <p>Depressive symptoms: Short Mood and Feelings Questionnaire—Child Version (SR)</p> <p>Positive and negative emotions: Emotion Profile Inventory (SR)</p> <p>Relations with peers and school: People in My Life (SR)</p>	<p>Intervention group had significantly more Involuntary Engagement Coping Scale, Rumination, Intrusive Thoughts, and Emotional Arousal than controls; no other significant differences between groups</p>
<p>Name: Multisite Violence Prevention Project</p> <p>Author: Multisite Violence Prevention Project (2012)</p> <p>Participants: 1,062 students in grade 6 (70% black/African American, 15% Latino/Hispanic) whose behavior was in top 25% of aggression in 47 schools in four communities (two cohorts)</p> <p>Design: Pre–post RCT; schools assigned to universal intervention vs. selective family-focused intervention (GREAT Schools and Families) vs. both vs. no intervention (current</p>	<p>Content: Designed to reduce risk for violence; selective intervention was a multiple-family group violence prevention program implemented by outside intervention providers, which included role playing, behavioral practice, HW; universal intervention was student curriculum of social-cognitive skills and teacher intervention (classroom management, support for teacher stress, problem solving)</p> <p>Duration: Selective intervention was 15 wks; universal intervention was 20 sessions</p> <p>Facilitators: Outside intervention providers for selective intervention had experience with high-risk populations and family interventions and received 20 hrs of training, including how to address culture with low-income minority families, weekly conference calls to maintain fidelity; parents could be interviewed in Spanish; group meals provided at every session; child care and transportation provided as needed; interventionists contacted families who missed sessions and offered makeup sessions; teachers conducting universal</p>	<p>Aggression perpetration: Composite aggression score from Problem Behavior Frequency Scale (SR) and Behavior Assessment System for Children (TR/PR)</p> <p>Victimization: Overt and relational victimization (SR)</p> <p>Social cognitive processes: Use of aggressive and prosocial strategies assessed via four vignettes of potential conflict situations from Goals and Strategies Measure</p> <p>Value of achievement: Personal Value of Achievement Scale (PR/SR)</p>	<p>No significant differences between groups on any outcomes in intent-to-treat analyses; weighted estimates of effects found that those in selective intervention had significantly lower aggression, less aggressive strategies, and higher value of achievement (PR) than students not in a selective intervention; increased discipline practices and family cohesion mediated the effects of selective intervention on decreased aggressive behavior and valuing of achievement</p>

study compared receiving any selective intervention vs. universal only vs. control)

intervention received training and consultation in violence prevention; fidelity assessed (SR; OR; family reports); families compensated

Parental relationships:
Discipline practices and family cohesion measures (PR)

Name: Good Behavior Game (GBG)

Author: Petras et al. (2008)

Participants: 768 students in grades 1–7 (74.9% African American) from 19 Baltimore schools

Design: Pre–post RCT; schools randomly assigned to GBG vs. Mastery Learning vs. standard curriculum; assessed at baseline, twice in grade 2, once a year in grades 3–7; *f/u* at ages 19–21

Content: Designed to reduce disruptive and aggressive behavior; universal preventive intervention; see Kellam et al. (2008) in Appendix 2.1 for details; Mastery Learning control group was based on reading achievement curriculum

Duration: Grades 1–2 (2 yrs)

Facilitators: Teachers received 40 hrs of training; supportive mentoring to teachers throughout the grade 1 school yr

Disruptive/aggressive behavior:
Teacher Observation of Child Adaptation—Revised (TR)

Antisocial personality disorder (ASPD) diagnosis: Clinical interview at ages 19–21; scale derived from DSM-IV criteria for ASPD and history of conduct disorder

Violent criminal behavior:
Juvenile court records

High-aggression males in GBG group had significantly lower rates of ASPD and violent criminal behavior in adulthood than controls had; no significant effect found in females in GBG group when compared to controls

Name: Chicago School Readiness Project (CSR P)

Author: Raver et al. (2009)

Participants: 449 children (65% Black, 28% Hispanic) from 35 classrooms in 18 Head Start sites in the seven most economically disadvantaged areas in Chicago

Design: Pre–post RCT; preschools assigned to CSR P vs. control group

Content: Designed to foster development of behavioral self-regulation and reduce risk of behavior problems; see Raver et al. (2011) in Appendix 2.1 for details

Duration: 1 yr

Facilitators: See Raver et al. (2011) in Appendix 2.1; program coordinator organized teacher trainings and acted as a liaison; training materials translated into Spanish and assessed for cultural relevance; mental health consultants who coached teachers received biweekly supervision; intervention fidelity assessed (SR/OR); teacher satisfaction assessed; teachers received compensation training lunches, as well as child care during trainings

Internalizing and externalizing problems: Behavior problems index (TR); Caregiver–Teacher Report Form (TR)

Aggression/disruption and withdrawal/disconnection:
Penn Interactive Peer Play Scale used to observe a random subsample of children (OR)

Intervention group had significantly fewer internalizing and externalizing behavior problems than controls (TR); no other significant differences between groups

Program information	Program details	Outcome measures	Outcomes
<p>Name: Incredible Years (IY)</p> <p>Author: Reid et al. (2007)</p> <p>Participants: 443 at-risk children rated highly for behavior problems (TR/PR) from 14 ES in Seattle area</p> <p>Design: RCT; schools assigned to Dina Dinosaur Social Skills intervention vs. school as usual (CON); within the intervention group, assigned to classroom intervention (CR) or classroom plus parent training condition (PT-CR); assessed at baseline, end of kindergarten, and end of grade 1</p>	<p>Content: Dina Dinosaur Social Skills and Problem-Solving Curriculum (see Webster-Stratton et al., 2008, in Appendix 2.1); IY parent training groups designed to teach effective parenting skills and improve children's social and academic competence (e.g., by promoting reading and writing readiness)</p> <p>Duration: 60 lessons across 2 yrs, grades K–1; at least 24 parent group sessions, 2–3 hrs each</p> <p>Facilitators: Intervention teachers participated in 4 days (28 hr) of training; parent groups co-led by school counselor and research clinician, included child care, transportation, meals, and videotaped vignettes of families from various cultural backgrounds; parenting group leaders followed detailed manual and received weekly supervision and review of sessions; group leaders completed fidelity checklists (SR); parents completed a brief satisfaction questionnaire</p>	<p>Externalizing and internalizing behaviors: Child Behavior Checklist (PR); Social Competence and Behavior Evaluation—Preschool Edition, Externalizing scale (TR)</p> <p>Social competence/emotional regulation: Social Competence Scale, assessing prosocial behavior and emotional regulation (PR); Social Competence and Behavior Evaluation (TR)</p>	<p>Mothers in PT-CR reported that children had significantly fewer externalizing problems than CR or CON children; mothers in PT-CR reported that children had significantly fewer internalizing problems and more emotion regulation than children in CON; teachers reported that children in PT-CR and CR had significantly fewer externalizing problems than in CON, but not improved social competence</p>
<p>Name: EcoFIT intervention, including Family Check-Up (FCU)</p> <p>Author: Stormshak et al. (2011), Van Ryzin et al. (2012)</p> <p>Participants: 593 families of students in grade 6 from three Title I urban schools in the Pacific Northwest</p> <p>Design: RCT; assigned to FCU vs. school as usual; assessed substance use and antisocial behavior in grades 6, 7, 8 (Stormshak et al.); assessed family conflict, antisocial behavior, deviant peer involvement, and alcohol use</p>	<p>Content: Designed to reduce child behavioral problems and substance use; multilevel, family-centered intervention that included establishment of a Family Resource Center (FRC; see Connell & Dishion, 2008) and additionally recruited families for FCU (see Stormshak et al., 2010, in Appendix 2.1 for descriptions of both)</p> <p>Duration: Average intervention time was 2.5 hrs over 3 yrs (Stormshak et al.); 4.4 hrs over 4 yrs (Van Ryzin et al.)</p> <p>Facilitators: See Stormshak et al. (2010) in Appendix 2.1; FCU offered in school or at home, flexible scheduling; parents who needed additional support were provided options for more intensive intervention; encouraged self-selection into the most appropriate intervention services, based on systematic assessments of family interactions, parental motivation, and available resources; family engagement assessed</p>	<p>Adolescent substance use and antisocial behaviors: Survey about substance use (alcohol, tobacco, marijuana) and antisocial behavior (SR)</p> <p>Family conflict: 4-item report of conflict with parents (SR)</p> <p>Antisocial behavior: 11-item report (SR) of antisocial behaviors (e.g., lying to parents, engaging in theft)</p> <p>Deviant peer involvement: 5-item report (SR) of times in the last wk spent with peers who got into trouble (e.g., stealing, alcohol/drug use)</p>	<p>Intervention group reported significantly reduced growth of antisocial behavior and lower alcohol use, tobacco use, and marijuana use in youth whose families engaged in treatment as compared to controls (Stormshak et al.); youth whose parents engaged in FCU demonstrated significantly lower rates of growth in family conflict, antisocial behavior, involvement with deviant peers, and alcohol use than controls (Van Ryzin et al.)</p>

every year through grade 9 (Van Ryzin et al.)

Name: Rochester Resilience Project

Author: Wyman et al. (2010)

Participants: 226 students in grades K–3 (61.5% black, 25.7% Hispanic) who had problems in two or more of the following: behavioral, social-emotional, and/or on-task learning behaviors at school (TR) from two ES in a middle-sized city

Design: Pre–post RCT; assigned to intervention v. WL

Content: Designed to strengthen self-regulation of emotions and address specific goals to improve school adaptation: (1) monitoring of one's own and others' emotions, (2) self-control and reducing escalation of emotions, (3) skills for maintaining control and regaining equilibrium; focused on behavioral and cognitive skills; taught by mentors (employed by school district) in weekly private lessons during the school day

Duration: 14 lessons, 25 mins each; 4 mos

Facilitators: Teachers received an orientation to program at start of school year; teachers received bimonthly updates on intervention skills; mentors collaborated with teachers to find in-class situations where children could use skills and receive reminders (e.g., stickers); parents invited to receive 30-min orientation from mentor at school or home

Alcohol use: How often youths used alcohol in past month (SR)

Classroom behavior and social-emotional functioning:

Four subscales of Teacher–Child Rating Scale (TR): Behavioral Control, Task Orientation, Assertiveness/Withdrawal, Peer Social Skills

Office disciplinary referrals and out-of-school suspensions: Office disciplinary referral and school suspension records, collected 3 mos before and 4 mos after intervention

Intervention group had significantly improved task orientation, behavior control, assertive–withdrawn behaviors, and peer social skills as compared to controls; peer social skills improved for girls but not for boys; no other significant differences between groups

Name: Interpersonal psychotherapy for adolescents (IPT-A)

Author: Young et al. (2006)

Participants: 63 depressed adolescents (12–18 y/o; majority were Hispanic) from three MS and two HS SBMH clinics

Design: Pre–post RCT; assigned to IPT-A vs. TAU; focused on impact of comorbid anxiety as a moderator

Content: Designed to address interpersonal problems that might be contributing to or exacerbating depression

Duration: 12 sessions; 12–16 wks

Facilitators: Delivered at school where SBMH services and therapy were already in place

Depression: Clinician-rated Hamilton Rating Scale for Depression (HRSD)

Global functioning: Clinician-rated Children's Global Assessment Scale (CGAS)

Comorbid probable anxiety disorders: Diagnostic Interview Schedule for Children Predictive Scales (SR)

No significant differences between groups on HRSD or CGAS for adolescents with comorbid anxiety and depression; treatment condition did not predict posttreatment anxiety scores; of adolescents with anxiety at baseline, IPT-A group had significantly lower HRSD scores than those in TAU

Note. ASD, autism spectrum disorders; CBT, cognitive-behavioral therapy; DSM-IV, *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition; ES, elementary schools; f/u, follow-up; hr(s), hour(s); HS, high schools; HW, homework; M, mean; mins, minutes; MS, middle schools; mo(s), month(s); OR, observer report; PR, parent report; RCT, randomized controlled trial; SBMH, school-based mental health; SCARED, Screen for Childhood Anxiety Related Emotional Disorders; SR, student report; TAU, treatment as usual; TR, teacher report; wk(s), week(s); WL, wait-list; yr(s), year(s).

Multicultural Issues for Schools and Students with Emotional and Behavioral Disorders

Disproportionality in Discipline and Special Education

Russell J. Skiba, Laura V. Middelberg, and Maryellen Brunson McClain

Background

In September 1971, a civil action was filed against the District of Columbia Public Schools on behalf of seven children excluded from schooling for a variety of disabilities or conditions, including behavior problems, mental retardation, epilepsy, and traumatic brain injury. The children were intended to be representative of a much broader group; the District of Columbia admitted that up to 12,340 “handicapped children” were not being served by the district. In a landmark decision in *Mills v. Board of Education of the District of Columbia* in 1972, the U.S. District Court ruled in favor of the plaintiffs, and laid out a set of due process requirements for the school district on a range of issues, including child find, parental notification, maximum suspension length, and procedures for appeal.

There are two particularly noteworthy aspects of the *Mills* case. First, all seven of the plaintiffs were African American. Although not focusing explicitly on issues of racial discrimination, the case, like many early disability rights challenges, was modeled on the work of the civil rights movement (Smith & Kozleski, 2005). Second, the case included a significant focus on issues of behavior and school suspension. Two of the seven minor plaintiffs were excluded from

school specifically for “behavior problems,” and the issue of due process for suspension and expulsion was a central concern of the case. Of the federal disability categories, emotional disturbance (ED) has continued to be among the categories most affected by disproportionality (Council for Children with Behavioral Disorders [CCBD], 2012; Losen & Orfield, 2002; Skiba et al., 2008).

Mills became a landmark ruling for special education: Many of the remedies laid out by the court in the case became central provisions in the first comprehensive national special education legislation, the Education for All Handicapped Children Act of 1975 (Public Law 94-142). The provisions that were thus codified formed the basis of vast structural change in the education of children with disabilities, and the Act has been described as “one of the most far-reaching pieces of social legislation ever to benefit children” (Singer & Butler, 1987, p. 152).

Yet over 40 years after *Mills*, racial and ethnic disparities related to behavior and disability remain problematic for the field. Indeed, the overrepresentation of African American students in out-of-school suspension has worsened substantially since the early 1970s (Losen & Skiba, 2010). The purpose of this chapter is to outline the current status of racial and ethnic disparities in special education and school discipline,

especially for students with emotional and behavioral disorders (EBD). We outline the current status of research knowledge concerning racial and ethnic disparities in special education eligibility and discipline, describe measurement and policy issues, and close with a consideration of the long-term implications of disproportionality.

Empirical Evidence and Science: What Do We Know about Disproportionality?

Disproportionality in Special Education

Racial and ethnic disproportionality in rates of eligibility for special education remains a persistent problem for the field of special education. African American and Native American/Alaskan Native students have been found to be overrepresented in special education (Donovan & Cross, 2002; Oswald, Coutinho, Best, & Singh, 1999; Zhang & Katsiyannis, 2002). They are most often identified in the specific eligibility categories of cognitive disability (CD), ED, and specific learning disability (SLD). English language learner (ELL) students have also been found to be overrepresented in the categories of speech and language impairment (SLI), SLD, and CD (Sullivan, 2011). When using risk ratios to analyze data from five southern states' departments of education, Morrier and Gallagher (2010) found that minority students were disproportionately represented in special education in preschool settings. Asian/Pacific Islander and European American students have been found to be overrepresented in the autism category (Morrier & Hess, 2010), suggesting that issues of disproportionality are dynamic in nature, with differential rates of overrepresentation in different disability categories.

Racial and ethnic disproportionality has been and continues to be a particular issue in the ED category. In its most recent national report on the topic, the National Research Council (Donovan & Cross, 2002) found that although there had been an increase in services provided over time for all racial/ethnic groups, disproportionality for African American and Native American/Alaskan Native students was growing. Osher, Woodruff, and Sims (2002) found that in 29 states, African American students were

twice as likely as their European American student peers to be found eligible for ED. Analyzing data from the U.S. Department of Education (USDOE) Office for Civil Rights, Oswald and colleagues (1999) found that in comparison to other groups, African Americans were 1.5 times more likely to be in special education for ED.

In addition to overrepresentation in specific disability categories, racial and ethnic disparities have also been reported with respect to the least restrictive environment. African American students with disabilities have consistently been found to be overrepresented in more restrictive educational placements, and underrepresented in less restrictive placements (Fierros & Conroy, 2002; Serwatka, Deering, & Grant, 1995; Skiba, Poloni-Staudinger, Gallini, Simmons, & Feggins-Azziz, 2006). Analyzing state-level data, Sullivan (2011) reported that ELL students were less likely to be placed in least restrictive settings than their European American peers, while De Valenzuela, Copeland, Qi, and Park (2006) found African American, Native American, and ELL students more likely to be placed in more segregated educational settings. It is important to note that disproportionality in the restrictiveness of setting appears to be independent of disability category: African American and Latino students with disabilities have been found to be more likely to be placed in more restrictive settings than their peers in the same disability categories (Skiba et al., 2006).

Although less well documented, underrepresentation in special education has also been reported for some racial/ethnic groups. Latino students tend to be underrepresented in special education in general (Skiba et al., 2008). Latino students have also been found to be underrepresented in the category of other health impairment (OHI) (De Valenzuela et al., 2006), and African American students to be underrepresented in the autism category (Morrier & Hess, 2010). Zhang and Katsiyannis (2002) reported that Asian/Pacific Islander students tend to be underrepresented in the ED category, and are the least represented group in that category.

Research has identified multiple factors contributing to racial and ethnic disparities in special education (Artiles, Kozleski, Trent, Osher, & Ortiz, 2010; Skiba et al., 2008).

Although extensive research in the late 1970s and early 1980s suggested that test bias is not a strong factor in predicting minority overrepresentation in special education, the age of that research and its failure to include issues specific to some populations (e.g., ELL students) suggests that this issue may not be fully resolved (Valencia & Suzuki, 2000). Various factors associated with poverty have been shown to predict lower achievement (Donovan & Cross, 2002), yet the relationship between poverty and disproportionality in special education eligibility has been found to be inconsistent at best (Skiba, Poloni-Staudinger, Simmons, Figgins, & Chung, 2005). A number of general education factors (such as a lack of resources or less experience) may reduce teachers' ability to teach and manage a broader range of students, and hence may yield more disproportionate referrals (Artiles & Trent, 1994). Finally, both classroom behavior management issues (e.g., weak teacher management skills) (Gottlieb, Gottlieb, & Trongone, 1991; MacMillan, Gresham, Lopez, & Bocian, 1996), and general issues of cultural mismatch and cultural responsiveness (Irvine, 2012; Patton, 1998), have been implicated as possible contributors to higher rates of referral to special education for students of color. In particular, Artiles and his colleagues (Artiles et al., 2010; Sullivan & Artiles, 2011; Waitoller, Artiles, & Cheney, 2010) have noted that most commentaries in the field tend to ascribe causes (e.g., poverty, special education eligibility determination) that have not been empirically validated, while significantly undertheorizing regarding issues of culture and race. In a case study in two suburban school districts identified as disproportionate, Ahram, Fergus, and Noguera (2011) found evidence that remediation efforts were hampered by commonly held perspectives that included racialized decision making and deficit thinking.

Several factors specifically related to racial and ethnic disparities in the category of ED have also been explored. Numerous analyses have shown a negative relationship between poverty and disproportionality in the ED category; that is, rates of ED disproportionality are typically higher in low-poverty school districts (Oswald et al., 1999; Skiba et al., 2005). In a correlational analysis of statewide data, Serwatka and

colleagues (1995) found that the percentage of African American teachers at the elementary and secondary levels had a significant and negative relationship with the overrepresentation of African American students in the ED category. Some have argued that the higher rates of disproportionality in ED are due to the judgmental nature of that category (Blanchett, 2006).

The overrepresentation of some racial/ethnic groups in the ED category also needs to be considered in light of the overall *underidentification* of students with EBD (Kauffman, Mock, & Simpson, 2007). Forness, Freeman, Paparella, Kauffman, and Walker (2012) argue that severe underidentification, regardless of the way in which EBD prevalence is calculated, suggests that those students who are served as ED represent only the most severe cases of EBD. In a situation where all those served in a given category are in need of service, what does it mean that certain groups are overrepresented? Such a situation would obtain if students of color identified as ED generally had more severe EBD. Alternatively, given a category that has been identified as among the more judgment-based (Donovan & Cross, 2002), issues of cultural mismatch may lead classroom teachers to refer students of color more frequently from among the population of students with serious EBD who need service. In their seminal analysis of teacher tolerance, Gerber and Semmel (1984) argued that the likelihood of referral to special education increases as perceptions of teachability decrease. Students with EBD are clearly among those viewed as least teachable by regular education teachers. In addition, teachers who see students who are culturally different from themselves as "other" (Delpit, 1995) may well perceive those students to be less teachable, further increasing the likelihood of referral. Thus, in a general context of underservice for students with EBD, teacher judgments about severity *and* race probably interact to determine which students with EBD are ultimately served in the ED category.

Disproportionality in Discipline

Racial disparities in school discipline have been documented for close to 40 years, at every level of schooling (i.e., elementary,

middle, high) and every level of severity (i.e., referral, suspension, expulsion). In an early report, the Children's Defense Fund (1975) examined discipline records from 2,862 school districts and found that African American students were two to three times as likely to be suspended as European American students at the elementary, middle, and high school level. Recent analyses of data from the USDOE Office for Civil Rights have found that African American disproportionality in school suspension became more severe between 1973 and 2006 (Losen & Skiba, 2010).

Disproportionality begins at the level of office disciplinary referrals from the classroom. African American students have consistently been found to be overrepresented in such referrals (see, e.g., Bradshaw, Mitchell, O'Brennan, & Leaf, 2010; Rocque, 2010; Skiba, Michael, Nardo, & Peterson, 2002). In a national study including 364 elementary and middle schools, Skiba and colleagues (2011) found that African American elementary school students' odds of being referred to the school office were 2.19 times those of their European American peers. At the middle school level, African American middle school students' odds of an office disciplinary referral were 3.79 times those of their European American peers. Rocque (2010) found that African American elementary students were almost 2.5 times more likely to be referred to the office than other racial/ethnic groups, even after controlling for a range of individual demographic characteristics.

Overrepresentation in office referrals persists into higher rates of suspension and expulsion for African American students. In 2010, the USDOE reported that the rate of suspension among African American students was 3.5 times greater than among European American students (Lewin, 2012). Raffaele Mendez and Knoff (2003) found that while African American students were more likely in general to receive a suspension, African American females in particular were eight times as likely as their European American female peers to receive a suspension. Skiba and colleagues (2011) found that administrative consequences made an independent contribution to disproportionality in suspension and expulsion for African American and Latino students.

African American overrepresentation has also been found in more severe measures such as corporal punishment (McFadden, Marsh, Price, & Hwang, 1992; Shaw & Braden, 1990) or the implementation of zero tolerance policies. There is also evidence that a range of more intrusive disciplinary options, including zero tolerance policies (Tailor & Detch, 1998) and a greater reliance on school security measures (Welch & Payne, 2010), are more frequently adopted in schools and school districts with a higher proportion of African American students.

Evidence of disproportionality in discipline is less extensive and less consistent for other racial/ethnic groups. Some studies have reported that Latino students are overrepresented in suspensions and expulsions (Wallace, Goodkind, Wallace, & Bachman, 2008). Peguero and Shekarkhar (2011) found that third-generation Latino/Latina students have an increased likelihood of being punished compared to non-Latino/Latina white students, despite no differences in the self-reported levels of misbehaviors. Examining a national database across 17 states, Skiba and colleagues (2011) found evidence of Latino overrepresentation in office disciplinary referrals at the middle school level but not at the elementary level. Analyzing discipline data from 12 U.S. cities, Gordon, Piana, and Keleher (2000) reported Latino overrepresentation in only 1 of the cities. Finally, some studies have found that suspension rates for Latino/Latina students are roughly proportional to those for non-Latino/Latina white students (Horner, Fireman, & Wang, 2010; McFadden et al., 1992). Wallace and colleagues (2008) reported that Native American students were overrepresented and Asian students were underrepresented in school discipline in general and suspension in particular.

Although students living in poverty are more likely to be suspended or expelled (Brantlinger, 1991), poverty alone does not account for pervasive racial disparities in discipline. Overrepresentation of African American students in exclusionary discipline persists even after researchers control for measures of socioeconomic status such as federal lunch status, parental education, and employment (Noltemeyer & Mcloughlin, 2010; Skiba et al., 2002; Wallace et al.,

2008; Wu, Pink, Crain, & Moles, 1982), leading Noltemeyer and McLoughlin (2010) to conclude that “there is something above and beyond poverty that explains disciplinary differences between school types” (p. 33).

In addition, evidence does not support the belief that African American students are suspended at disproportionate rates due to higher rates of disruptive behavior. Wallace and colleagues (2008) found that black, Latino, and Native American students were more likely to receive out-of-school suspensions, despite few racial differences in drug, alcohol, or weapon possession violations. Others have reported that black students receive more severe punishment than white students for similar misbehaviors (McFadden et al., 1992; Skiba et al., 2011). Most racial differences in punishments tend to be for less serious and more subjective infractions such as defiance and disrespect (Gregory & Weinstein, 2008; Skiba et al., 2002). Finally, racial disparities in referral remain significant even after researchers control for teacher and peer ratings of the severity of behaviors (Bradshaw et al., 2010; Horner et al., 2010; Rocque, 2010).

Research has identified a number of factors that appear to be more reliable predictors of racial gaps in discipline. Gregory, Skiba, and Noguera (2010) argue that sufficient evidence exists to support a relationship between the current achievement gap and discipline gap. The representativeness of the school’s faculty and administration has also been explored as a contributing factor, with mixed results. Rocha and Hawes (2009) found that schools with a representative teaching faculty had lower rates of racial disparities, while the racial/ethnic identity of school principals has not been found to be significantly related to levels of disciplinary disproportionality (Roch, Pitts, & Navarro, 2010). Finally, school climate has been implicated as a factor contributing to disproportionality in discipline. Gregory, Cornell, and Fan (2011) found that high schools with low levels of structure and student supports were more likely to have racial disparities in their discipline rates, while Mattison and Aber (2007) found that students’ perceptions of the racial climate of the school were related to levels of disproportionality.

Federal Legislation and Policy

Disproportionality in special education eligibility and discipline was first addressed in federal policy with the inclusion of provisions concerning disproportionality in the Individuals with Disabilities Education Act (IDEA) 1997; those provisions were revised and expanded in the reauthorization of IDEA as the Individuals with Disabilities Education Improvement Act in 2004. IDEA 2004 requires that states collect and examine data at the local education agency (LEA) level to determine whether significant disproportionality is occurring with respect to:

- (A) the identification of children as children with disabilities, including the identification of children as children with disabilities in accordance with a particular impairment described in section 1401 (3) of this title;
- (B) the placement in particular educational settings of such children; and
- (C) the incidence, duration, and type of disciplinary actions, including suspensions and expulsions. (20 U.S.C. § 1418(d))

LEAs that are determined to have significant disproportionality must devote the maximum amount of their Part B funds (15%) to early intervening services.

In addition, Congress highlighted the importance of the issue in IDEA 2004 by making disproportionality one of three monitoring priorities, assessed through three indicators:

1. Indicator 4a asked states to report on the incidence of long-term suspension for students with disabilities as compared to their peers without disabilities, while Indicator 4b required that states disaggregate discrepancies by racial/ethnic category (20 U.S.C. § 1412(a)(22)).
2. Indicator 9 requires states to identify the proportion of districts exhibiting disproportionate representation in special education and related services as a whole “to the extent the representation is the result of inappropriate identification” (20 U.S.C. § 1416(a)(3)(C)).
3. Indicator 10 requires states to identify the percent of districts in the state with disproportionate representation that is the result of inappropriate identifica-

tion in specific disability categories (20 U.S.C. § 1416(a)(3)(C)).

The interpretation and implementation of these provisions have, however, been beset with controversy (see below).

Research Methodology

The measurement of racial and ethnic disproportionality has been evolving, and it is not clear that there is complete consensus in the field regarding appropriate methodology. For purposes of measurement, racial and ethnic disproportionality in special education can be conceptualized as (1) the extent to which representation of a particular racial or ethnic group in a specific category (e.g., SLD) is roughly comparable to its representation in a broader population estimate; or (2) the rate at which one racial/ethnic group falls within a given category (e.g., suspension, EBD) and the extent to which this rate differs from that of other groups. The former question is typically addressed by using the “composition index,” while the most typical measures for the latter question are the “risk index,” “risk ratio,” and “odds ratio.”

The composition index is a measure of representation comparing observed percentages in a given category to the proportion that would be expected based on representation in the broader population. It is calculated by dividing the percentage of students in a given racial or ethnic group in a special education eligibility category by the overall enrollment of students from the same racial or ethnic group (De Valenzuela et al., 2006; Skiba et al., 2008). Although it is a more intuitive measure, the composition index cannot be used for direct comparisons across groups, and becomes less appropriate for highly homogeneous samples (e.g., greater than 90%) (Gibb & Skiba, 2008).

The risk index is the rate at which a given racial/ethnic group is represented in a given category or consequence, or the *risk* of that group for membership in that category. It is important to note that, in and of itself, a risk index or rate measure becomes interpretable only to the extent that it is compared to similar rates of other groups. Interpretation of disproportionality may differ, depending on the comparison group used.

Measures of rate or risk become meaningful when compared across racial/ethnic groups, in what has come to be called the risk ratio. This is calculated by dividing the risk of the target racial or ethnic group by the risk of a comparison group (Bollmer, Bethel, Garrison-Mogren, & Brauen, 2007; Gibb & Skiba, 2008); the resulting ratio provides an index of disproportionality centered on 1 (representing proportionality), with positive numbers indicating overrepresentation and negative numbers indicating underrepresentation. However, it may be difficult to apply the risk ratio to compare district-level data, as variations in demographics across districts may not allow for a direct comparison of disproportionality (Bollmer et al., 2007).

A more statistically rigorous index of disproportionality is the odds ratio. In contrast to the risk ratio, that measures only occurrence of membership within a category, the odds ratio controls for both occurrence and nonoccurrence. Odds ratios are generated as by-products of a logistic model, and as part of a multivariate procedure, they produce an index that also controls for a variety of relevant variables. The odds ratio has been used as an index of disproportionality when researchers control for district size (Finn, 1982) or type of offense (Skiba et al., 2011). Despite its methodological advantages, the odds ratio has some practical disadvantages in terms of its complexity both in calculation—it is not clear how many LEAs or state education agencies (SEAs) have the capability to complete the multivariate analyses necessary to produce odds ratios—as well as interpretation.

Perspectives and Practices

Intervention Research: Disproportionality in Special Education

Although the data describing the extent of disproportionality in special education are extensive, intervention studies intended to address and remediate those disparities are extremely rare in the professional literature. An ERIC search of studies published from 1980 to 2011 using the terms “disproportionality” or “overrepresentation,” “special education,” and “intervention” or “program” revealed only four empirical

published reports of individual or systems-based research aimed specifically at identifying and reducing disproportionate rates of special education referral. Three of these were case studies at the classroom level (Lo & Cartledge, 2006), or district level (Ahram et al., 2011; Hernandez, Ramanathan, Harr, & Socias, 2008). One of the few experimental tests using disproportionality as a dependent measure was conducted by Gravois and Rosenfield (2006), who provided evidence that a prereferral team intervention was effective in reducing both special education referrals *and* disproportionality in referral and service delivery. Although these studies make a valuable contribution in highlighting the types of reform that will be necessary to address disproportionate outcomes effectively, such a high ratio of problem identification to problem solution frustrates those seeking evidence-based guidance regarding intervention, and suggests a critical need for further intervention research.

Disproportionality in Discipline: Are Race-Neutral Interventions Sufficient?

Schoolwide reform efforts that effectively improve overall school discipline have been proposed for reducing racial disproportionality. Osher, Bear, Sprague, and Doyle (2010) identified three universal interventions—schoolwide positive behavioral interventions and supports (SWPBIS), social-emotional learning (SEL), and restorative justice—as strategies that appear to hold some promise for reducing disproportionality in discipline. Large-scale studies have demonstrated that SWPBIS can significantly improve overall discipline outcomes (see, e.g., Horner et al., 2009). In a randomized block design study, Ialongo, Poduska, Werthamer, and Kellam (2001) reported that students who had received SEL programs in first grade in the Baltimore City public schools were less likely to have been suspended in fifth grade and received significantly lower teacher ratings of conduct problems in sixth grade. Finally, some evidence from program evaluations and case studies suggests that restorative justice programs may be able to have a positive impact on disciplinary rates and school climate (Jennings, Gover, & Hitchcock, 2008; Stinchcomb, Bazemore, & Riestenberg, 2006), but few peer-reviewed

studies to date have examined the impact of restorative justice on school discipline.

Regardless of the general outcomes of such programs, however, there is little evidence that universal, race-neutral interventions can reduce disciplinary disproportionality. In fact, few studies addressing either discipline or special education have used disproportionality as a dependent measure. Kauffman, Conroy, Gardner, and Oswald (2008) note that differential effects based on race and ethnicity have rarely been studied in the behavioral literature.

Indeed, the data that do exist suggest that universal, race-neutral intervention addressing change in overall outcomes may be insufficient to create more specific change in racial and ethnic disparity in those outcomes. Studying a nationally representative sample of 346 elementary and middle schools implementing SWPBIS for at least 1 year, Skiba and colleagues (2011) found that African American students were more than twice as likely as their European American peers to be referred to the office, and that Latino and African American students were more likely than European American students to receive suspensions or expulsions as a consequence for similar behaviors, especially for minor misbehavior. Vincent, Swain-Bradway, Tobin, and May (2011) found that even in schools in which SWPBIS decreased overall school rates of out-of-school suspension, African American students continued to be overrepresented in out-of-school suspensions, particularly suspensions longer than 10 days. The failure to create equitable outcomes for students of all racial/ethnic backgrounds has led to calls for better integration of sociocultural awareness in the design, implementation, and interpretation of interventions (Harris-Murri, King, & Rostenberg, 2006; Olmeda & Kauffman, 2003).

Culturally Specific Interventions

A number of case studies have described methods for integrating students' cultural values within universal interventions. Jones, Caravaca, Cizek, Horner, and Vincent (2006) found that embedding the values and language of the Dine (Navajo) culture in a predominantly Dine school community increased both the fidelity and effectiveness

of SWPBIS. A case study with a single family described a successful implementation when intensive SWPBIS Tier 3 interventions were infused with traditional Chinese values (Wang, McCart, & Turnbull, 2007). A case study from New Zealand reported that infusing Maori students' cultural values and worldviews into restorative justice improved school outcomes (Wearmouth, McKinney, & Glynn, 2007).

One study has utilized a randomized controlled trial to test behavioral interventions infused with traditional African cultural values and knowledge of the sociocultural context of the community. In an evaluation of the Aban Aya Youth Project in Chicago (Flay, Graumlich, Segawa, Burns, & Holliday, 2004), culturally responsive interventions targeted high-risk behaviors for African American students in grades 5–8, and revealed significant reductions in the rate of violent behaviors, provoking behaviors, school delinquency, and drug use.

Social skills curricula have also been adapted to meet the needs of specific cultural groups of students. Lo, Mustian, Brophy, and White (2011) introduced a curriculum that included familiar African American folklore, role-play scenarios utilizing students' personal experiences, and visual materials representing racially diverse children for seven participating African American males identified either with or at risk for being identified with a mild disability. Results indicated that 75% of their students reduced their levels of inappropriate classroom behaviors. Wu, Lo, Feng, and Lo (2010) successfully designed a social skills intervention to meet the specific needs of two Taiwanese students at risk for EBD and reported, using sociometric measures, that the target students were better accepted by their peers. Finally, Utley, Greenwood, and Douglas (2007) found that the Cool Tool social skills training program decreased inappropriate classroom behaviors in seven out of eight of the targeted African American students. These emerging findings suggest that specific adaptations to increase awareness of and responsiveness to culture may be necessary to create a specific impact on racial and ethnic disparities. Clearly, however, further experimental tests of interventions that specifically target disproportionality as a dependent measure and explicitly

include issues of culture in the intervention program are needed.

The Difficulty (and Importance) of Talking about Race

The ability to use data as an effective driver of equity reform may be limited by the difficulty that educators and other professionals have in openly discussing issues of race and culture. The awkward and difficult nature of conversations about race and racism has been well documented (Henze, Lucas, & Scott, 1998; King, 1991; Singleton & Linton, 2006).

Racial and ethnic disparities in both schools and society make it clear that neither American society nor American education are race-neutral. The emergence of the construct of “white privilege” (McIntosh, 1990; Wise, 2012) highlights the way in which some groups continue to be advantaged, and others disadvantaged, by racial/ethnic assumptions and stereotypes that often remain unconscious. In an ethnographic analysis of students at the high school level, Howard (2008) describes incidents of micro-aggression faced on a daily basis by African American students, such as this male student:

I play football, so you know they expect you to be good in sports. But when you are on the ASB (Associated Student Body) council, like I am, and being a school leader, have good grades, and talking about going to college on an academic scholarship, then they look at you like Whoa!! I didn't think that they (black males) were into those kind of things. One teacher even told me once, “You're not like the rest of them.” I didn't ask her what that meant, but believe me, I knew what that meant. (p. 907)

Wise (2012) has noted that a “color-blind” philosophy, short-circuiting discussion of the topic of race, may make it more difficult to uncover and explore important cultural differences in the personal experience of race, as well as the statistical outcomes resulting from differential treatment.

Reform of educational systems is a difficult and complex undertaking, even in the absence of emotionally laden issues. It is not hard to understand why school practitioners might resist attempts to explicitly identify racial disparity in their schools if they fear

that information will reflect poorly on them or their institutions. Yet it is unlikely that schools that are unwilling to broach the topic of race will be able to formulate solutions that are responsive to racial, ethnic, or cultural differences, much less to accept the need for extensive reform of policies or procedures. Thus attempts to address inequity in special education service delivery may need to attend not only to the data and the recommendations that flow from those data, but also to the way in which “dysconscious” beliefs (King, 1991) may short-circuit full consideration of race-based data (Singleton & Linton, 2006). The ability to effectively address issues involving race and ethnicity appears to be in part dependent on the ability to discuss the topic of race.

Legal and Regulatory Issues

Interpretation of IDEA Disproportionality Provisions

The inclusion of disproportionality in two separate sections of IDEA 2004 must be viewed as a significant advance in the integration of the issue into federal policy. Yet the interpretation and impact of that law in implementing regulations and policy guidance by the USDOE Office of Special Education Programs (OSEP) have been fraught with confusion, and may have contributed

to an underidentification of districts with disproportionate representation. Policy analyses (Albrecht, Skiba, Losen, Chung, & Middelberg, 2012; CCBD, 2012) have identified a number of problem areas in the federal interpretation of IDEA disproportionality provisions, as follows:

- *Dual definitions of disproportionality.* Different sections of IDEA 2004 use slightly different terminology to describe disproportionality: “significant disproportionality” in the provisions themselves, and “disproportionate representation” in describing the monitoring provisions. OSEP’s instructions to states and districts involving the use of the two terms created a dual system of monitoring and enforcement of two separate terms and processes that were never previously distinguished in the professional literature or in best practice(s) (see Table 3.1). Such a dual interpretation that is not based in the professional literature appears to lead to confusion at both the SEA and LEA levels (CCBD, 2012).
- *Inappropriate identification.* Under the implementing regulations and subsequent guidance from OSEP (USDOE OSEP, 2009), state monitoring of disproportionate representation is defined as a two-step process. First, quantitative criteria (e.g., risk ratios) are applied in order to make a determination of disproportionate representation, fol-

TABLE 3.1. Differences in OSEP Interpretation of IDEA 2004 Requirements for Significant Disproportionality and Disproportionate Representation (Indicators 4, 9, and 10)

	Significant disproportionality (20 U.S.C. §1418)	Disproportionate representation (20 U.S.C. §1416)
Direction of disproportionality	Only overrepresentation	Both <i>over-</i> and <i>under</i> representation
Focus	Overall eligibility; disability categories; discipline by race/ethnicity; educational environments	Overall eligibility; disability categories (discipline by race/ethnicity at best unclear)
Data	Only numerical finding	Numerical finding + qualitative finding of inappropriate identification
Policies, practices, and procedures review	Only <i>after</i> a finding of significant disproportionality	Part of determining disproportionate representation
Consequence of finding to LEA	Requires reservation of full 15% of Coordinated Early Intervening Services funds	Corrective action plan and continued monitoring

lowed by a qualitative examination of the policies, practices, and procedures of each LEA exhibiting numerical disproportionate representation, in order to determine whether that is due to inappropriate identification. It has been argued that this focus on qualitative criteria represents a retreat to a previously rejected policy interpretation, and may contribute to lower rates of identification of disproportionality at the district level (Albrecht et al., 2012).

- *Poor alignment with the evidence base.* Some important aspects of disproportionality, such as the overrepresentation of students of color in more restrictive settings, have been purposely omitted from the monitoring requirements defined by OSEP. In other cases, OSEP's legal interpretations have led to monitoring efforts in areas (e.g., white overrepresentation, underrepresentation of other racial/ethnic groups) that have not been previously represented in the literature, leaving the field with little or no guidance on how to address findings of disproportionality that may emerge (CCBD, 2012).

There is some evidence that these issues of interpretation have affected the rate of identification of school districts having disproportionality. The number of states identifying zero districts with disproportionate representation due to inappropriate identification has increased over time. By 2007–2008, 85% of states failed to find any school districts out of compliance with respect to the disproportionality-monitoring provisions of IDEA 2004. Albrecht and colleagues (2012) analyzed these trends, using 4 years of data from OSEP's reports on disproportionality monitoring, as well as data from the annual reports to Congress on the implementation of IDEA. The results revealed that both changes in risk ratio criteria and qualitative analyses as part of the inappropriate identification clause appeared to contribute to the decrease in identification. Unfortunately, they found no evidence that decreases in the number of school districts determined to be out of compliance were related to overall improvement in disproportionality at the state level.

In summary, the inclusion of statutory provisions regarding disproportionality in IDEA 2004 represented a significant

advance in policy implementation. Yet the interpretation and implementation of those provisions by federal agencies may have limited the effectiveness of the law in creating change in actual rates of disproportionality at the state and local level.

Disproportionality in Discipline: A Lack of Policy Remedies

Despite documentation of the overrepresentation of African Americans in out-of-school suspension and expulsion for almost 40 years (e.g., Children's Defense Fund, 1975), there remain few policy outlets for addressing disproportionality in school discipline. One of the more significant barriers to addressing school inequality has been the trend over time in court decisions to accept only those remedies that are "race-neutral." Although *Brown v. Board of Education* ushered in a roughly 15-year period of civil rights activism across all three branches of government, court precedents since the 1970s have consistently reduced available avenues for those seeking to challenge school practices resulting in racial and ethnic disparities (Orfield & Eaton, 1996). Recent U.S. Supreme Court rulings such as *Parents Involved in Community Schools v. Seattle School District No. 1 (PICS)* have limited the ability of public schools to use individual racial classifications in order to pursue integrated schools.

Extensions of the philosophy of race neutrality also appear to have played a role in delaying the implementation of disproportionality-monitoring provisions of IDEA 2004 with respect to discipline. Indicator B4b requires states to monitor racial and ethnic disproportionality in suspension and expulsion for students with disabilities. In the wake of Supreme Court cases rejecting race-specific remedies, however, the George W. Bush administration refused to implement that provision, on grounds that mandating the collection of data disaggregated by race and ethnicity could be unconstitutional (Albrecht et al., 2012). Although the Obama administration has begun enforcing regulations concerning Indicator B4b, it has done so on a more limited basis, prompting a coalition of more than 50 civil rights groups to submit a letter of protest concerning those restrictions placed on disproportionality monitoring.

Recent policy developments regarding disproportionality in school discipline may indicate an expansion of the federal role in monitoring disciplinary disproportionality. In response to the Council of State Governments Justice Center (2011) report, the USDOE and the U.S. Department of Justice announced a new policy initiative, the Supportive School Discipline Initiative, to address the overuse of exclusionary school discipline (U.S. Department of Justice, 2011). The release of the Civil Rights Data Collection by the USDOE Office for Civil Rights created a national focus on racial disparities in school discipline, and for the first time included data on school arrests (Lewin, 2012). The U.S. Department of Justice appears to be increasing its enforcement efforts at the school district level and increasing its prosecution of cases of discrimination in school discipline (ABC News, 2012).

Long-Term Outcomes for Students with Disabilities

MacMillan and Reschly (1998) argue that whether disproportionate representation is viewed as a problem may depend on the perceived efficacy of the program in which disproportionality is in evidence. In the field of mental health, for example, concerns about disproportionality revolve around the *underrepresentation* of students of color (Takeuchi & Uehara, 1996). The following sections examine the documented and potential outcomes of disproportionality in discipline and special education, as seen through the lens of program efficacy.

Outcomes of Disciplinary Disproportionality

The use of school exclusion as a disciplinary alternative appears to have two primary goals: (1) improvement of student behavior through the deterrent effect, and (2) improvement of school climate by removing a certain proportion of the most disruptive students. Yet comprehensive reviews have found no evidence that suspension and expulsion have any positive effect on improving student behavior or school climate (American Psychological Association Zero Tolerance Task Force, 2008). Rather, a number of negative

effects appear to be associated with the use of suspension and expulsion or increased police presence.

Negative Relationship with School Climate

One assumption of disciplinary exclusion is that removing school troublemakers reduces disruption and improves the learning environment for those who remain (Ewing, 2000). Schools with higher rates of suspension have, however, also been reported to have higher student-teacher ratios and a lower level of academic quality (Hellman & Beaton, 1986), to spend more time on discipline-related matters (Davis & Jordan, 1994), to pay significantly less attention to issues of school climate (Bickel & Qualls, 1980), and to be perceived as less safe by their students and teachers (Steinberg, Allensworth, & Johnson, 2011). These risks may be even more pronounced for students of color. Mattison and Aber (2007) found that higher school rates of detention and suspension were associated with reports by African American students of increased racism and lower ratings of racial fairness at school.

School Engagement/Achievement

Time lost to suspension and expulsion may have a negative impact on school connectedness and engagement, and ultimately on student achievement. McNeely, Nonemaker, and Blum (2002) found school connectedness to be lower in schools that expelled students for relatively minor infractions, while Davis and Jordan (1994) reported that the number of suspensions that African American males received was negatively related to achievement in 8th grade, and to school engagement in 10th grade.

Relationship to School Dropout

School suspension has been found to be a moderate to strong predictor of dropout or failure to graduate on time (see, e.g., Ekstrom, Goertz, Pollack, & Rock, 1986). Suh and Suh (2007) found that suspensions constitute a stronger predictor of dropout than either grade point average or socioeconomic status. In a longitudinal study of all students in Texas through their high school

years, the Council of State Governments Justice Center (2011) found that suspended/expelled students were five times more likely to drop out than nondisciplined students.

Increased Risk of Juvenile Justice Contact

Recent studies suggest that suspension and expulsion increase students' risk for contact with the juvenile justice system. Racial disproportionality in out-of-school suspensions predicts similar disparities in juvenile court referrals, even after researchers control for levels of delinquent behavior, poverty, and other demographics (Nicholson-Crotty, Birchmeier, & Valentine, 2009). Multivariate analyses of longitudinal databases have indicated that suspended or expelled students have a greater likelihood of contact with the juvenile justice system in subsequent years, even after analysts control for demographic status. This relationship was even stronger for African American students (Council of State Governments Justice Center, 2011).

Outcomes of Special Education Disproportionality

The long-term outcomes for students of color who are disproportionately found eligible for special education service are less clear, in part due to a lack of clarity concerning special education's effectiveness. The effectiveness of special education has been a controversial topic (see, e.g., Detterman & Thompson, 1997; Ramey & Ramey, 1998). Holding cohort constant over time, Ysseldyke and Bielinski (2002) demonstrated achievement gains for students served in special education that slightly exceeded those for students in general education. Thus, although the effectiveness of special education services clearly depends on the quality of services individual students receive (Losen & Orfield, 2002), overplacement in special education may not be a priori as negative an outcome as overrepresentation in out-of-school suspension and expulsion.

Yet in at least one area—access to less restrictive settings—negative outcomes of special education disproportionality appear to be less ambiguous. Given the conceptual importance of inclusion, and the dramatic increases in recent years in general educa-

tion placements for students with disabilities (McLeskey, Henry, & Axelrod, 1999), it could be argued that disproportionality with respect to access to less restrictive educational environments may be more important conceptually than disparities in disability categories. Yet, as noted earlier, students of color, especially African Americans, are overrepresented in more restrictive educational environments and underrepresented in less restrictive settings (Fierros & Conroy, 2002; Skiba et al., 2006). Skiba and colleagues (2006) found that in four of five disability categories, African American children were more likely than their peers *with the same disabilities* to be overrepresented in more restrictive settings, or underrepresented in the general education setting. Compared to peers with EBD, African American students with EBD were overrepresented in separate classes and underrepresented in general education placements.

Such findings raise the question of the ultimate function of the disproportionate representation of students of color in discipline and special education. The nexus of race, behavior, and disability remains a powerful predictor of exclusionary and often negative outcomes. Indeed, disability and race appear to be additive factors in increasing one's risk for out-of-school suspension (Council for State Governments Justice Center, 2011). Do such findings indicate that students of color are being appropriately served in a host of more restrictive or exclusionary settings? Or might such high rates of exclusion from the mainstream be better considered indicators of cultural mismatch and implicit bias (Irvine, 2012), rooted in a 400-year history of stereotypes of lower ability and heightened criminality (Clarke, 2001; Muhammad, 2010)?

Conclusions

Nearly 60 years after *Brown v. Board of Education*, and over 40 years after *Mills*, disproportionate representation in special education and school discipline continues to plague our educational system. The complex and multidetermined causation of such disparities suggests that there are no simple remedies that might be expected to work in all schools and school districts. Indeed, the

literature reveals a dearth of evidence-based practices that specifically seek to reduce disparate outcomes, leaving a significant gap for educators seeking guidance regarding local reform. Yet the data continue to show that such disparities are at least as likely to be a function of school-related variables, such as classroom behavior management or school climate, as they are of student, family, or community characteristics. Such data strongly indicate that a renewed and ongoing effort at the federal, state, and local levels to address school contributions to racial and ethnic disparities in special education and school discipline is a critical need for students who continue to be at disproportionate risk for lost educational opportunity.

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Legislation, Regulation, Litigation, and the Delivery of Support Services to Students with Emotional and Behavioral Disorders in School Settings

Mitchell L. Yell, Shelley Neilsen Gatti, and R. Allan Allday

Federal and state laws, regulations, and litigation in the federal courts have exerted and continue to exert a great influence over how educators deliver special education services to children and youth with emotional and behavioral disorders (EBD). Special education administrators and teachers need to understand their roles with respect to this overall body of the law. Moreover, because teachers are charged with serving on their students' individualized education program (IEP) planning teams as well as being accountable for the day-to-day operations of their classrooms, the ability to implement programs in a manner consistent with these laws is very important. In this chapter, we first review the significant role that federal and state laws, regulations, and litigation have played in special education. Second, we explain the most important of these federal laws: the Individuals with Disabilities Education Improvement Act (IDEA). Third, we emphasize how teachers can ensure that they develop, implement, and evaluate IEPs for their students that are educationally appropriate and legally sound. Finally, we examine two additional areas in which legislation, regulation, and litigation have played a significant role: disciplining students with EBD, and addressing bullying and harassment.

The Crucial Role of the Law in Special Education

The importance of laws, regulations, and litigation (i.e., court cases and administrative hearings) in the development of special education programming cannot be overstated. In fact, policy in the field of special education evolves primarily through developments in these areas. In this section, we briefly review how laws, regulations, and court cases have essentially created the system of special education in the United States. We also stress the importance of educators' keeping abreast of legal developments, and suggest ways in which they may do so.

According to Zettel and Ballard (1982), prior to the 1970s students with disabilities were denied educational opportunities in the United States in two major ways. First, many students were completely excluded from public schools. Second, students with disabilities, as U.S. Supreme Court Chief Justice William Rehnquist wrote, were often "left to fend for themselves in classrooms designed for education of their nonhandicapped peers" (*Board of Education of the Hendrick Hudson School District v. Rowley*, 1982, p. 191). Advocacy groups for the educational rights of children and youth

with disabilities fought tirelessly for the rights of these students to receive an education appropriate for their unique needs. In 1972, rulings were issued in two federal district court cases: *Pennsylvania Association for Retarded Children (PARC) v. Commonwealth of Pennsylvania* and *Mills v. Board of Education of the District of Columbia*. These two cases, which are often referred to as “right-to-education” cases, established the foundations for special education law. Following these two important decisions, over 46 right-to-education cases were filed across the United States. Some states passed laws regarding the education of students with disabilities; however, many states passed no such laws. The efforts of advocacy groups in these states; the right-to-education court cases at the federal level; and the variability in state laws protecting the educational rights of students with disabilities all led the federal government to pass the Education for All Handicapped Children Act (EAHCA) of 1975, to create a national standard to protect the educational rights of students with disabilities. This law was commonly known as Public Law 94-142.

EAHCA, which was renamed the Individuals with Disabilities Education Act (IDEA) in 1990, offered federal funding to states in exchange for the states’ providing educational services that met the requirements of the law to specified categories of students with disabilities. States had the choice of accepting federal funding, in which case they had to pass a law complying with the provisions of the law, or refusing federal funds. Currently, every state has its own special education law, which must provide students with disabilities the same rights as in IDEA. Although state laws cannot provide fewer protections than the federal law, the state laws can provide more protections. EAHCA essentially created special education on a national level.

IDEA has been amended a number of times since 1975. Frequently these amendments have resulted in important changes to the law. Significant changes to this law were made in 1986, 1990, 1997, and 2004. Moreover, the U.S. Department of Education periodically issues regulations to implement IDEA. The regulations supply specifics to the general content of the law and provide pro-

cedures by which the law can be enforced. In a sense, these regulations are the rules that govern the implementation of special education; as such, they have the force of law. A violation of a regulation, therefore, is as serious as a violation of the law. It is important for special educators to understand all changes that are made in IDEA amendments and regulations.

“Litigation” refers to the process of bringing a lawsuit or legal action to an administrative hearing or a court to resolve a legal matter or question. Litigation has played, and continues to play, a critical role in special education. When the rulings of a judge or judges are published, these decisions form a body of case law, which is quite different from statutes or regulations. Courts exist at both the federal and state levels. However, the large majority of cases regarding special education are heard at the federal level.

The American legal system relies heavily on the value of court decisions and the legal precedents they establish (Yell, Thomas, & Katsiyannis, 2012). Only a small fraction of cases result in published rulings, so these few cases take on a great deal of importance. Court cases can be more or less important to special educators, depending on the jurisdiction and the level of the court where a decision is made. A decision by the federal district court or federal circuit court of appeals in a jurisdiction in which a school district is located assumes a great deal of importance because that decision represents the law in that jurisdiction. Decisions in cases from the U.S. Supreme Court are as important as federal legislation and regulations because their decisions are binding on all lower courts and thus become the law of the land.

Special education case law is very important because it constantly evolves and provides new interpretations of important legal and policy questions in special education. Moreover, case law may lead Congress to amend IDEA to address what is happening in the courts. For example, the U.S. Supreme Court’s decision in a case called *Smith v. Robinson* (1984) led Congress to add a provision for attorneys’ fees to IDEA.

The number of special education cases is quite large and is constantly growing. Fortunately, several websites and blogs monitor

TABLE 4.1. Websites and Blogs on Special Education Law

Title	URL
Building the Legacy: IDEA	<i>idea.ed.gov</i>
State statutes	<i>topics.law.cornell.edu</i>
Council for Exceptional Children	<i>www.cec.sped.org</i>
Council of Administrators of Special Education (CASE)	<i>www.casecec.org</i>
National Dissemination Center for Children with Disabilities	<i>www.nichcy.org</i>
Special education law blog (C. Fox)	<i>specialedlaw.blogs.com</i>
Special education law blog (J. Gerl)	<i>www.specialeducationlawblog.blogspot.com</i>
The Law and Special Education website and blog (M. Yell)	<i>www.ed.sc.edu/spedlaw/lawpage.htm</i>

and report special education litigation, as well as legislation and regulations. Table 4.1 contains information on a number of these websites and blogs.

Together, legislation, regulations, and litigation have a profound effect on the delivery of support services to students with disabilities in school settings. Again, special educators should understand the constant changes in all three areas to ensure that they develop, implement, and evaluate special education programs in an educationally meaningful and legally correct manner. We next turn to a discussion of the most important special education law, IDEA.

IDEA and Teachers of Students with EBD

Some scholars have divided IDEA into six major principles (Turnbull, Stowe, & Huerta, 2007), which is certainly a useful structure for purposes of discussion, even though neither IDEA's statutory language nor the U.S. Department of Education recognizes the division of the law into these six principles. These six principles are "zero reject," "protection in evaluation," "free appropriate public education" (FAPE), "least restrictive environment" (LRE), "procedural safeguards," and "parent participation." Table 4.2 provides a brief explanation of these six principles.

TABLE 4.2. Major Principles of IDEA 2004

Principle	Description
Zero reject	School districts must locate, identify, and provide special education services to all eligible students with disabilities.
Protection in evaluation	School districts must conduct full and individualized assessments of students with disabilities before initially providing special education services.
Free appropriate public education (FAPE)	School districts must provide special education and related services, at public expense, that meet the standards of the state education agency and are in conformity with students' IEPs.
Least restrictive environment (LRE)	School districts must ensure that to the maximum extent appropriate, students with disabilities are to be educated with students who do not have disabilities.
Procedural safeguards	School districts must adopt or develop procedures to ensure that students and their parents are involved in the special education process.
Parental participation	Parents must be meaningfully involved in IEP development (i.e., assessment, programming, and placement).

The purpose of IDEA is to ensure that all eligible students with disabilities in public schools are provided with FAPE. The key to providing FAPE is for school personnel to develop and implement an IEP for each student enrolled in special education. A student's IEP must be based on a full and individualized assessment and must be designed so as to confer meaningful educational benefit to the student (Yell et al., 2012). Because the IEP is the primary evidence of the appropriateness of the student's education, it is frequently at the center of IDEA-based disputes that wind up in due process hearings and in court (Bateman, 2011). According to Bateman (2011), this is because the IEP is accepted in legal proceedings as an accurate depiction of a student's special education program, and unless there is evidence of implementation failures, the IEP is the primary basis for finding whether FAPE was delivered. Thus it is extremely important that teachers fully understand and be able to develop, implement, and evaluate educationally meaningful and legally correct IEPs.

The IEP Development Process

The most basic requirement of IDEA is that a student's parents must be full and equal participants with school district personnel in the development of an IEP (Bateman, 2011; Yell et al., 2012). Developing a student's IEP is a collaborative process between his or her parents and a team of school-based personnel. This process begins with an assessment of the student, which forms the basis of his or her IEP. The IEP is then developed through a collaborative process. The student's placement is also determined through this team process.

Conducting the Assessment

The IEP process begins with a full and individualized assessment or evaluation of a student's educational needs. This critical step provides the IEP team with a clear picture of the student's strengths, needs, and present levels of academic and functional performance. This information is used to develop measurable goals, determine appropriate services, and to monitor progress. A prop-

erly completed assessment provides the basis for the IEP and is an essential part of the student's educational programming. It is, as Bateman (2011) has written, the very foundation upon which the structure of a student's IEP stands. In *Kirby v. Cabell County Board of Education* (2006), a U.S. District Court judge accurately described the critical importance of conducting an accurate, relevant, and meaningful assessment:

If the IEP fails to assess the "child's present levels of academic achievement and functional performance" the IEP does not comply with [IDEA]. This deficiency goes to the heart of the IEP; the child's level of academic achievement and functional performance is the foundation on which the IEP must be built. Without a clear identification of [the child's] present levels, the IEP cannot set measurable goals, evaluate the child's progress and determine which educational and related services are needed. (p. 694).

The assessment process helps to answer three key questions: (1) Is this student eligible to receive special education services? (2) What instructional programming and behavioral supports should this student receive? And (3) is this program resulting in meaningful educational benefit? (Yell et al., 2012). Too often, the assessment process just involves administering norm-referenced tests to determine eligibility. Whereas norm-referenced tests are useful for such purposes, they are less useful for instructional planning. Norm-referenced tests can provide clues to help identify students' needs. However, to plan instruction accurately, IEP teams need more fine-grained assessments, such as curriculum-based assessments, criterion-referenced tests, and functional behavioral assessments (Yell et al., 2012). Such tests and procedures will be more useful in determining students' present levels of performance and skill deficits in areas in which they need individualized instruction or programming.

Because the initial assessment/evaluation of a student is the keystone of his or her IEP, conducting the assessment is a very important part of providing FAPE. Since the passage of EAHCA, special education law has required protections in assessment and evaluation. These protections focus on iden-

tifying students who need services, ensuring that decisions are fair and defensible, and implementing all requirements consistently and in a nondiscriminatory manner (Yell et al., 2012). These key protections are applied through parent participation; multidisciplinary teams; nondiscriminatory assessment procedures and interpretation; and efforts to address students' social, emotional, and behavioral needs.

Yell and colleagues (2012) have identified the following key areas as critically important in conducting this assessment:

- Include a student's parents in the assessment process.
- Assess all suspected areas of academic or functional needs thoroughly, so that a student's instructional program can be planned.
- Include professionals on the team with specialized expertise in assessment (e.g., a school psychologist). IDEA requires that the IEP team include a person who can interpret the instructional implications of the assessment.
- Include a team member with behavioral expertise when a student has been referred for behavior problems. Because a student with EBD will almost certainly require behavioral programming in order to receive FAPE, the IEP team must include a member or members with training in developing, implementing, and evaluating behavioral programs.
- Ensure that assessment tools are not discriminatory. This provision in the law is meant to protect children of different racial, cultural, or language backgrounds from misdiagnosis. The evaluation must be conducted in the child's typical, accustomed mode of communication (unless it is clearly not feasible to do so), and in a form that will yield accurate information about what the child knows and can do academically, developmentally, and functionally.
- Consider the assessment information as the baseline for measuring progress toward IEP goals. The assessment process is the path to establishing good goals and subsequently monitoring student progress. Thus, if a student has serious problem behavior, the team should conduct

a functional behavioral assessment. The results of this assessment will lead directly to developing measurable annual goals and special education services, as well as the team's system for monitoring the student's progress.

Developing the IEP

An IEP is an individualized program of special education and related services that meets the unique educational needs of a student with disabilities. Yell and colleagues (2012) refer to the IEP as the blueprint of a student's FAPE. For this reason, the IEP is often the basis of complaints in due process hearings or court cases in which a violation of the right to FAPE is alleged (Bateman, 2011).

IDEA mandates the process and procedures for developing the IEP, including IEP team membership. Required IEP team members include (1) the student's parents, (2) a representative of the local education agency, (3) the student's special education teacher, (4) the student's general education teachers, and (5) a person who can interpret assessments. Having the correct participants on the IEP is so important that a failure in this area can result in an invalid IEP and a possible violation of the right to FAPE (Lake, 2007).

IDEA requires that certain components be included in the IEP (e.g., present levels of performance, measurable annual goals, special education services, and methods of measuring progress). State and local agencies may require additional elements. It is crucial that at minimum these elements be discussed at the IEP meeting and included in the IEP document. Courts have often determined that IEPs are invalid when any of these components are missing from the IEPs and the students' special education is adversely affected (Bateman, 2011; Yell et al., 2012).

To meet IDEA's content requirements, the IEP team must answer the following four questions that are at the heart of the IEP process (Yell et al., 2012):

1. What are the student's unique educational needs that must be considered in developing the individualized program?
2. What measurable goals will enable the

student to achieve meaningful educational benefit?

3. What services will the school provide to the student to address each educational need?
4. How will the team monitor the student's progress to determine whether the instructional program is effective?

These questions are answered when the IEP team develops the following: (1) a present levels of academic achievement and functional performance (PLAAFP) statement, (2) measurable annual goals, (3) a statement of special education services, and (4) methods for monitoring students' progress.

The PLAAFP Statement

The PLAAFP statement reflects the information gathered from the full and individualized assessment of a student's educational needs. The PLAAFP statement serves as the foundation of the IEP, from which the IEP team can determine the annual goals and measure the student's progress. There should be a direct relationship between this statement and the other IEP components. For example, if the statement describes a student's problem behavior, this problem should be addressed in the measurable annual goals, statement of special education services, and methods for measuring progress.

Measurable Annual Goals

Annual goals are measurable projections the team makes regarding the progress of the student in a full school year. The IEP team must decide how each goal will be measured and include this information in an IEP. If the IEP team fails to include measurable goals for each area of need, and/or does not actually measure the student's progress toward achieving those goals, an IEP can be rendered inappropriate and thus can violate the FAPE provisions of IDEA (Bateman, 2011; Yell et al., 2012).

According to Bateman (2011), only a fraction of IEPs contain goals that are actually measurable. When the goals are not measurable, an IEP is not likely to provide FAPE, which may violate IDEA; the same is true when goals are not measured (Bateman,

2011). Thus it is critical that IEP teams develop measurable annual goals, assess them, and then make instructional changes if the measures indicate that such changes are needed.

A hearing officer in New Mexico found that a school district's IEP did not provide FAPE when he determined that the

Student's annual goals and objectives in each IEP simply do not contain objective criteria which permit measurement of Student's progress. . . . A goal of "increasing" reading comprehension skills or "improving decoding skills" is not a measurable goal. . . . Even if [present levels of performance] were clearly stated, an open-ended statement that Student will "improve" does not meet the requirement . . . for a "measurable" goal. The addition of a percentage of accuracy is not helpful where the IEP fails to define a starting point, an ending point, the curriculum in which Student will achieve 80 to 85% accuracy, or a procedure for pre and post-testing. (*Rio Rancho Public Schools*, 2003, p. 563)

According to Bateman (2011), most special education teachers do not know how to write measurable goals, and too few goal writers actually intend that anyone will measure the progress the student has made—both of which make IEP goals meaningless and useless. When developing annual goals, IEP teams should ensure that they are ambitious, but also reasonable. If goals are written that call for only small amounts of student growth, it is likely that even if the goals are achieved, the progress a student makes will not be considered meaningful. It is important that IEP team members, particularly special education teachers and school psychologists, understand how to write and monitor measurable goals.

Statement of Special Education Services

Every student's IEP must include a statement of the specific educational services, related services, and supplementary aids and services to be provided by the school. The purpose of this statement is to clarify the services that the school will deliver to help a student (1) make progress toward his or her annual goals, and (2) engage the general education curriculum and show progress within it.

In IDEA 2004, Congress added the requirement that an IEP must include a statement of the special education and related services and supplementary aids and services, based on peer-reviewed research (PRR) to the extent practicable. This requirement applies to the (1) selection and provision of special education methodology; (2) selection and provision of related services, which are services that are required to assist a student to benefit from special education; and (3) selection and provision of aids, services, and supports provided in general education settings. PRR is research that has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective, and scientific review. In the regulations for IDEA, the U.S. Department of Education (2006) defined PRR in the commentary as generally referring “to research that is reviewed by qualified and independent reviewers to ensure that the quality of the information meets the standards of the field before the research is published” (p. 46664). The intent of this section of IDEA is to ensure that IEP teams’ selection of educational approaches reflect sound practices that have been validated empirically whenever possible (Etscheidt & Curran, 2010).

Measuring Student Progress

“Progress monitoring” is a generic term referring to a simple procedure for repeated measurement of a student’s movement toward achieving long-range instructional goals. When teachers monitor students’ progress, they frequently and systematically collect data to determine how their students are performing in specific academic or functional areas (Yell et al., 2012). According to the home page of the National Center on Progress Monitoring’s website (www.studentprogress.org), “Progress monitoring is a scientifically based practice that is used to assess students’ academic and functional performance and evaluate the effectiveness of instruction.” Monitoring a student’s progress toward meeting IEP goals and objectives is essential because otherwise it will be impossible to determine whether the student’s program is working and whether he or she is making progress in achieving the goals in his or her IEP. If the goals and objectives

of the IEP cannot be measured or evaluated, the IEP will not appropriately address the student’s needs, which also may result in the denial of FAPE (Yell et al., 2012). The IEP must include a statement of how a student’s progress toward the annual goals will be measured. In addition, the statement must describe how a student’s parents will be regularly informed about their child’s progress toward the annual goals.

The decision in *Escambia County Public School System* (2004) addressed the importance of progress monitoring as follows: “Periodic review of progress on the goals and objectives provides the disabled student’s teacher with supportive data needed to make a determination of the success of the intervention” (p. 248). How much progress a student makes has also been a factor in the court’s determination of whether FAPE was provided (Bateman, 2011). For example, in *Cranston School District v. Q. D.* (2008), *Taylor v. Sandusky* (2005), and *Draper v. Atlanta Independent School System* (2007), the courts ruled that school districts had failed to provide FAPE because students had failed to make academic gains. On the other hand, in *M. P. v. South Brunswick Board of Education* (2008), the court found that a school district had provided FAPE despite having a flawed IEP because the data collected by a special education teacher showed that the student had made meaningful academic progress (Yell et al., 2012). Decisions in these cases show that when a student does not make meaningful progress, or an IEP team fails to collect data on student progress, it is possible that a school district could be found in violation of FAPE. However, when an IEP records legitimate data, and the data show that a student has made progress, the school district has clearly provided FAPE.

A federal district court in Virginia commented on the nature of the data collected in *County School Board of Henrico County, Virginia v. R. T.* (2006). In this case, school personnel asserted that the student in the case, R. T., had made progress in his special education program. The court did not find the testimony credible because the evidence of R. T.’s progress was based only on anecdotal information, and no data had been collected. The Court wrote, “[The teacher’s] assessment of R. T. is entitled to little weight because it is based on anecdotal, rather than

systematic, data collection” (p. 685). Similarly, in *Board of Education of the Rhinebeck Central School District*, a school district’s IEP was found to be invalid because no legitimate data were collected to show student progress. According to the IEP, the student’s progress was to be assessed by teacher observation. Unfortunately, the decision was that “although subjective teacher observation provides valuable information, teacher observation is not an adequate method of monitoring student progress,” and “Without supporting data, teacher observation is opinion which cannot be verified” (p. 156).

In summary, the following key areas are important in developing a student’s IEP:

- Develop PLAAFP statements that address a student’s needs.
- Ensure that the each PLAAFP statement leads to a service statement, an annual goal, or both.
- Ensure that PLAAFP statements are written in understandable language, are clear to everyone on the IEP team, and are sufficiently precise to lead to measurable annual goals.
- Ensure that all annual goals align with PLAAFP statements.
- Develop annual goals that are measurable and are assessed on a systematic basis.
- Write service statements that are based on the PLAAFP statements and PRR. The statements must clearly describe what the school will do in response to a student’s unique educational needs.
- Implement a progress monitoring system that relies on the collection of objective and quantifiable data.
- Include a schedule for reporting student progress to parents on a systematic basis.
- Analyze the progress monitoring data, and make instructional changes when the data indicate it is necessary to do so.

Determining Placement

After the IEP team has decided *what* services a child needs (e.g., measurable annual goals, special education services), the IEP team must determine *where* services will be provided. IDEA 2004 requires that a placement team, consisting of a student’s parents and persons knowledgeable about the student, shall determine a student’s placement based

on the instructional implications of the assessment data and the available placement options. Although IDEA doesn’t require that the placement decision be part of the IEP process, Bateman (2011) asserts that it is acceptable for the IEP team to determine a student’s placement, since parents are participating members of both the placement team and the IEP team.

Since its original passage as EAHCA in 1975, IDEA has included a strong preference for students with disabilities to be educated alongside their peers without disabilities to the maximum extent appropriate. In addition, IDEA maintains that all districts must continue to provide a full continuum of placement options. To determine a student’s placement, a team of persons, which includes a student’s parents, reviews the student’s IEP and determines the LRE in which his or her special education can be implemented and FAPE provided.

Placement decisions have proven to be problematic, as evidenced by the considerable amount of litigation related to the procedural and substantive errors made by IEP teams regarding placement. Yell and colleagues (2012) offer the following suggestions to help IEP teams correctly determine placement decisions for students with EBD:

- Develop the student’s IEP *before* determining placement; do not predetermine placement.
- Ensure that the student’s parent(s) are on the team that determines placement.
- Make the placement decision based on the student’s unique needs, and not on the student’s label or disability category.
- Document that the IEP team has made diligent, good-faith efforts to place the student in the general education setting with supplementary aids and services.
- Monitor the student’s progress, and if the student is not succeeding, meet to consider placement in a more appropriate and sometimes more restrictive setting.
- Document the decision-making process when considering a more restrictive placement by showing that the team followed the continuum of placements in a step-by-step manner.
- Make efforts to include opportunities for students with disabilities to be included in integrated settings.

Summary of IDEA and Its Implications for Teachers of Students with EBD

To develop, implement, and evaluate special education programs requires a thorough knowledge of IDEA and the development of IEPs. Because mistakes made during the IEP process can result in school district liability, it is extremely important that teachers understand their responsibilities and duties under this law. In addition, because IDEA is always evolving (with reauthorizations and amendments every 4 or 5 years), special education teachers should keep abreast of developments in the law. One suggestion for doing so would be to attend professional conferences where such responsibilities are discussed.

Because the IEP is the heart and soul of IDEA, teachers should have expertise in (1) conducting assessments that provide relevant information for educationally planning, (2) writing measurable annual goals that are challenging and appropriate, (3) using empirically validated procedures to plan programming, (4) monitoring student progress, and (5) analyzing and using progress monitoring data. When IEP teams develop ambitious goals, and special education teachers use research-proven practices in their instruction, monitor student progress, and react in accordance with the relevant information from the data, the likelihood is increased that students will make meaningful educational progress, thus meeting the FAPE requirement of IDEA.

Clearly, legislation, regulations, and litigation have played a crucial role in the development of special education. Moreover, developments in these areas continue to exert a profound influence on special education, as can be seen in the effects of legislative amendments to IDEA, the release of administrative regulations, and continual court cases regarding special education matters. We next review two areas in which legislation, regulation, and litigation continue to influence important policy areas in special education.

Disciplining Students with EBD

Disciplining students with disabilities has long been a confusing and controversial

issue for school administrators and teachers alike. Discipline of students with disabilities was an issue addressed exclusively by the courts between the passage of EAHCA in 1975 and enactment of the IDEA Amendments of 1997. However, with the reauthorization of IDEA in 1997, Congress addressed discipline and students with disabilities.

The goals of adding the disciplinary provisions to IDEA in 1997 were to ensure that (1) all students, including students with disabilities, are educated in safe, well-disciplined schools and orderly learning environments; (2) teachers and school administrators have tools to assist them to prevent misconduct and to address those problems when they arise; (3) there is a balanced approach between the need to maintain orderly and safe schools and the need to protect the rights of students with disabilities to receive FAPE; and (4) students have the right to an appropriately developed IEP with well-designed behavior intervention strategies.

Three major points undergird the disciplinary changes of IDEA 1997, with which teachers and administrators must be familiar. First, the law since then has emphasized the use of positive behavioral interventions, supports, and services for students with disabilities who exhibit problem behaviors. The purpose of positive programming is to teach appropriate behaviors that increase the likelihood of a student's success in school and in postschool life, as opposed to merely using punishment-based programming to eliminate inappropriate behavior. These procedures must be included in students' IEPs when appropriate. Second, school officials may discipline a student with disabilities in the same manner as they discipline students without disabilities, with a few exceptions. A school's regular disciplinary procedures can be used with students who have IEPs, as long as they (1) are used with nondisabled students *and* students who have disabilities (i.e., the procedures are not discriminatory); (2) do not result in a unilateral change in a student's placement (i.e., a suspension in excess of 10 cumulative school days that constitutes a pattern of exclusion, a change of educational placement made by school personnel and not the IEP team, or expulsion from school); and (3) do not result in the cessation of educational services. Third,

discipline should be addressed through the IEP process. Yell and colleagues (2012) have predicted that school districts are most likely to violate the disciplinary provisions of IDEA 1997 by (1) failing to address problem behavior and discipline in the IEP process, or (2) not following the behavioral plans and disciplinary procedures indicated in a student's IEP and IDEA 1997 (e.g., a principal unilaterally expels a student with disabilities, rather than adhering to the discipline plan in the IEP). Moreover, if school personnel and parents can arrive at solutions to a student's discipline problems through the IEP process (e.g., changing a student's placement to an alternative school, rather than moving to expel him or her), there is no need to invoke the disciplinary provisions of the IDEA.

Addressing Problem Behavior in the IEP

IDEA requires that if a student with disabilities exhibits problem behaviors that impede his or her learning or the learning of others, then the student's IEP team shall consider "strategies, including positive behavioral interventions, strategies, and supports to address that behavior" (IDEA, 20 U.S.C. § 1414 (d)(3)(B)(i)). Comments in the federal regulations indicate that if a student has a history of problem behavior, or if such behaviors can be readily anticipated, then the student's IEP must address that behavior (IDEA Regulations of 2006, 34 C.F.R. § 300, Appendix A, question 39). This requirement clearly applies to students with EBD; however, it also applies to all students in special education, regardless of their disability category.

These problem behaviors should be addressed in the following manner. First, when a student exhibits problem behavior, the IEP team must determine whether the behavior impedes his or her learning or other students' learning. Second, if the team decides that the problem behavior does interfere with the student's learning, then they must conduct an assessment of it. Third, the IEP team must develop a plan, based on the information gained from the assessment, that reduces problem behaviors and increases socially acceptable behaviors.

Functional Behavioral Assessments and Behavior Intervention Plans

For students who exhibit challenging behaviors to a degree that requires a change in placement, IDEA mandates that schools conduct a functional behavioral assessment (FBA) to determine the possible functions that the problem behavior may serve (Gresham, Watson, & Skinner, 2001). Outcomes of the FBA should result in the creation of a behavior intervention plan (BIP) that focuses on positive, proactive interventions to change the challenging behavior. Both the FBA and BIP were first included in the 1997 amendments to IDEA because they are considered best practices for students who exhibit challenging behavior (Zirkel, 2011). In addition, FBAs were included in the legislation as methods of ensuring that school personnel will attempt to intervene with challenging student behavior before making a change in placement. For example, if a student has reached his or her maximum number of days (i.e., 10 days) outside of the LRE placement, the law requires the use of an FBA and BIP in an attempt to prevent further behavioral challenges.

Since 1997, IDEA has provided specific requirements in terms of when to create and review FBAs and BIPs. IDEA explicitly requires that schools conduct new FBAs and BIPs or review existing FBAs and BIPs to determine their appropriateness if a change in placement is warranted due to student behavior. In the event that a student does not have a current FBA or BIP, IDEA requires that the school conduct the FBA and develop and implement the BIP when a change in placement is needed because of problem behavior. Furthermore, schools are required to review existing FBAs and BIPs when behavior manifestation determination findings suggest that the behavior in question is a result of the child's disability.

Unfortunately, IDEA regulations do not provide specific requirements for how to conduct FBAs or suggest a protocol for the completion of FBAs (Zirkel, 2011). Despite this lack of guidance, FBAs should be designed to collect both indirect and direct forms of behavioral data, followed by hypothesis development and testing to determine the function(s) of the problem behavior.

BIPs have also been mandated in IDEA. The regulations specify that BIPs are to be developed when a student's behavior interferes with his or her academic progress. Within the law, it is specified that the BIP developed for the student must utilize positive strategies and supports to encourage appropriate behavior (20 U.S.C. § 1414(d)(3)(B)(i)). As with FBAs, IDEA does not provide specific information on *how* to design and implement the BIP.

These mandates have been included to ensure that students with challenging behaviors are receiving adequate staff support from their home school for managing their inappropriate behavior and teaching them appropriate forms of behavior. Because many students, especially students with EBD, exhibit behaviors that interfere with their academic progress, the federal mandates include specific timelines on when FBAs need to be completed and when BIPs must be written or reviewed. Again, however, the federal mandates are not specific about how to complete an FBA or BIP; therefore, it is up to state and local education agencies to ensure that students with disabilities, who exhibit challenging behaviors, are receiving FAPE in their LRE. To accomplish this, school personnel should familiarize themselves with the procedures suggested in the professional literature and determine a protocol for the completion and implementation of FBAs and BIPs that match the intent of the legislation while implementing research-validated methods to improve behavior.

There have been a number of court decisions related to the use of FBAs and BIPs, but few decisions have provided much guidance on how to conduct them effectively. Furthermore, there have been only slight increases in FBA- and BIP-related litigation since their inclusion in IDEA (Zirkel, 2011). *Coleman v. Newburgh Enlarged City School District* (2004) noted that FBAs should be conducted prior to manifestation determinations, but many such decisions, as noted, have failed to provide additional guidance in their use. However, some cases have addressed the vague language used within the law (e.g., *Alex R. v. Forrestville Valley Community Unit School District*, 2004). Also, *School Board of Independent School District No. 11 v. Renollett* (2006) found that accord-

ing to IDEA regulations, BIPs do not have to be in writing. Finally, *Lessard v. Wilton Lyndeborough Cooperative School District* (2008) found that BIPs are necessary only when specific disciplinary actions are being used.

The following key areas are important in conducting an FBA and developing a BIP:

- Become familiar with state and school district requirements regarding the FBA and BIP. Many states and districts have FBA- and BIP-specific forms that list the types of behavioral data to be collected, as well as decision-making processes needed to determine the function of the behavior and to develop a BIP that encourages positive behavior.
- Record the number of days that a student is suspended. When the number of days suspended approaches 10 cumulative days, be prepared to conduct the FBA and revise or develop the BIP.
- Collect data on the student's problem behaviors, in order to determine the effectiveness of the BIP and to ensure that the FBA and BIP are meeting the student's needs.
- Review FBAs and BIPs periodically (e.g., every 12 weeks), to determine whether the behaviors listed in the BIP continue to be a challenge for the student. If the BIP needs to be revised due to changes in student behavior, teachers should complete a new FBA and develop an up-to-date BIP.

Legal Issues in Bullying and Harassment

Bullying is another area that continues to gain national attention in the mass media, as a number of tragedies have brought the issue into the spotlight for students, families, educators, policymakers, and the general public. As a result of bullying, parents have lost sons and daughters, teachers have lost students, and schools have spent thousands of dollars trying to prevent and respond to bullying challenges. The impact and prevalence of bullying have even captured the attention of the White House: The first White House Conference on Bullying Prevention was held in 2011, and a new website, *www.stopbullying.gov*, has been established as a resource.

Clearly, bullying and related issues are major legal and practical concerns among students, families, and educators across the nation (Rodkin, 2011). Bullying has a significant social impact on all parties involved (i.e., victims, bullies, and bystanders). When students with disabilities are bullied, victimized, or both, and local education agencies fail to respond to these issues, schools may be violating several federal statutes.

Bullying and EBD

There is compelling evidence that students with a wide range of disabilities are vulnerable to being bullied (Rose, Monda-Amaya, & Espelage, 2011). A recent study found that students with behavioral disorders reported both bullying others more and being victimized more than their general education peers (Swearer, Wang, Maag, Siebecker, & Fricrichs, 2012). These students are commonly referred to as “bully-victims.” The disability designation of EBD alone may put such students at greater risk for being bullies, victims, or both (Cho, Hendrickson, & Mock, 2009).

Protections under Federal Law for Students with Disabilities

Local education agencies have a responsibility to ensure equal educational opportunity for all students and the occurrence of disability-based harassment and bullying clearly deny that right. Bullying may be a form of discrimination prohibited by Section 504 of the Rehabilitation Act and Title II of the Americans with Disabilities Act. As early as 2000, the U.S. Department of Education Office for Civil Rights (OCR) addressed disability harassment in a “Dear Colleague” letter. According to the letter,

States and school districts also have a responsibility under Section 504, Title II, and the Individuals with Disabilities Act (IDEA), which is enforced by OSERS [the Office of Special Education and Rehabilitative Services], to ensure that a free appropriate public education (FAPE) is made available to eligible students with disabilities. Disability harassment may result in a denial of FAPE under these statutes.

In a more recent “Dear Colleague” letter (U.S. Department of Education, Office of

the Secretary, 2010), disability was included in a list of protected classes (e.g., race, gender) that require schools to respond to bullying and harassment perpetrated on the basis of membership in these protected classes. As a result of these letters “schools are expected to promptly, thoroughly, and impartially investigate all allegations, have ‘well-publicized’ policies prohibiting harassment, and have procedures for reporting and resolving harassment complaints” (Maag & Katsiyannis, 2012, p. 79).

Protections under IDEA

IDEA’s concepts of FAPE and LRE include a responsibility to protect students with disabilities. Failure to do so may constitute a violation of the guarantee of FAPE and LRE for all eligible students. When harassment prevents or hinders students from benefiting from their education, this violates FAPE. In addition, if the bullying is left unaddressed, and it forces students into a more restrictive educational placement in order to benefit from their educational experience, this violates LRE.

Within IDEA, a student with a disability cannot receive standard disciplinary consequences for problem behavior that is manifested because of his or her disability. For example, if a district policy calls for expulsion due to bullying, yet a student with a disability exhibits bullying behavior toward peers that is found to be a manifestation of the disability, the expulsion consequence cannot be applied. Schools need to be sure that the state or local anti-bullying measures do not conflict with or serve to restrict the rights of students with disabilities under IDEA. In addition, discipline provisions require preventive measures, such as FBAs and positive behavioral support plans, as described earlier in this chapter. For students with disabilities, policy tools such as the IEP, FAPE, and LRE exist to protect them. These tools need to be used, and districts may need ongoing training and support to interpret and apply them appropriately for students with disabilities.

As an example of applying these tools to address bullying, an IEP can provide the mechanisms to do so through proactive, preventive, and responsive ways. For instance, the IEP can be used to include goals target-

ing prosocial behaviors to replace the bullying or harassing behavior; it can also support self-advocacy skills to teach the student how to avoid or respond effectively to bullying and harassment (Young, Ne’eman, & Gesler, 2011). In addition, positive behavioral support plans may outline how educators can intervene to help teach these skills in their natural context, as well as protect students from the bullying behaviors of others.

Protection under Other Legislation

In some instances, bullying crosses the line from being the domain of school-specific policies to being a civil rights matter under one or more federal antidiscrimination laws. Section 504 of the Rehabilitation Act of 1973 is a federal civil rights law that prohibits discrimination against persons with disabilities. Bullying may also be a violation of Section 504 when it is targeted at individuals who are members of certain protected groups because of specific characteristics, such as race, color, national origin, sex, or disability status. A further qualifier, stated in a U.S. Department of Education OCR (2010) “Dear Colleague” letter, requires that the bullying be “sufficiently serious that it creates a hostile environment and such harassment is encouraged, tolerated, not adequately addressed, or ignored by school employees.” This letter also states that schools *must* respond to bullying and harassment perpetrated on the basis of membership in these protected classes. The letter (U.S. Department of Education OCR, 2010) then spells out the legal obligations of schools under Section 504 of the Rehabilitation Act and Title II of the Americans with Disabilities Act, including the following:

- A school is responsible for addressing harassment incidents about which it knows or reasonably should have known.
- A school must take immediate and appropriate action to investigate or otherwise determine what occurred.
- If the investigation reveals that discriminatory harassment occurred, the school must take prompt and effective steps to end the harassment, eliminate any hostile environments, and prevent the harassment from recurring.

- The school may need to provide training or other interventions for the larger school community to ensure that all students, their families, and school staff can recognize harassment and know how to respond.
- The school should take steps to stop future harassment and prevent retaliation against the victim, the family, or any witnesses who provided information.

Schools are responsible for preventing bullying and protecting students from the harm it may cause or schools can be held liable (Maag & Katsiyannis, 2012). When Maag and Katsiyannis (2012) reviewed litigation regarding discriminatory harassment involving students with disabilities, they found that when schools did not take steps to address bullying, the schools were found liable for inadequately addressing allegations of such harassment. However, school officials were not likely to be liable if they had taken steps to address such incidents, including steps to prevent recurrence in cases involving discriminatory harassment. Below, we extrapolate implications for addressing bullying in school settings for students with and without disabilities. By implementing and documenting the implementation of these actions, schools will be meeting their legal mandates, as well as implementing best practices to prevent and address bullying in the schools.

Implications for Educators

Students with EBD may be at risk for being bullies, victims, or both. Consequently, EBD programming should include services to address these risks in a preventive way, as well as to intervene individually as needed. An effective means to provide this type of programming is through a multi-tiered system of behavioral support (Sugai & Horner, 2009). Through these tiers of support, school staff can work together to create a positive and safe school climate and a strong anti-bullying culture. The first step in developing such a positive school culture is to explicitly teach school expectations, which typically revolve around safety, respect, and responsibility (Sugai, Horner, & Algozzine, 2011). This emphasis on teaching and reinforcing positive social behaviors will increase the

likelihood of a positive school climate over time. Anti-bullying values should be a fundamental part of this school culture.

When bullying behavior is identified as a concern in the school environment, then school officials are obligated both legally and ethically to address the issue. For example, the context or setting in which the bullying episode(s) took place should be identified, and data should be collected to document the extent of the problem. At a minimum, school officials should collect information whenever possible on the frequency of bullying behaviors, where in the school and when the behaviors are being reported, the students involved in the bullying (targets, observers, and student perpetrators), the roles they play in the episode, and those staff members involved in observing the incidents. When an IEP team has access to this information, it can move forward with designing, implementing, and monitoring interventions for all involved students. For every student with EBD who is the target of bullying, the IEP can be a useful tool to prioritize the teaching of key self-advocacy skills for effectively responding to bullying and harassment from peers, as described earlier. Furthermore, it may be helpful in planning how educators can intervene in the classroom, during extracurricular activities, or in other school settings to help protect students from bullying behaviors and victimization. Finally, it provides a visible way for school officials to document and measure their efforts to address and prevent bullying behaviors for an individual student.

Conclusion

In this chapter, we have traced the critical role that legislation, regulation, and litigation have played in the birth and development of special education in the United States. Moreover, because new developments in all three of these areas occur frequently, special education is in a constant state of evolution and reform. We have discussed herein how these continuing developments have shaped policy and practices in special education regarding discipline and bullying. In addition, many other areas involving special education practices have been influenced and shaped by these developments. Special education will

continue to grow and evolve as IDEA is further amended, new laws are passed, new regulations are enacted, and new cases interpreting these laws are decided. As we have noted repeatedly in this chapter, special education administrators and teachers need to keep abreast of laws, regulations, and litigation in their field to fully understand and be able to provide special education programs that are educationally meaningful and legally correct.

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Longitudinal Outcomes and Post-High School Status of Students with Emotional or Behavioral Disorders

Mary Wagner

In 2010, the U.S. Department of Education marked the anniversary of the federal special education law—now known as the Individuals with Disabilities Education Improvement Act (IDEA)—by releasing a report titled *Thirty-Five Years of Progress in Educating Children with Disabilities through IDEA*, describing it as a celebration of “access, accountability, [and] achievement” (U.S. Department of Education, 2010). The report rightly points to the expansion of high-quality early intervention services and access to the general education curriculum, as well as increases in rates of high school graduation, postsecondary education enrollment, and employment, as signs of progress in serving children and youth with disabilities. On many dimensions, the education that children and youth with disabilities now receive dramatically surpasses that provided to their counterparts in the years before IDEA. Investments in instruction and services, personnel preparation, technical assistance and dissemination, parent training and support, systems change, research, and model demonstrations by the Office of Special Education Programs (OSEP) have all contributed to this record of progress.

However gratifying this recognition of the advances in services and outcomes for children and youth with disabilities may be, the report’s one-sided emphasis on progress is worrisome. Furthermore, it contrasts

sharply with an earlier nongovernmental report issued in honor of IDEA’s 25th anniversary, which emphasized “the good news and the work ahead” (American Youth Policy Forum, 2002)—a more balanced perspective. Parents of students with disabilities, general and special educators, early intervention and related service providers, education administrators at all levels, policymakers, advocates, and researchers collectively understand the importance of maintaining our focus on “the work ahead” if progress is to continue. This may be especially true for those whose specific concern is for children and youth with emotional or behavioral disorders (EBD). In 1995, when the first nationally representative data on the experiences and outcomes of these youth became available, findings were described as “particularly troubling” compared with those of youth with other disabilities or those in the general population (Wagner, 1995, p. 92). We have a unique opportunity to revisit this assessment of youth with EBD and take stock anew of what is for them the good news and the work ahead.

The initial assessment of the troubling outcomes of youth with EBD was based on data from the National Longitudinal Transition Study (NLTS), funded by OSEP and designed and conducted at SRI International (1985–1993). The second generation of that study, the National Longitudinal Transition

Study-2 (NLTS2, 2000–2011), had many of the same sample and design features as NLTS and addressed many of the same issues, but collected additional information about them.

NLTS and NLTS2 both depict the experiences and outcomes of a nationally representative cohort of youth in each federal special education disability category as they aged. But more importantly for our purposes, comparing the experiences and outcomes of youth with EBD in the late 1980s and early 1990s with those of their peers in the first decade of the 21st century enables us to see how special education itself and its outcomes have changed as IDEA has been in effect. Comparing NLTS and NLTS2 findings for youth with EBD enables us to identify differences and similarities in their experiences and outcomes in the educational, social, vocational, and independence domains that are contemporaneous with various evolutions in IDEA, in education more broadly, and in U.S. society in the years between the two studies. Furthermore, because NLTS2 collected data through 2009, we also can garner an up-to-date picture of the transition outcomes of young adults with EBD up to 8 years after high school.

Factors Shaping the High School Experiences of Students with EBD

The high school programs of students as a whole and students with disabilities in particular have undergone significant changes in the years between NLTS and NLTS2. Adoption of the Common Core State Standards (National Governors Association & Council of Chief State School Officers, 2010) by 45 states, the District of Columbia, and the Department of Defense Education Activity (as of May 2013) is the culmination of an effort to raise the credit requirements for high school graduation, so as to make graduates more college- and career-ready. For example, between 1984 and 1998, 13 states had raised the number of credits required to receive a high school diploma (National Center for Education Statistics, 2001). In 2010, 31 states reported having aligned their high school English and mathematics standards with postsecondary and workplace expectations, up from 3 states in 2005 (Achieve, 2010).

IDEA's 1997 amendments also were key factors in shaping the high school experiences of students with disabilities. They emphasized the importance of supported access to the general education curriculum and required that individualized education programs (IEPs) specify how youth would be involved in it, including consideration of the accommodations, services, and supports needed for students to engage that curriculum successfully. IDEA 1997 also required that attention to transition planning be reflected in students' school programs beginning at age 14, and that a statement of transition service needs be included in transition plans for students age 16 or older. Parents' involvement in decision making about their students, including within transition planning, also was highlighted in IDEA 1997 (National Information Center for Children and Youth with Disabilities, 1998).

These changes in American education policy share a single goal—improving the academic achievement of U.S. students—and there are some indications that they may be working. For example, longitudinal analyses of data from the National Assessment of Educational Progress (NAEP) show that mathematics performance improved from 1973 to 2004 for both 9- and 13-year-olds in the general population. However, their high school peers were left out of this picture: NAEP data for 17-year-olds showed no significant differences between their average scores in 2004 and scores in 1973 or 1999 (Perie, Moran, & Lutkus, 2005). This absence of gains in academic performance for high school students as a whole raises a question about whether the increase between 1990 and 2005 of about a third of a letter grade in high school grade point averages (GPAs) depicts higher learning or grade inflation (Shettle et al., 2007).

The academic arena is not the only one to have felt pressures for change in our schools. Since the early 1990s, the disciplinary environment in American secondary schools has been significantly influenced by the philosophy of “zero tolerance.” This policy mandates that predetermined consequences be uniformly applied to those who break school rules, consequences that some have described as “severe and punitive in nature . . . regardless of the gravity of behavior, mit-

igating circumstances, or situational context” (American Psychological Association Zero Tolerance Task Force, 2006). Students with EBD are especially vulnerable to this policy change.

Comparing NLTS and NLTS2 provides a clear picture of the ways in which these policy changes have (or have not) played out in the lives of youth with EBD. Comparisons discussed herein focus on course taking, instructional settings, supports/services provided from or through schools, and transition planning. These analyses also examine changes in academic performance—GPA and high school graduation rates. Social/behavioral outcomes include absenteeism and the extent to which students were subject to disciplinary actions at school.

About the Studies

Findings from NLTS/NLTS2 cohort comparisons related to secondary school course taking and performance come from analyses of transcripts of students in each study. They are available for approximately 220 and 570 youth with EBD in NLTS and NLTS2, respectively.¹ Other information about school programs (e.g., transition planning) and outcomes (e.g., absenteeism) involve the second wave of the School Program Survey for NLTS (1990–1991) (Marder, Habina, & Prince, 1992) and the first wave of that survey for NLTS2 (2001–2002) (Wagner, Newman, & Cameto, 2004). Data are available for approximately 80 and 340 youth from the two studies, respectively. Some findings also are taken from published sources.

Findings regarding post-high school experiences and outcomes are taken from the parent/youth interviews for the second and final wave of NLTS (1990) and the third wave of NLTS2 (2005) for youth who were ages 18–21 and had been out of high school up to 4 years (Newman, Wagner, Cameto, Knokey, & Shaver, 2010). Data for this age group were available for approximately 250 sample members in the federal special education disability category of emotional dis-

turbance (ED) in NLTS and 250 in NLTS2. These analyses are supplemented with the most recent data from NLTS2 generated from the Wave 5 parent/youth interview (2009). (For details on data sources and analysis methods, see Newman, Wagner, Cameto, Knokey, & Shaver, 2010; Newman, Wagner, Knokey, et al., 2011.)

Samples for all analyses are weighted to represent the national population of youth in the target age range who were receiving special education services in high school in the ED category when the samples were selected.² In addition, several analytic adjustments were made to increase the comparability of the samples, including ensuring a similar age range of the youth included in them. For example, at the time of the 1990 NLTS parent interviews, youth were ages 18–26, whereas at the time of the NLTS2 2005 data collection, youth were ages 17–21. To improve comparability, youth ages 18–21 were selected from both samples, and each single-year subset was weighted to be an equal proportion of both samples. Similar adjustments were made for each dataset used in the analyses reported here.

School Programs of High School Students with EBD

In comparing the school programs of students with EBD in the late 1980s and in the first decade of this century, we clearly see both the good news and the work ahead, as outlined below.

Early Intervention

Parents reported that students with EBD represented in NLTS2 had been identified as having a disability almost a full year earlier (average age 6.5 years) than were students represented in NLTS (average age 7.4 years; $p < .05$). They also began receiving special education services a year earlier (average age 8.5 vs. 9.5 years; $p < .001$) (Wagner, Cameto, & Newman, 2003). Yet the 2-year gap

¹Sample sizes are rounded to the nearest 10, in compliance with Institute of Education Sciences requirements for analyses of restricted-use data.

²Details of the sampling and weighting strategies for NLTS and NLTS2 were published previously (Javitz & Wagner, 1993; Wagner, Kutash, Duchnowski, & Epstein, 2005).

between identification and receipt of initial services that existed in 1987 persisted in 2001. The early elementary years are critical for establishing a solid foundation for success in school. The question remains as to how much learning was lost as teachers and parents struggled with their students' disabilities without the support or intervention services ostensibly guaranteed them under IDEA.

Course Taking

Several positive indicators are apparent in the high school course taking of students with EBD. Those represented in NLTS2 earned significantly more credits in their high school careers than their counterparts in NLTS (14.0 vs. 17.7; see Table 5.1), including an average of 2 additional credits in academic subjects (e.g., math, social studies; 8.3 vs. 10.3) and 1.5 additional credits in nonacademic, nonvocational courses (e.g., study skills instruction; 2.7 vs. 4.2; $p < .001$ for all comparisons). Importantly, significantly more students with EBD represented in NLTS2 than in NLTS earned 20 or more credits in their high school careers (38.4% vs. 52.3%; $p < .01$), the fewest credits to meet graduation requirements in any state.

General Education Participation

The emphasis in IDEA 1997 on access to the general education curriculum is reflected in a significant increase over time in the number of credits earned in general education

courses by students with EBD (9.1 vs. 11.5; $p < .05$; see Table 5.2). This was largely due to the fact that students who earned credits in academic classes earned more of them in general education courses (4.7 vs. 6.3; $p < .01$). However, there also was a significant increase in credits earned in special education classes (4.2 vs. 6.3; $p < .05$). This was primarily due to the fact that students who took nonacademic, nonvocational classes took more of them in special education settings (0.5 vs. 1.4; $p < .001$).

Student Supports

The specification in IDEA 1997 that IEPs should address the supports students with disabilities would need to participate successfully in the general education curriculum is part of the "good news" we see in students' school programs (Wagner et al., 2003; see Table 5.3). Students with EBD were more than twice as likely to be receiving some kind of related service from or through their schools in 2001 than in 1987 (25.0% vs. 59.4%; $p < .001$). Double-digit increases were seen in the percentages of students with EBD receiving mental health services (13.2% vs. 33.5%), special transportation (0.5% vs. 19.4%), and vocational services (11.3% vs. 28.6%; $p < .001$ for all comparisons). However, about 4 in 10 students with EBD were reported by parents in 2001 not to be receiving any related services from their schools, and only one-third of them were receiving mental health services as part of their IEPs.

TABLE 5.1. High School Course Taking by Students with EBD, by Type of Course

	NLTS		NLTS2		Difference (credits/%)
	Mean/%	SE	Mean/%	SE	
Mean credits earned					
Overall	14.0	0.86	17.7	0.56	+3.7***
In academic classes	8.3	0.47	10.3	0.34	+2.0***
In vocational classes	3.0	0.26	3.2	0.19	+0.2
In nonacademic, nonvocational classes	2.7	0.23	4.2	0.20	+1.5***
Percentage earning 20 or more credits	38.4	4.26	52.3	2.86	+13.9**

Note. Sources of data: NLTS transcripts through 1990, $n = 240$; NLTS2 transcripts through 2009, $n = 550-570$.
 ** $p < .01$. *** $p < .001$.

TABLE 5.2. High School Course Taking of Students with EBD, by Setting

Mean credits earned	NLTS		NLTS2		Difference (credits)
	Mean	SE	Mean	SE	
<u>General education course taking</u>					
Overall	9.1	0.76	11.5	0.55	+2.4*
In academic classes	4.7	0.41	6.3	0.33	+1.6**
In vocational classes	2.3	0.24	2.4	0.18	+0.1
In nonacademic, nonvocational classes	2.1	0.21	2.8	0.16	+0.7
<u>Special education course taking</u>					
Overall	4.2	0.45	6.3	0.39	+2.1***
In academic classes	3.2	0.33	4.1	0.33	+0.9
In vocational classes	0.5	0.10	0.7	0.10	+0.2
In nonacademic, nonvocational classes	0.5	0.10	1.4	0.10	+0.9***

Note. Sources of data: NLTS transcripts through 1990, $n = 180-210$; NLTS2 transcripts through 2009, $n = 540-570$.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Teacher Supports

General education teachers who taught students with disabilities were more likely in 2002 than in the late 1980s to have received various supports to help them serve those students better (Wagner et al., 2004). These included inservice training on teaching students with disabilities (43.7% vs. 71.2 %), special materials to use with them (51.8% vs. 79.2%), classroom aides (28.0% vs. 84.4%), and smaller class sizes (9.7% vs. 31.8%; $p < .001$ for all comparisons). Virtually all general education teachers of students with disabilities at both time periods also received consultation support from special educators.

Academic and Social Outcomes of High School Students with EBD

The age of high school students with EBD in the NLTS2 years versus the NLTS time period provides a clue as to their academic performance earlier in their school careers. Students with EBD represented in NLTS2 were significantly more likely to be at the typical grade level for their age (32.0% vs. 52.8%; $p < .001$), rather than being older than their grade level because they had been held back a grade or started school late. Yet despite the finding that more students with EBD were keeping up in their classes suffi-

TABLE 5.3. Services Received by High School Students with EBD from or through Schools

Services received	NLTS		NLTS2		Percentage-point difference
	%	SE	%	SE	
Any services	25.0	3.5	59.5	3.0	+34.5***
Mental health services	13.2	2.7	33.5	3.0	+20.3***
Occupational therapy/life skills training	4.0	1.6	13.0	2.1	+9.0***
Transportation	0.5	0.6	19.4	2.9	+18.9***
Help from a tutor, reader, or interpreter	6.6	2.0	16.5	2.3	+9.9**
Vocational services	11.3	2.6	28.6	2.9	17.3***

Note. Sources of data: NTLTS Wave 1 parent interviews, 1987, $n = 280$; NLTS2 Wave 1 parent interviews, 2001, $n = 540-580$.

** $p < .01$. *** $p < .001$.

ciently for normal grade progression, their average GPA was below that of students with disabilities as a whole (2.3 vs. 1.9) and that of students in the general population (2.7; $p < .001$ for both comparisons) (see Table 5.4 and Newman, Wagner, Huang, et al., 2011), and did not increase significantly between NLTS and NLTS2. The percentage of students with EBD who had failed at least one course in high school also remained constant and quite high; more than three-fourths of students with EBD represented in both NLTS and NLTS2 had failed at least one high school course (78.5% vs. 77.8%), thereby failing to earn credits for that effort.

The results of in-person assessments of students' academic achievement, using research subtests of the norm-referenced Woodcock-Johnson III (WJ III; Woodcock, McGrew, & Mather, 2001), cast some light on the source of poor grade performance. Students with EBD lagged far behind students in the general population in the fundamentals of language arts and math, and in

content knowledge in social studies and science (Wagner, Newman, Cameto, & Levine, 2006). Whereas the mean standard score of students in the general population was 100, with a standard deviation of 15, the mean scores of students with EBD across WJ III subtests of reading (Passage Comprehension), mathematics (Calculation and Applied Problems), and content knowledge in science and social studies were uniformly about one standard deviation below normal, with the exception of an average standard score of 93.4 for the Synonyms and Antonyms subtest.

Students with EBD scored lowest in Passage Comprehension, with a standard score of 84.2 (Wagner et al., 2006); on average, their Passage Comprehension scores were equivalent to those who scored at the 25th percentile of students in the general population (NLTS2, 2010a). The question of "why Johnny can't read" (Flesche, 1955) dominated public discourse in the post-Sputnik era of the 1950s and unfortunately is still

TABLE 5.4. High School Outcomes of Youth with EBD

	NLTS		NLTS2		Difference
	Mean/%	SE	Mean/%	SE	
<u>Academics</u>					
Mean grade point average	1.7	0.07	1.9	0.06	+0.2
Percentage earning . . .					
3.35 or higher	1.0	0.76	2.7	0.68	+1.7
2.75 to < 3.35	9.1	2.15	14.9	2.14	+5.8
2.25 to < 2.75	17.5	2.67	22.7	2.16	+5.2
1.75 < 2.25	28.9	3.37	23.6	2.24	+5.3
1.25 < 1.75	17.2	2.33	14.1	1.60	-3.1
Less than 1.25	26.3	3.42	22.1	2.65	-4.2
Percentage . . .					
Failing any course	78.5	3.01	77.8	1.79	-0.7
Completing high school	46.5	2.69	57.4	2.99	+10.9**
<u>Student behavior</u>					
Mean days absent in a 4-week period	1.9	0.1	3.1	0.4	+1.2**
Percentage suspended in a school year	31.4	3.8	44.1	4.4	+12.7*

Note. Sources of data: NLTS transcripts through 1990, $n = 230-240$; NLTS2 transcripts through 2009, $n = 560$. NLTS School Record Abstracts, 1985-1987, $n = 320-400$; NLTS2 Wave 1 School Program Survey, 2001-2002, $n = 280-300$. High school completion: NLTS, combined from Waves 1 and 2 Parent Survey, Wave 1 Student Record Abstract, Wave 2 Student Enrollment Form, NLTS2 transcripts through 1990 or Wave 1 or 2 Parent/Youth Interview, $n = 500$.

* $p < .05$. ** $p < .01$.

relevant today. More than 50 years later, many “Johnnies” with EBD and their female peers still cannot read well enough to succeed in school.

Despite lackluster grades, significantly more students with EBD were completing high school in the NLTS2 years than earlier (46.5% vs. 57.4%; $p < .01$), better preparing them for a positive transition into young adulthood. This is good news indeed, given that the economic and social costs of failure to complete high school are high for both individuals and the nation (Belfield & Levin, 2007). Interestingly, the graduation rate of students with EBD actually exceeded the rate at which their parents expected they would graduate; 35.1% and 42.7%, respectively, held those expectations at the time of NLTS and NLST2 (Wagner et al., 2003). Given the importance of parents’ expectations in shaping student performance (Child Trends, 2012), the fact that their actual graduation rate exceeded parents’ expectations may be viewed as a real accomplishment. Nonetheless, even with the increase in the high school completion rate for students with EBD over time, it was among the lowest of any disability category and well below the rate of youth in the general population (70.3%; $p < .05$) (Newman, Wagner, Huang, et al., 2011). By 2009, when young adults with EBD had been out of high school up to 8 years, the high school completion rate still was only 74.2%; this was a significantly lower completion rate than for young adults in all but two other disability categories (NLTS2, 2010b).

Finally, a discussion of high school outcomes for students with EBD cannot ignore their behavior-related issues. The average number of days they were absent in a month increased from 1.9 to 3.1 days over time ($p < .01$), until in the 2001–2002 school year, almost one-fourth of students with EBD missed more than 4 days of school in a month—approximately 20% of instructional time (Wagner et al., 2004). Their disciplinary problems also increased markedly, with 44.1% of students represented in NLTS2 having been suspended at least once during the school year, compared with 31.4% of those represented in NLTS ($p < .05$). Given that absenteeism, behavior problems, and course failure have been dubbed “the ABC’s of disengagement” (Mac Iver

& Mac Iver, 2009, p. 1) and are powerful predictors of school dropout (Chang & Romero, 2008; Rumberger & Lim, 2008), it is somewhat surprising that the dropout rate for students with EBD actually decreased over time.

The Transition Out of High School

The transition to young adulthood of students with disabilities first gained high-level policy attention when then-Assistant Secretary of Education Madeline Will committed the federal government to making improvement of these students’ postschool outcomes a national priority (Will, 1984). OSEP’s funding of NLTS grew out of that commitment, as did the provisions in IDEA 1997 that strengthened the transition-planning requirements. In the late 1980s, transition planning, to the extent that it occurred at all, was an informal process. Whereas 68.5% of 15- through 17-year-olds with EBD were reported by their schools to have a transition plan, only 17% had a plan that was written (Table 5.5), and planning did not take place for students until age 16.5 on average. By 2002, 92.2% of students with EBD had a formalized transition plan ($p < .001$), with planning starting for 61.7% of them at age 14 or younger (mean age 14.5; $p < .001$).

Various transition goals were specified for students with EBD at both times, with competitive employment being the most common goal reported in both studies (63.7% and 61.1%). The primacy of this transition goal is consistent with parents’ expectations for the futures of their children with EBD. Overall, 81.9% and 85.6% of students with EBD represented in NLTS and NLTS2 had parents who expected they would “definitely” or “probably” find paid employment after high school—higher percentages than those reported for any other goal (Wagner et al., 2003). In contrast, only 2.8% and 6.5% of students represented in NLTS and NLTS2, respectively, had parents who expected they would graduate from a 4-year college, and 1.4% and 13.3% had parents who expected them to obtain a 2-year college degree ($p < .05$) (Wagner et al., 2003). Although parents’ expectations for college graduation did not increase over time, there was an increase in the rates at which students with EBD had

TABLE 5.5. Transition-Planning Experiences of Youth with ED

	NLTS		NLTS2		Percentage-point difference
	%	SE	%	SE	
Youth had a transition plan	68.5	6.08	92.2	1.75	+23.7***
Youth had a written transition plan	17.0	4.90	92.2	1.75	+75.2***
Age when transition planning began					
Mean	16.5	0.23	14.5	0.06	-2.0***
14 or younger	5.0	2.57	61.7	3.24	+55.7***
17 or above	46.9	7.65	1.2	0.59	-45.7***
Transition goals					
Attend 2- or 4-year college	23.2	6.49	39.6	3.24	+16.4*
Attend postsecondary vocational school	30.5	8.06	43.0	2.83	+12.5
Competitive employment	63.7	7.91	61.1	3.46	-2.6
Sheltered employment	5.5	3.13	2.5	0.90	-3.0
Supported employment	11.5	4.78	8.8	2.55	-2.7
Transition-planning participants					
Student	83.0	6.56	86.4	4.74	+3.4
School psychologist/counselor	75.6	6.58	73.5	2.97	-2.1
Special education teacher	65.8	6.87	98.2	0.85	+32.4***
Parent(s)/guardian(s)	59.1	8.07	78.5	4.45	+19.4***
General education vocational teacher	32.4	7.69	36.6	3.78	+4.2
School administrator	28.1	7.15	62.7	3.62	+34.6***
General education academic teacher	19.4	5.66	58.2	4.12	+38.8***
Vocational rehabilitation representative	14.2	6.55	18.0	1.98	+3.8
Other community agency representative	1.3	1.34	7.0	1.91	+5.7
Other	28.5	5.36	12.9	2.23	-15.6***
Transition-planning contacts made					
State vocational rehabilitation agency	48.7	10.52	47.2	3.64	-1.5
Potential employers	47.3	7.68	31.8	3.48	-15.5
Other vocational training programs	39.2	13.81	29.8	2.96	-9.2
U.S. military	37.7	13.86	17.2	2.73	+8.1
Postsecondary vocational schools	32.1	7.13	30.6	3.45	-1.5
Job placement agencies	30.6	10.56	37.5	3.46	+6.9
Two- or 4-year colleges	25.3	6.32	23.2	3.57	-2.1
Supported employment programs	16.2	6.67	18.4	2.82	+2.2
Sheltered workshops	9.8	5.51	3.5	1.04	-6.3
Other social service agencies	10.6	5.77	24.4	2.56	+13.8*
Residential support agencies	6.2	3.94	3.9	1.60	-2.2
Mental health agencies	2.7	2.59	20.0	3.03	+17.3***
Other	14.5	6.55	4.8	1.54	-9.7

Note. Sources of data: NLTS Wave 2 School Program Survey, 1985–1987 ($n = 30-60$); NLTS2 Wave 2 School Program Survey, 2000–2001, in-filled with Wave 1 if Wave 2 missing ($n = 330-370$).
 * $p < .05$. *** $p < .001$.

college enrollment transition goals (23.2% and 39.6%; $p < .05$).

We also see transition planning becoming more participatory. Large majorities of students with EBD participated in transition planning at both time periods (83.1% and 86.4%), as did a school psychologist or counselor (75.6% and 73.5%). However, special educators participated much more often at the time of NLTS2 than earlier (65.8% vs. 98.2%; $p < .001$). Participation also was significantly higher for parents (59.1% vs. 78.5%), school administrators (28.1% vs. 62.7%), and general education teachers (19.4% vs. 58.2%; $p < .001$ for all comparisons). However, the efforts made by school staff to contact nonschool professionals on behalf of transitioning students did not change markedly. For example, contacting a state vocational rehabilitation agency representative was the most common form of outreach in both studies; such contacts were made for 48.7% and 47.2% of students with EBD in the two studies. The only significant differences in the percentages of students with EBD for whom particular transition-related contacts were made involved contacts with mental health service agencies (2.7% vs. 20%; $p < .001$) and “other social service agencies” (10.6% vs. 24.4%; $p < .05$).

Life after High School for Youth with EBD

With more rigorous academic preparation in high school and an increasing high school completion rate, students with EBD were better prepared for both employment and postsecondary education in their early post-high school years.

Postsecondary Education

Ensuring that students with disabilities have “access to and full participation in postsecondary education” has been identified as a key challenge in the future of secondary education and transition for such students (National Leadership Summit on Improving Results for Youth, 2003, p. 1). Completing such a program can contribute importantly to the financial prospects of any youth (Carnvale & Desrochers, 2002; College Board, 2005), even those who do not earn a degree

(Marcotte, Bailey, Borkoski, & Kienzel, 2005).

Despite the stronger academic preparation of students with EBD in high school, there was no significant increase over time in their enrollment in a postsecondary education institution within 2 years of leaving high school (Wagner, Newman, Cameto, & Levine, 2005). However, postsecondary enrollment by youth with EBD increased in the ensuing 2 years, so that within 4 years of leaving high school, youth with EBD represented in NLTS2 outpaced those represented in NLTS in postsecondary education enrollment (18% vs. 34.7%; $p < .01$) (see Table 5.6 and Newman et al., 2010). There were significant increases in postsecondary education enrollment by youth with EBD both in 2-year colleges (10.1% vs. 20.8%; $p < .05$) and in business, technical, and vocational schools (6.9% vs. 23.5%; $p < .001$). However, only 35.1% of young adults with EBD who had at some time been enrolled in a postsecondary school had earned a diploma, degree, or license from that work within 8 years of leaving high school; this was a significantly lower completion rate than that of postsecondary students in the general population (52.4%; $p < .01$) (Newman, Wagner, Knokey, et al., 2011).

One challenge faced by college students with EBD in this research was that relatively few received any kind of supports from their schools. In fact, fewer than half of postsecondary students with EBD in 2009 (47.5%) considered themselves to have a disability (Newman, Wagner, Knokey, et al., 2011), despite receiving special education services in high school. This actually represents an increasing awareness of their disability with age; only 28.5% of 16- to 18-year-olds with EBD acknowledged having a disability (Wagner, Newman, Cameto, Levine, & Marder, 2007). Among college students with EBD, another 20.7% considered themselves to have a disability but had not informed their schools of that fact, so they were not receiving disability-related services. Only 26.8% of postsecondary school students with EBD both acknowledged a disability and informed their schools about it, with 19.8% receiving disability-related services in response. However, 37.3% received school-provided educational help that was unrelated to their disability (e.g., tutoring, help

TABLE 5.6. Post-High School Outcomes of Youth with EBD

	NLTS		NLTS2		Percentage-point difference
	%	SE	%	SE	
Enrolled since high school in . . .					
Any postsecondary school	18.0	3.62	34.7	4.87	+16.7 **
2-year college	10.1	2.84	20.8	4.16	+10.7*
4-year college	1.3	1.07	5.6	2.35	+4.3
Business/technical/vocational school	6.9	2.39	23.5	4.34	+16.6 ***
Employed for pay outside the home at time of interview	59.4	5.57	40.5	7.01	-18.9*
Living independently	27.2	4.11	19.2	4.02	-8.0
Living semi-independently	3.0	1.57	7.5	2.69	+4.5
Married or in a marriage-like relationship	8.2	2.59	5.9	2.65	-2.3
Ever had or fathered a child	18.4	3.66	14.1	3.90	-4.3
Participated in . . .					
Community group (e.g., sports team)	13.8	3.88	23.4	5.90	+9.6
Volunteer/community service	10.8	3.45	24.3	5.94	+13.5*
Either of these	19.0	4.33	35.2	6.61	+16.2*
Was registered to vote	49.8	4.89	69.4	5.47	+19.6 **
Had ever been arrested	36.0	4.54	60.7	5.24	+24.7 ***

Note. Sources of data: NLTS Wave 2 Parent/Youth Interview, 1990 (*n* = 180); NLTS2 Wave 3 Parent/Youth Interview, 2005 (*n* = 190).

p* < .05. *p* < .01. ****p* < .001.

from a study center), and 28.0% found additional help on their own (Newman, Wagner, Knokey, et al., 2011).

Employment

Employment is a fundamental aspect of full participation in adult life for most people (Rogan, Grossi, & Gajewski, 2002), and we have seen that achieving employment was the primary transition goal of the majority of high school students with EBD. Unlike the improving or stable outcomes observed for high school students with EBD and regarding postsecondary education enrollment, the employment rates reported in the NLTS and NLTS2 interviews declined significantly over time (59.4% vs. 40.5%; *p* < .05). In contrast, no significant declines occurred for youth with disabilities overall or for same-age general population peers (Newman, Wagner, Cameto, & Knokey, 2009). Furthermore, no differences were noted over time in the employment experi-

ences of youth with EBD who were successful in finding jobs. For example, at both time points, the average duration of the jobs held by working youth with EBD was about 12 months, with about two-thirds working full time (Newman et al., 2009). There also were no significant differences between the two cohorts in wage-adjusted earnings or receipt of benefits. And similar to postsecondary education students with EBD, young adult workers with EBD were unlikely to have reported having a disability to employers (25.8% had done so) or to have received work accommodations (7.1% had received them) (Newman et al., 2009).

Independence

IDEA 2004 specifies that a primary purpose of special education is to prepare students for independent living (20 U.S.C. § 1400(33)I(1)). Yet between 1990 and 2005, there were no significant changes in the measures of independence included in Table

5.6. At both times, similar proportions of youth with EBD (27.2% vs. 19.2%) were living independently (i.e., on their own or with a spouse, partner, or roommate), nor was there a change in their rate of living semi-independently (i.e., in a college dormitory or military housing; 3.0% vs. 7.5%). At both times, youth with EBD were about equally likely to be married or living in a marriage-like relationship (8.2% vs. 5.9%) and to have become parents (18.4% vs. 14.1%).

Community Participation

In contrast to the stability in measures of independence, we see an increase over time in rates of youth with EBD participating in prosocial community activities. The rate at which they took part in volunteer or community service activities more than doubled (10.8% vs. 24.3%), and there was a 16-percentage-point increase in those youth participating in either or both volunteer and group activities, such as sports teams or hobby clubs (19.0% vs. 35.2%; $p < .05$ for both comparisons). There also was a sharp increase in their voter registration rate (49.8% vs. 69.4%; $p < .01$). At the same time, there was an almost 25-percentage-point increase in their having ever been arrested (36% vs. 60.7%; $p < .001$). In fact, the arrest rate for youth with EBD at both points in time, as well as the increase over time, was more than twice those for youth with all other disabilities (Newman et al., 2009). From 2005, the arrest rate continued to rise—so that by 2009, when young adults with EBD had been out of high school up to 8 years, 27.1% had been arrested in just the 2 years preceding the interview. At that time, 74.5% of young adults with EBD had had one or more forms of involvement with the criminal justice system (i.e., being stopped by police for an offense other than a traffic violation, being arrested, spending a night in jail, or being on probation or parole); 33.4% had had one or more of these experiences in the preceding 2 years (Newman, Wagner, Knokey, et al., 2011).

Summing Up and Looking Ahead

In most of the domains explored here, there is some good news for students with EBD—

but also powerful indicators of the work left to be done if we are to see improved futures for them. In the academic domain, we have seen students with EBD taking more rigorous academic courses, being more exposed to the general education curriculum, and completing high school at a higher rate. Yet their grades were low and their course failure rate was high, which contributed to the finding that their graduation rate was still significantly below that of students with disabilities as a whole. These academic problems reflect the limits placed on their ability to master course content by their poor reading and math skills. Their poor academic skills also may help explain their low rate of participation in postsecondary education, particularly 4-year colleges, and their low completion rate when they did enroll. In the behavioral domain, we see few indicators of progress. Absenteeism and the frequency of disciplinary actions were both higher in NLTS2 than in NLTS, as were arrest rates after youth left high school.

High school staff reported that goals related to improving academic performance, building social skills, and improving the appropriateness of their behavior predominated in the IEPs of students with EBD (NLTS2, 2002)—goals that were even more common for elementary and middle school students with EBD (Special Education Elementary Longitudinal Study [SEELS], 2001). Yet their academic performance was no better in high school than earlier. Overall, 61.0% of younger students with EBD had scores on the WJ III Passage Comprehension subtest that were equivalent to scores of the 25% of lowest-scoring students in the general population. This also was true for 63.8% of high school students with EBD (Blackorby et al., 2005; NLTS2, 2010a). Behavior problems seen in high school also began early. For example, 36.9% of elementary and middle school students with EBD were suspended in a single school year (SEELS, 2002b)—not significantly different from the 44.1% rate among their high school peers.

Clearly, academic and behavioral deficits were recognized in large majorities of students with EBD across the age range; yet little if any significant improvement resulted from the services and supports they were provided. Post-high school outcomes suggest

that many young adults with EBD were not prepared for self-sufficiency and could not abide by social norms. What is our “work ahead” in changing this scenario for children and youth with EBD? The analyses presented here suggest we need to (1) start earlier, (2) intervene with academic and behavioral problems in tandem and at all levels, (3) master intervention and systems change implementation and sustainability, (4) partner more effectively with organizations and individuals, and (5) encourage disability self-awareness and self-determination among youth with EBD.

Early Intervention

Students with EBD were older than students in any other disability category except learning disabilities when they were first identified as having a disability and first offered services for it (Wagner, Cameto, & Newman, 2003). We know that intervening early with programs and strategies tailored to students’ needs is critical to helping them get on track when they struggle to master the academic fundamentals (Lyon & Fletcher, 2001; Torgesen, 2004). Intervening early is also essential when young students fail to learn the “academic enablers” that help them benefit from instruction—social skills, study skills, motivation, and engagement behaviors (DiPerna, Volpe, & Elliott, 2002). In fact, substantial research underscores the frequent linkage between problem behaviors and poor academic performance (Algozzine, Putnam, & Horner, 2007; Lassen, Steele, & Sailor, 2006). Waiting until a student is almost 9 years old (the average age at initial service receipt for students with EBD) is waiting too long for optimal results in improving academic achievement and student behavior.

Multi-Tiered Systems of Support

Early identification of students with or at risk of developing academic or behavioral skill deficits is one positive result of schools implementing tiered systems of supports. A tiered response-to-intervention (RTI) framework was authorized in IDEA 2004 as a replacement for an IQ-based discrepancy model in identifying students with learning disabilities (Wright & Wright, 2005). Early

applications focused largely on reading skills (Gersten et al., 2008), but such models also have been used with students struggling with math (Gersten et al., 2009), English language learners (Echevarria & Hasbrouck, 2009), and students with behavior problems (Horner, Sugai, Todd, & Lewis-Palmer, 2005). Recently, RTI efforts have become more coordinated in dealing with this array of issues through multi-tiered systems of support (MTSS). This model aims to improve the performance of all students by integrating academic and behavioral instruction and evidence-based interventions, providing them in varying levels of intensity, and making decisions about students’ tier assignment based on regular progress monitoring. These practices help both to identify and to serve students earlier, and they provide the more intensive instruction and supports these students need. Several states and many school districts have adopted MTSS, and research evidence and systems supports are in place to promote its broader spread (Castillo et al., 2010; McIntosh, Horner, & Sugai, 2009).

Academic and Behavioral Interventions

Critical to the effectiveness of MTSS is having available an array of evidence-based interventions that can be matched to students’ academic and behavior needs. The sizable investment by the U.S. Department of Education in its What Works Clearinghouse reflects the increasing emphasis on applying rigorous scientific standards to assessing intervention effectiveness in education. A number of effective behavioral interventions have been identified through research that meets such standards, such as First Step to Success (Walker et al., 2009), Promoting Alternative Thinking Strategies (PATHS; Kam, Greenberg, & Kusché, 2004), and Fast Track (Conduct Problems Prevention Research Group, 2002, 2010). Research also has codified strategies for effective teaching and classroom management that are linked to improved student behavior (Epstein, Atkins, Cullinan, Kutash, & Weaver, 2008). In contrast, the lack of rigorous research evidence on academic interventions specifically for students with EBD (Mooney & Gunter, 2004) has been called “alarming” (Lane, 2004, p. 479), although research on strategies aimed at increasing students’

social-emotional learning suggests that such strategies are effective in addressing barriers to learning (Payton et al., 2008). Attending to the academic challenges of students with EBD and the behavioral issues that too often remove them from the classroom is crucial as states continue to increase credit requirements and stiffen exit exams for high school graduation.

The Research-to-Practice Gap

Although the research base on effective interventions for students with EBD is growing, so is our awareness of the challenges involved in getting evidence-based practices and broader systemic changes implemented and sustained (Lewis, Hudson, Richter, & Johnson, 2004; Vaughn, Klingner, & Hughes, 2004). Fortunately, federal investments in such resources as the National Implementation Research Network (NIRN), the State Implementation and Scaling-up of Evidence-based Practices (SISEP) Center, and OSEP's Technical Assistance and Dissemination (TA&D) network,³ together with a developing implementation science research base (Eccles et al., 2009), are strengthening our understanding of and commitment to overcoming implementation hurdles.

New Partnerships

Making broad, effective, and sustained changes that will significantly and positively assist students with EBD requires forging stronger partnerships across systems, levels within systems, environments, and individuals. Calls for increasing students' access to and the effectiveness of mental health services both at school and in the community (Hunter et al., 2005), and efforts to align education and mental health agencies at the state, district, and school levels (Barrett & Eber, 2012), hold promise for improving outcomes for students with EBD during and after their school years. A recognition that many teachers are not well prepared to work with students with EBD (Oliver & Reschly, 2010; Rosenberg, Sindelar, & Hardman, 2004) underscores the importance of

enhancing the skills of both education and mental health professionals who work with them. Collaborations such as the Mental Health Education Integration Consortium (MHEDIC)⁴ have this kind of staff development as their central mission.

Strengthening partnerships with parents of students with EBD is another important component of a comprehensive strategy to improve student outcomes. The positive impacts on academic performance of parental involvement and high parental expectations for children are supported by an extensive empirical base (Fan & Chen, 2001; Henderson & Mapp, 2002; Houtenville & Conway, 2008). However, we have seen here that parents of students with EBD have relatively low expectations for their children, and students with EBD are less likely to have families who are involved in their education than peers with or without disabilities (Kutash, Duchnowski, Green, & Ferron, 2011; Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005). Although it is easy to place full responsibility on parents for their lack of involvement, it is important to note that only 37.9% and 12.4% of SEELS and NLTS2 students with EBD, respectively, went to schools that had specific services or supports to encourage parental involvement (NLTS2, 2002; SEELS, 2002a). Fortunately, increasing attention is being drawn to the importance of engaging these parents (Staudt, 2007), and some research is showing promising results in promoting the involvement of parents in the educational and treatment programs of their children with EBD (Kutash, Duchnowski, Green, & Ferron, 2010; Ruffolo, Kuhn, & Evans, 2006).

Self-Determination

Finally, our look at the experiences of youth with EBD shows that many were not thriving as they entered young adulthood, suggesting that their education and supports in high school were not adequate to prepare them for that transition. One apparent lack in their preparation was in learning self-determination, "the combination of skills, knowledge, and beliefs that enable a person to engage in self-managed, goal-

³See <http://nirn.fpg.unc.edu>, <http://sisep.fpg.unc.edu>, and www.tadnet.org, respectively.

⁴See www.units.muohio.edu/csmbhp/mhedic/index.html.

focused, independent behavior” (Algozzine, Browder, Karvonen, Test, & Wood, 2001, p. 219). Fundamental to becoming self-determined is understanding the implications of one’s disability—a self-awareness that seemed lacking in the large proportion of youth with EBD who disavowed having a disability once they had left high school. Consequently, they did not seek services and supports that might have helped them in postsecondary education and the workplace. Instruction in self-determination skills is increasing, particularly in the context of transition planning, and research suggests that self-determination interventions are associated with positive outcomes (Algozzine et al., 2001; Cobb, Lehmann, Newman-Gonchar, & Alwell, 2008). Embedding self-determination instruction in the IEP, school program, and transition-planning process for students with EBD could be an important enhancement to their school experience and postschool success.

This chapter has taken a longitudinal perspective in looking at how youth with EBD have fared on several dimensions over time. We also would do well to consider how policy and research in support of those youth have fared. In 2004, a special issue of *Behavioral Disorders* took the recent passage of the No Child Left Behind Act and the upcoming reauthorization of IDEA as an opportunity to consider the critical issues and trends pertinent to students with EBD at that time (Katsiyannis & Yell, 2004). The articles in that special issue articulated a variety of recommendations for research and practice that, taken together, could significantly advance our ability to teach, treat, and support students with EBD. Now we are again facing reauthorization—this time of the Elementary and Secondary Education Act, as well as IDEA. And as is true for students with EBD, there is both progress to applaud and much work to be done in conducting the research and shaping the policies that will support more positive outcomes for them. The strong call in 2004 for targeting research toward identifying more potent evidence-based practices for these youth, understanding the barriers to implementing and sustaining them, and determining the strategies needed to overcome those barriers (Bradley, Henderson, & Monfore, 2004)

has been heeded in the ensuing years to a notable degree. Yet, as Kauffman asserts in the Prologue to this volume, science does not always win the day in determining the practices that are implemented in our schools. The call for continued field-based research on the adult outcomes of students with EBD (Sitlington & Neubert, 2004) also has been heeded; NLTS2012 is ongoing at this writing. Yet we must reiterate the 2004 recommendations that mental health and counseling services be more routinely incorporated into the school programs of students with EBD and that self-determination instruction be an ongoing part of those programs, along with opportunities to practice self-advocacy skills (Sitlington & Neubert, 2004). Finally, in most respects we are no closer now than in 2004 to preparing special educators with both the general and the specialized skills needed for them to be effective in teaching students with EBD (Maag & Katsiyannis, 1999; Rosenberg et al., 2004). Clearly, research, practice, and policy focused on students with EBD are works in progress. Our challenge is to multiply the speed and breadth of that progress through our work on their behalf.

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The Interface between Child Psychiatry and Special Education in the Treatment of Students with Emotional/Behavioral Disorders in School Settings

Richard E. Mattison

Children and adolescents classified within the special education category of emotional/behavioral disorders (EBD; currently designated as the federal category of emotional disturbance [ED]) are regarded as special education students by their teachers and as patients by the child psychiatrists who treat them and their families. Given that these sister disciplines are serving the same children and have been for several decades, mutually beneficial knowledge should have been developed and routinely shared between these professionals by this time. But this is unfortunately not true, at either the clinical or the research level.

For example, a recent issue of *Behavioral Disorders* (Volume 35, No. 4, 2010), a leading journal for educators and researchers concerned about students with EBD, reviewed and responded to its past 35 years of publications. One report within the issue showed a table of topics for the 927 articles published in the journal during that time period (Gage, Lewis, & Adamson, 2010, p. 288). The percentages of articles concerned with potential child psychiatry (CP) topics were as follows, in descending frequency: autism (2.9%), language (1.9%), attention-deficit/hyperactivity disorder (ADHD) (1.6%), cognitive-behavioral therapy (CBT) interventions (1.6%), psychopharmacology (1.1%), and learning disabilities (LD) (1.0%). This begins to capture, I feel, the lack of penetration of CP knowledge

into EBD special education; it also reflects my experiences with special educators after over 30 years of both consulting as a child psychiatrist to EBD staff and conducting research on students with EBD. Finding “psychiatric disorder” in the EBD literature is like the proverbial hunting for a needle in a haystack.

I have not encountered a similar table of topics in any CP journal with which to make the same point about the lack of effect that EBD knowledge (or, for that matter, school information in general) has shown on CP practice or research. However, whenever I examine the annual index of topics for the *Journal of the American Academy of Child and Adolescent Psychiatry*, the words “school” and “special education” are rarely present. More graphically, in researching the literature for recent articles on teacher ratings of students with diagnosed depressive disorders (vs. “depressed” children), my colleagues and I found almost no references (Mattison, Carlson, Cantwell, & Asarnow, 2007). CP knowledge about youth with depressive disorders is essentially based only on parent and youth reports. Consequently, we know remarkably little from observations by their teachers about how they appear in school. Indeed, aside from rating instruments for ADHD and possibly disruptive disorders, few teacher measures exist for most child psychiatric disorders. Thus research interest by CP in school perfor-

mance and teacher observation (of students with EBD or others) has been minimal. Unfortunately, this also coincides with my observations of community mental health clinicians, who, consistent with the literature, primarily depend on information from just parents and children.

To expand further, we also know little about how treatments for depressive disorder affect school functioning in such diagnosed children, even though some treatment studies of students with “depression” have been school-based. As a representative example, probably the best-known recent study of treating depression in adolescents is the Treatment for Adolescents with Depression Study (TADS), which examined best-practice treatments: fluoxetine medication versus CBT versus the combination of both versus placebo (TADS Team, 2004). However, teacher/school information was not used for initial diagnosis or for tracking treatment response. Similarly, practice parameters for practitioners have been established for the assessment and treatment of children with depressive disorders (American Academy of Child and Adolescent Psychiatry, 2007), including antidepressant algorithms (Hughes et al., 2007). However, interaction with teachers and schools during assessment and then during treatment are only superficially mentioned. Such lack of school input has consequences that remain to be defined. For example, are children who are depressed both at home and school fundamentally different from children who appear depressed only at home, and do the two groups respond to treatments differently?

My observations are consistent with comparisons between the aforementioned 35-year review in *Behavioral Disorders* and a previous review of the state of the EBD field (Peacock Hill Working Group, 1991). Among recommendations from the latter report was encouragement to approach behavioral disorders in a broader, more comprehensive manner, (e.g., by emphasizing the analysis of the wide range of factors that influence students with EBD). The 1991 report also supported devising ways to integrate researchers from other disciplines and to share information on a wider scale with other disciplines. In a *déjà vu* vein, among suggestions from the more recent *Behav-*

ioral Disorders review that reconsidered the original Peacock Hill article were increased investigations of cross-agency collaborations; expanded interventions of multidisciplinary team-based approaches to address student behavior both in and out of school; and increased attention to issues of external validity by reporting participant characteristics and setting features, as well as by using group-based experimental methods for promising treatments (Gage, Adamson, et al., 2010). Thus the more recent review’s assessment of cross-disciplinary communication since the 1991 report was essentially “not so much,” consistent with observations of leaders in the EBD field (Zabel, Kaff, & Teagarden, 2011).

Why Do EBD Professionals Need Familiarity with CP Knowledge and Disorders?¹

During my career of over 30 years, the EBD field has slowly become more scientific in its thinking and methodology (Carnine, 2000)—for example, as demonstrated by the current focus on evidence-based interventions. Elsewhere in this book, Konopasek and Forness (Chapter 26) describe the growing evidence base for the role of psychotropic medications in various CP disorders. Consequently, EBD teachers are now increasingly asked to provide feedback about symptom changes as well as side effects to prescribing community physicians—a role for which they are well suited (probably better than many parents of their students) because of the observational expertise they have developed from behavioral interventions. In order to do this most professionally, they must also have an adequate knowledge of the CP disorders included in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM).

¹I should first note that hereafter I use CP to designate not only child psychiatry, but its allied disciplines (such as child psychology, school psychology, etc.). Indeed, a large part of the work appearing in the CP literature is authored or coauthored by professionals who are not child psychiatrists. Also, this chapter focuses on integrating CP knowledge into the working knowledge of EBD educators. By my choice, the converse is not addressed at length in this chapter, since it deserves a chapter unto itself.

At a minimum, they need to be familiar with clinical presentations and with the medications and other treatments that are currently used (Konopasek, 2012).

Assisting in medication monitoring is one example of how EBD professionals are more than educators; they are also hybrid mental health practitioners and members of each student's mental health team. Forness (2005) has begun to discuss this concept, but I wish to be more emphatic. With students who have a medical disorder (e.g., a seizure disorder), teachers know what to do in an emergency or how to monitor for early warning signs or medication side effects, but they are not trying to change the children's disorder. In contrast, EBD teachers are trying to improve the clinical symptoms in their students. In their classrooms, they daily are behaviorally shaping children with serious psychiatric disorders, much as community mental health professionals are teaching their parents by using similar techniques. In addition to remediating cognitive and achievement deficits, the EBD teachers are also continually helping students to develop new self-management tools to handle their emotions and social problems, just as community practitioners are doing during individual or group therapy. Thus their toolkit must be supplemented by an adequate working knowledge of adapted CP information beyond medication. They must finish their training ready to work with their fellow community mental health professionals.

Furthermore, they cannot be the "low persons on the totem pole" in their knowledge about DSM disorders. As part of their treatment, secondary students in particular are now often taught that they have to dispel misconceptions about their specific disorders. The purpose of this instruction is to help them live with and manage their disorders better as they get older—much as children with medical disorders such as diabetes must do, for example. Books (both for and by teens), websites, and groups exist for adolescents with almost every specific psychiatric disorder. Similarly, once they are taught their children's diagnoses, parents now are more likely to teach themselves about these disorders through reading and the Internet or through parent groups. Indeed, parents often learn more about their children's dis-

orders through the preceding means than through contact with mental health professionals. Because of the trust that students and parents develop in their EBD teachers, they will often direct CP-type questions to EBD teachers or offer important clinical information, to which the EBD staffers must know how to respond within their professional purview. Their students and their parents will expect a reasonable working knowledge from them and are likely to feel uncomfortable if they sense lack of such knowledge in their EBD teachers.

Finally, for EBD researchers and trainers comes the responsibility to digest accruing CP knowledge (treatment-related and otherwise) and to translate it into practical working knowledge for the EBD teachers whom they influence. In this day and age, no field can work solely in its own discipline without incorporating potentially useful work produced by other fields. Also, EBD researchers must be ready to perform a collaborative role with fellow CP researchers, using their special expertise in the school functioning of and interventions with children with serious psychopathology. They have much to contribute to the CP knowledge base, as well as to absorb. Finally, if EBD researchers as educators of students with psychiatric disorders do not translate knowledge from other disciplines into meaningful information for their educational brethren (EBD and otherwise), who else can do so as effectively?

What Working Knowledge of CP Should EBD Professionals Have?

I fear that "child psychiatrist" is becoming increasingly synonymous with "medication prescriber" in the minds of EBD educators. However, the chapters in this book on non-medication treatments show a growing CP evidence base for a range of DSM disorders that now also needs to be translated into use for EBD teachers, much as in the current process for the definition of their proper roles in their students' medication use. Indeed, recent CP multimodality studies suggest that most EBD students (because of their profiles of psychopathology) will require both medication and CBT both in and out of school. EBD teachers have a basic familiarity with

many of the CBT techniques that are often used to treat psychiatric disorders, and they certainly could collaborate with community mental health professionals in proper classroom applications, much as they work with LD specialists and language therapists in school to supplement the limited specialized individual work that students typically receive. Indeed, the time that students with EBD spend in community therapy outside the classroom (whether this is language therapy or individual therapy at a mental health clinic, or behavior modification training for their parents) is minimal compared to the time that their EBD teachers have to build and consolidate on what community mental health practitioners are trying to do. They must be able to help generalize those CP intervention efforts as much as possible.

An important new book has tackled the question of what teachers (EBD and otherwise) need to know behaviorally and clinically to intervene more effectively with their students who have psychiatric disorders, and offers practical, real-world suggestions. *The Behavior Code* has been written by Minahan and Rappaport (2012), who are, respectively, a behavioral analyst/special educator and a school consultant/child psychiatrist; both have extensive collaborative consultation experience. They combine behavioral and clinical approaches into practical strategies to help teachers work with their most disruptive and difficult-to-reach students, particularly those with anxiety-related, oppositional, withdrawn, and sexualized behaviors. They enhance the standard functional behavioral assessment/behavioral intervention plan (FBA/BIP) through deeper understanding of the whole child with a specific problem. This understanding then guides interactions and responses with that child, as well as a more informed selection of accommodations, intervention strategies, and skills to build. The useful acronym Minahan and Rappaport apply is FAIR: Functional assessment and antecedent analysis, Accommodations, Interaction strategies, and Response strategies. This represents the most modern synthesis of such knowledge that I have read.

However, I wish to approach the question of poor communication between the EBD and CP fields in a more basic manner, and

not to focus solely on treatment. My usual initial response to this issue is that professionals in the two disciplines too seldom work (or train) together on the front lines; they simply don't experience each other's work enough to appreciate and incorporate each other's knowledge. Nor do they collaborate much in research or consider each other's literature very much. Consequently (and representative of my more considered response), the *relevant knowledge* and the *pertinent methodology* of each other's fields are lost on each other without real-time collaboration. In order to move forward, professionals in each field will have to become more aware of what useful knowledge in their sister discipline (treatment-related and otherwise) is valuable enough to translate into working knowledge for their own practitioners and research. Thus, if EBD researchers and trainers became more aware of relevant knowledge and potentially useful methodology from CP, they could begin to incorporate it into their work, which would eventually influence front-line knowledge and usage by EBD teachers.

Therefore, in the remainder of this chapter, I discuss CP knowledge and methodology that I feel EBD researchers, trainers, and especially teachers will find useful in their work. My main emphasis is on relevant knowledge (beyond medication and treatment) that I feel EBD researchers and trainers should consider for adaptation/translation into an enhanced working knowledge for EBD teachers. I also suggest methodology that EBD researchers should consider rather than at times developing separate methodology, which would be economical and make EBD populations more comparable with other CP populations.

The content is a mix of my opinion and research, my reading of research from both special education and CP, and many conversations with EBD teachers and researchers—in particular, their questions and the nature of the responses that I have offered. A primary intent is to stimulate the EBD and CP fields to engage in further, much-needed dialogue. To finish the thought that I have started at the beginning of this chapter, because these sister disciplines take care of the same children, they should do it together more collaboratively.

A Summary of the Immediate Relevancy of CP Knowledge to the EBD Field

Too often I hear fellow mental health professionals continue to question the effectiveness of EBD programs because the dropout rate for students with EBD persists above 40%: “What are they doing with those kids? . . . Why should I recommend those services?” The EBD field needs better public relations; I don’t believe that EBD educators are currently “selling” their field very well, particularly to critics. That is, I don’t think they are communicating effectively to those outside their field about the complexity of the “whole” students they teach and the severity of these students’ disorders. Though I believe that EBD teachers on the front lines appreciate this complexity and severity, their appreciation gets lost in the literature. To me, once you understand who students with EBD really are, it becomes somewhat amazing that so many do so well—a tribute, often in large part, to the work of EBD teachers.

I began my research career after doing a CP research fellowship, which focused largely on the psychiatric characteristics of children presenting to a community speech–language clinic. After completing this fellowship, part of my first academic job description was school consultation for students with EBD (EBD was called serious emotional disturbance [SED] then). I sought out the literature to see what was known about these students; incredibly little was. As a consultant, I needed to understand who these kids were from a psychiatric viewpoint, and thus what their teachers were facing and what range of services they would need both in and out of school. Modeled after the methodology that I learned during my research fellowship, I sought to learn such characteristics as demographics, IQ and achievement testing, neurobiological risk factors, family background and stress experiences, objective behavior checklist ratings from both parents and teachers, DSM diagnoses, and mental health treatment. I have previously summarized most of my findings for a population of students with EBD in central Pennsylvania (Mattison, 2004a). I have since found populations with EBD in St. Louis and Long Island to be quite similar. Following is a condensation of these results into a paragraph (of “talking points”)

that captures, I feel, who “whole” students with EBD are, demonstrating CP knowledge about such students that is immediately relevant.

At enrollment, students with EBD show possibly the most complex and serious psychopathology in school of youth in any community, but they often go without adequate (if any) community mental health treatment. The behaviors typically noted in their FBAs/BIPs are just the tip of the iceberg. They show a range of DSM disorders that often occur comorbidly, featuring both externalizing and internalizing symptoms. Furthermore, they also frequently have comorbid language disorders and/or LD, or IQs less than 85 or even 80. The severity of their psychopathology is shown by mean *T* scores of 70 or higher on scales of psychopathology, according to both their teachers and parents (i.e., their symptom severity is in the upper 2% of deviance). The majority have at least one parent with a psychiatric illness and have experienced abuse, especially physical. The main demographic factor is low socioeconomic status (SES). These are the students whom EBD teachers face and must teach day in and day out.

This summary represents what basic CP research has discovered about the general characteristics of students with EBD to this point. Future discussions that EBD educators have with anyone not really familiar with these students would ideally start with such a paragraph to orient them. These findings begin to indicate the considerable toolkit that EBD teachers need, along with the support of supplemental mental health services both in their schools and in their communities.

Classification of Students as Having EBD

In this book, EBD signifies both a classification category for special education and a set of disorders exhibited by youth who may or may not be thus classified, but whose psychopathology is causing noteworthy life dysfunction. However, throughout the remainder of this chapter I primarily use “students with EBD” to designate students *classified* within the current federal category of ED (past labels included SED, behavioral disorder [BD], and others). This qualification of

my use of EBD highlights the current confusion surrounding EBD: its definition, identification, and proactive screening.

Definition

The current definition of ED as a federal special education category is over 30 years old, and its criteria have been altered little (Bower, 1982). ED replaced the previous SED, both labels reflecting much of the popular understanding about mental illness *at that time period*. Indeed, parents continue to tell me that they object to the pejorative label of ED because “My son is not emotionally disturbed,” or “My daughter is not crazy,” or “My child is not a juvenile delinquent.” This upset undoubtedly causes some parents to decline classification of their child as having EBD or to choose/demand a substitute definition. Not surprisingly, the definition of ED has been and remains the subject of much appropriate criticism (Becker et al., 2010; Merrell & Walker, 2004).

Therefore, special educators and school psychologists have developed and now often use the de facto classification of EBD as defined by Forness and Knitzer (1992) because the federal definition of ED is scientifically outdated. This delay appears to be partly influenced by concern that more students would be identified for services if the EBD definition is adopted, despite some evidence to the contrary (Cluett et al., 1998).

Unfortunately, EBD also has other mental health definitions that can make its usage confusing without precise definition. For example, “emotional/behavioral disorders” is also a general descriptive mental health term for the whole range of specific mental illnesses/psychiatric disorders, somewhat like “internalizing/emotional and externalizing/behavioral disorders.” Furthermore, to add to the potential confusion regarding which children EBD is used for, I find that in the current special education literature, EBD is used to designate participants who vary from children classified with the current special education category of ED, to students who are “at risk” for being thus classified, to children who are not so classified or being considered but are nevertheless showing emotional or behavioral psychopathology in school (i.e., the general mental health usage).

This variability is an important distinc-

tion for special education professionals to be clear about because students classified for special education as having EBD differ significantly from unclassified students with EBD, and this difference can of course affect research results. For example, students classified as having EBD show significantly more severe psychopathology (as well as different rates for types), comorbid LD, and family stresses (Mattison, 2004a). Indeed, classified students with EBD appear to differ significantly even according to their “least restrictive environment” level of programming (Mattison, 2011). Thus, if the EBD field wishes to expand from its traditional subject population of students classified as having EBD to all children in school with mental illness that is disrupting their school function—and this debate seems to be underway—the importance of clear definition becomes more obvious.

Relevant CP Knowledge

Except for the medically oriented categories such as orthopedic impairment and deafness, most federal special education categories have similarly named counterparts in psychiatry’s evolving DSM classification system: autism, specific learning disability, speech and language impairment, traumatic brain injury, and mental retardation (just renamed intellectual developmental disorder in DSM-5; American Psychiatric Association, 2013). However, aside from schizophrenia, the ED classification does not mention DSM psychiatric disorders, whereas EBD adds affective disorders and anxiety disorders as well as indicating the possibility of other psychiatric disorders. I am not aware of studies of the characteristics of students classified in the other health impairment category, but estimates indicate ADHD as the diagnosis for the majority in this category (Forness & Kavale, 2002), although ADHD also appears to be the most common EBD diagnosis.

When one investigates students classified as having EBD for psychiatric diagnoses, what has been found? In a summary of DSM-III (American Psychiatric Association, 1980) findings for 238 students at the time they were first classified as having EBD/SED (Mattison, 2004a), all children received a diagnosis over a wide range of

disorders, and comorbidity was common (50.8%). Externalizing/behavioral disorders ranged from 9.7% (oppositional defiant disorder [ODD]) to 43.3% (ADHD, then known as attention-deficit disorder), while internalizing/emotional disorders occurred from 10.5% (anxiety disorders) to 39.9% (depressive disorders). Psychotic disorders were rare. In comparison to 101 students who were evaluated for EBD over the same time period but were not classified (and were referred for community treatment), conduct disorder (CD) was significantly more common in the students classified as having EBD (36.1% vs. 9.9%), while anxiety disorders occurred more significantly in the unclassified group (20.8% vs. 10.5%). Comorbid DSM-III diagnoses were significantly more frequent in the classified group (50.8% vs. 37.6%). The most common comorbidity was ADHD with either CD or depressive disorder. While other related research has shown similar findings (Mattison, 2004a), this type of study needs to be replicated, especially with more modern diagnostic methodology and with an increased focus on students with higher-functioning autism spectrum disorder or with posttraumatic stress disorder (PTSD).

Thus DSM disorders are relevant for students with EBD and could be part of a classification definition. However, their main relevancy is, I believe, not for classification, but rather for assisting EBD teachers in understanding and planning interventions for their students (according to relevant CP evidence-based research). More important to the classification of EBD is the Global Assessment of Functioning (GAF), which was first introduced as Axis V in DSM-IV (American Psychiatric Association, 1994). This is the impairment scale of DSM, which has often been overlooked by EBD educators. Indeed, I believe educators have over-focused on psychiatric diagnoses per se and overlooked the GAF (Maag & Katsiyannis, 2004).

Identification

The Forness and Knitzer (1992) definition of EBD emphasizes impairment of educational performance (used in a broader sense than just academic performance) more than the original ED definition does. EBD notes

marked deviance from norms, disruption of the skills involved in educational performance, persistence versus temporary nature of a disorder, occurrence not only in school but in another setting, and lack of response to interventions in a general education setting.

Impairment is also a major issue in CP. Indeed, for a person to qualify for any DSM disorder, clinically significant impairment in one or more areas of functioning must be present. This was one reason for the development of the GAF in DSM-IV. The GAF is used by clinicians to rate impairment from 1 to 100 (i.e., from “persistent danger of severely hurting self or others” to “superior functioning in a wide range of activities”). As an example of this scale’s practical advantages, in my geographic area a child with serious mental illness would qualify for in-home mental health services to prevent hospitalization or residential admission if his or her GAF rating of impairment is 40 or lower (i.e., a major level of impairment or worse). GAF or a similar impairment instrument is also important to determine “caseness” in CP research, especially epidemiology. Prevalence percentages can change markedly, depending on what definition of impairment is used.

Relevant CP Knowledge

In students initially evaluated for EBD/SED placement, the youth who were eventually classified differed significantly in disorder severity from those who were not classified but were typically referred for community mental health outpatient services (Mattison, 2004a). The classified students were in the poor (marked impairment) range, compared to the fair (moderate impairment) range for the unclassified students, when the earlier Axis V scale of DSM-III (the forerunner of the GAF) was used. This severity was consistent with *T*-score ratings gathered independently through teacher and parent checklists at the same time (Mattison, 2004a). According to both types of raters, the mean *T* scores were above 70 for the students with EBD, and also significantly greater than those for the unclassified students on both the broad externalizing and total score scales. Thus clinical severity appeared to trump type of diagnosis when DSM was used for identify-

ing students who should be considered for and/or classified as EBD.

In addition, well-normed behavioral checklists completed by at least teachers can assist further in determining how serious a student's school dysfunction is perceived as being. For example, four groups of 6- to 11-year-old boys from the same geographic area were compared on Achenbach's parent and teacher instruments, the Child Behavior Checklist (CBCL) and Teacher's Report Form (TRF) (Achenbach & Rescorla, 2001): boys classified with EBD/SED, boys hospitalized as inpatients, boys from an outpatient clinic, and boys from the general population (Mattison & Gamble, 1992). On the TRF, inpatient boys and boys with EBD had similar Total Problems *T* scores (71, using values from a graph figure), which were significantly greater than those for the outpatient boys (63), which were in turn significantly greater than those for the boys in the general population (51). The results for the CBCL mean total *T* scores were somewhat different: The inpatient boys (79) received significantly higher scores than both the boys with EBD (69) and the outpatient boys (67), which were both significantly greater than those for the general population boys (54). Viewed another way, the Achenbach TRF and CBCL results, respectively, for each group were as follows: EBD (71 and 69), inpatient (71 and 79), outpatient (63 and 67), and general population (51 and 54). Thus TRF total scores greater than 70 generally indicated boys with serious enough dysfunction in school that they had been classified as having EBD or had been referred to inpatient hospitalization.

Pertinent Methodology

GAF ratings from community mental health clinicians can alert school district child study/multidisciplinary teams assessing students for EBD classification about the degree of clinical severity/impairment that the clinicians are judging for those students. For example, if an outside evaluation suggests EBD placement because of provided evidence of serious school dysfunction, with final diagnoses that indicate GAF ratings of 50 (serious impairment in school functioning) or 40 (major impairment in several areas of functioning, including school), edu-

cators can appreciate the degree of concern the clinicians have for such students.

Although EBD researchers may find impairment scales like the GAF useful, such scales do not provide examples of serious school dysfunction. Another such measure of functioning, the Child and Adolescent Functional Assessment Scale (Hodges, 2000), is frequently used and does provide some description of different levels of school dysfunction. However, EBD researchers have access to the most relevant, universal, and practical measures of school dysfunction: grade point averages (GPAs), absenteeism, office disciplinary referrals (ODRs), and suspensions. (In contrast, CP research struggles to define such specific measures of impairment.) Characteristics for these universal indicators as well as other influential factors have been demonstrated in students with EBD and make clinical sense (Mattison, 2004b). Research into understanding how students newly classified with EBD appear on such measures in the year or two prior to their classification, especially in comparison to their unclassified classmates, would help guide educators in determining whether a student is dysfunctional enough to warrant consideration for and classification as having EBD.

EBD researchers should also consider use of a well-developed teacher checklist to assist front-line educators in the assessment of dysfunction for the determination of EBD eligibility. Indeed, I find that most school districts where I now work include such a checklist in their psychological evaluations of potential EBD students. Most commonly I see the Conners instruments or the Behavior Assessment System for Children, Second Edition (BASC-2), which provide both general and specific *T* scores to judge the degree of deviance compared to normative data. Most checklists have not been studied in populations classified with EBD to understand how those instruments profile such students or distinguish them from unclassified populations, which would translate into important and useful information for teams. Consequently, I would encourage EBD researchers to build on what we already know about Achenbach's TRF (Achenbach & Rescorla, 2001)—namely, that students scoring above 70 on the measure's Externalizing and/or Total Problems scales are showing levels of

dysfunction consistent with those found for past groups of students with EBD.

Classification: Summary and Commentary

The Forness and Knitzer (1992) definition of EBD is a step forward in making the classification of students as having EBD more objective. Use of impairment ratings, universal indicators of school dysfunction, and/or checklist severity indicators will help to objectify this process (especially in conjunction with measures of duration and response to treatment), once they are studied more intensively in students with EBD and the general population to understand how they can be used most accurately. Such increased objectification could help in the earlier identification of students who need EBD special education services (or more intensive Tier 3 intervention?), potentially alleviating the constant problem of underidentification or delayed identification of students in need of such increased services. Furthermore, such impairment measures can help track whether a student is responding to intervention. Indeed, such impairment protocols would probably become useful also to CP intervention research and clinical practice, where impairment ratings are essential to measure response.

To reiterate, DSM's main contribution to EBD classification is probably the often overlooked GAF, which indicates the severity of dysfunction (i.e., it can help distinguish those students whose degree of impairment in school requires EBD placement). However, the knowledge base that has been accumulated over the past couple of decades for specific DSM diagnoses, including evidence-based treatments beyond medication (e.g., CBT approaches), is most accessible through the use of those specific psychiatric diagnoses.

The use of psychiatric disorders was on the periphery of a recent debate in *Behavioral Disorders* (2011, Volume 37, No. 1) about the future of the Council for Children with Behavioral Disorders (CCBD) organization, including its name. Forness (2011) noted that the EBD category includes a wide range of psychiatric disorders and comorbidities, for which CP is developing a wide range of treatments, both medications and nonmedication therapies. Thus, because EBD educa-

tors are already becoming significant collaborators in mental health treatment (and may become even more so in the future), he suggested that the organization's title evolve into the Council for Children with Mental Health Disorders rather than CCEBD, highlighting historical reasons why this may not have already occurred. Although this name change has not yet happened, I hope that it will become a more natural step forward as EBD educators acquire other important non-treatment-related knowledge about specific psychiatric disorders.

As the classification of EBD evolves, a current European definition is worth consideration. In a recent research study about characteristics of students classified as having EBD and taught in inclusive settings (Stoutjesdijk, Scholte, & Swaab, 2012), a Dutch definition was used. The participants all met criteria that included a DSM-IV emotional, behavioral, and/or developmental disorder, along with impairment serious enough to prevent the attainment of regular education, despite help within the continuum of regular educational care. Additional criteria included problems also in a nonschool environment, school intervention of at least 6 months (via individualized education programs), and community intervention (R. Stoutjesdijk, personal communication, July 17, 2012). Examples of serious impairment were given: relationship problems with peers and/or teachers, danger to others or oneself, and severe motivational and attention problems. This Dutch definition involves use of psychiatric disorders and impairment (including lack of response to interventions through general education). It is a reasonable synthesis of what we know about how students with EBD actually are, and it should be considered when the next iteration of EBD is debated. If EBD accuracy research has sufficiently advanced by then, I would also add objective measures.

Screening

Closely related to the issue of classification is that of screening for students who are showing noteworthy dysfunction in school, to the point of needing further assessment of school needs (special education assessment or otherwise) and/or mental health referral.

With educators in mind, Forness and his colleagues recently reviewed the most current CP epidemiological work on the prevalence of psychiatric disorders among youth in the United States, concluding that 12% (with at least moderate impairment) is the best estimate at any one point (Forness, Freeman, Paparella, Kauffman, & Walker, 2012). This 12% can be contrasted with the approximate 1% of students who receive EBD services annually. The question thus arises of how to identify this 12% initially, determine their school needs (classification and otherwise), and ideally prevent their development into requiring EBD services. I would suspect that this 12% of children with psychiatric disorders would make up most of the 10–15% of Tier 2 and Tier 3 children that a response-to-intervention (RTI) approach also seeks to define (Burke et al., 2012), just as CP work categorizes prevention in terms of primary, secondary, and tertiary prevention (Nelson et al., 2009). The overlap will not become clear until tier-defined students are investigated with CP methodology.

Modern screening for students with at-risk psychopathology began with the development of the “gold standard” Systematic Screening for Behavior Disorders (SSBD; Walker & Severson, 1990)—a multiple-gate procedure for use originally with elementary school children nominated by their teachers, which remains clinically sound and viable. At-risk students could be identified and then monitored or referred. Now, however, influenced by RTI screening for reading problems, researchers are investigating briefer instruments for their screening potential and psychometric properties (see reviews by Lane, Menzies, Oakes, & Kalberg, 2012; Severson, Walker, Hope-Dolittle, Kratochwill, & Gresham, 2007), as well as protocols using basic measures of school functioning such as ODRs (Burke et al., 2012).

Relevant CP Research

Modern CP epidemiological research has used two primary approaches to identify children with psychiatric disorders: interviews for psychiatric disorders and, to a lesser degree, behavior checklists. Clearly, teacher checklists would be better suited for some screening purposes in schools. When such instruments are adequately standard-

ized, they provide objective indicators for educators to judge how serious a child’s psychopathology is in school. For example, if a student is struggling academically, and preliminary testing shows an IQ of 78 or a standard score of 78 in reading (both 1.5 standard deviations below the mean), staff should be alerted to assess this student further. Similarly, if a student is struggling behaviorally or emotionally, and a teacher’s rating shows a *T* score of 65 or higher (1.5 standard deviations above the mean) on a well-established general behavior checklist, school staff should become similarly concerned.

Some CP research has already addressed screening for potential EBD with probably the most commonly used and psychometrically sound general behavior checklist system in CP, Achenbach’s TRF and CBCL (Achenbach & Rescorla, 2001). This battery has already been investigated for its ability to accurately identify students who could be classified as having EBD, and indeed over the past 35 years it has emerged as one of the most commonly used checklist in articles published in *Behavioral Disorders* (Gage et al., 2010). Different TRF and CBCL protocols were examined to identify the combination that most accurately distinguished children with EBD from outpatient groups (Mattison, Lynch, Kales, & Gamble, 1993). The TRF Total Problems score emerged as the strongest predictor: sensitivity 62.4%, specificity 85.8%, and overall correct classification 76.7%. A point system was then statistically developed so that educators could determine the probability of a student’s being identified with EBD according to his or her TRF total score (along with SES, the demographic variable that significantly distinguished groups). Thus a student with a TRF *T* score of 75 and a parental SES of skilled manual labor showed a 74% probability of being classified as having EBD. A boy from the same SES but with a *T* score of 80 would have a 99% probability. The combination of a *T* score of 70 (the upper 2% of deviance by definition) and an average SES for skilled manual labor would have identified 2.1% of a local general population group as having EBD.

Thus the simple total score of the TRF appears to be a promising measure that could, at a minimum, supplement briefer

screeners to indicate those students who more immediately deserve consideration for EBD and/or mental health service. Unfortunately, this protocol has never been reinvestigated with the Achenbach or any other battery. However, the practicality of this >100-item checklist for universal screening is less promising.

Methodology

As EBD researchers develop a methodology of universal screening for students at risk for psychopathology in school, they should consider in depth whether approaches already developed or being developed by CP researchers can be utilized, with or without adaptation. Time and money can be saved, as the proper psychometric development of a screening instrument is laborious. Furthermore, the advantage of using the same instrument across disciplines and across different populations is obvious.

To build on the reviews of school-based screening (Lane et al., 2012; Severson et al., 2007), CP epidemiological screeners have been and are being developed because of increased governmental interest in identifying youth with psychiatric disorders—a population that is traditionally underserved. To mention a few examples of potentially useful CP screening instruments for school, for younger children, the 15-minute MacArthur Health and Behavior Questionnaire (for use by both parents and teachers) shows promise as an early measure that is brief enough to screen for child mental health problems, yet accurate enough to predict the development of a disorder and impairment over time (Essex et al., 2009). For older children, when the Diagnostic Predictive Scales–8 (a 10-minute computerized self-report for both suicidality and specific psychiatric disorders) was used to voluntarily screen almost 2,500 ninth graders, 19.6% of them were identified as at risk, and 73.6% were not receiving *any* mental health treatment (Husky, Sheridan, McGuire, & Olfson, 2011). In addition, the EBD field should be aware of shorter versions of well-established CP teacher behavioral checklists that have been developed and might work well as RTI-type screening and follow-up measures, while preserving relationships to the original instruments. In particular, the Achenbach battery now

includes the 18-item Brief Problem Monitor (Achenbach, McConaughy, Ivanova, & Rescorla, 2011), with Externalizing, Internalizing, and Total Problems *T* scores.

Screening: Summary and Commentary

Technology for screening children for mental health problems in schools and pairing identified children with appropriate early intervention is advancing (Nelson et al., 2009), whether this area is considered from the viewpoint of RTI or community screening. But a major problem emerging with such screeners is whether schools will accept them. As noted earlier, many schools already have built-in screeners (especially when computerized) in the form of universal measures of school functioning: GPAs, ODRs (with and without subsequent out-of-school suspensions), and absenteeism (or tardiness). In their eminently practical School Archival Records Search (Walker, Block-Pedego, Todis, & Severson, 1991), the developers suggested the following screening cutoffs for similar universal measures (which have held up surprisingly well, I think): low achievement (<40th percentile), three or more discipline contacts, and 10 or more days absent in 1 year. Since then ODRs have been investigated, are being used as screeners for behavioral risk (6 or more = high risk), and correlate with externalizing behavioral problems (Burke et al., 2012).

Absenteeism has also been receiving increased focus (Balfanz & Byrnes, 2012), especially missing 10% of the school year for any reason (approximately a month of school); shorter-term definitions have also been developed (Kearney, 2008). One important subgroup with such chronic absenteeism consists of students with internalizing or anxiety/depressive symptoms (Kearney, 2008)—a group that has been difficult to screen for psychopathology. At this point, I have not seen suspensions or GPAs sufficiently investigated for screening purposes. However, further investigation of at-risk groups of students defined for these additional universal measures may prove that such measures are as useful as ODRs. Indeed, different groups of dysfunctional students might be identified by different universal measures, as suggested by the findings in studies of students with EBD that little

significant correlation exists among universal measures (Mattison, 2004b).

I wish to make two final points about screening. First, a problem that I have noticed in screening protocols is incomplete referrals. By this I mean that RTI screening may focus on when intervention is needed in school, without simultaneously determining whether referral to community mental health services is also indicated. Conversely, screening for mental health purposes may not sufficiently consider/determine whether referral to proper school resources is also indicated. If one is screening a large population of children, why not design a screen for both needs? Such possible oversight points to the advantages of using a common instrument in both school and general populations, with known accuracy values that could indicate needs for both types of referrals.

Second, after 10 years of experience with RTI, especially with screening for reading problems, some disenchantment has begun to appear (Joshi & Aaron, 2012). EBD researchers should consider this disenchantment as they begin to research screeners for psychopathology. For example, the need for earlier identification of Tier 3 students has emerged, with possible resolution through use of an expanded battery (with some cognitive testing) and/or multistage screening to identify students who are not likely to succeed with Tier 1 or 2 intervention (Compton et al., 2012; Fuchs, Fuchs, & Compton, 2012; Fuchs & Vaughn, 2012). Thus, as they begin their longitudinal studies of the predictive capacity for screeners, EBD researchers should be aware of this Tier 3 issue; reconsider the approach of Walker and Sevenson (1990) in their SSBD; and, at a minimum, consider adding initially a general checklist of psychopathology like the TRF (Nelson et al., 2009).

Recognition of CP Disorders by EBD Educators

Medication use in their students has motivated EBD teachers to learn more about the clinical presentation of CP disorders. Given the increasing evidence base for nonmedication therapies (like CBT) for psychiatric disorders in youth, the need to be familiar with such disorders will increase further. That is,

manualized protocols have been developed for several disorders, components of which should prove useful to EBD teachers once EBD researchers have sorted them out. Thus diagnoses will take on more importance because they may come to suggest to EBD teachers coordinated CBT-type approaches to students that will supplement their basic FBA-oriented thinking.

However, during my 30 years of experience in working with EBD teachers in three different states, I have generally not found their working knowledge of DSM disorders to be substantial. Indeed, such knowledge among special educators appears minimal at this point (Ryan, Reid, & Ellis, 2008). In contrast, I believe that EBD teachers are interested in increasing their knowledge about DSM disorders. When I methodically surveyed what questions EBD teachers wanted to ask me as a consultant, a student's diagnosis was the most common question (56%; Mattison, 2001). How can this situation be improved?

The relevance of DSM disorders must be impressed on EBD teachers during training, so that they will become lifelong educated consumers when new advances are offered through continuing education courses or joint work with school psychologists or other mental health professionals. Fortunately, an excellent textbook on psychopathology (including DSM diagnoses) exists that is geared toward EBD teachers in training: Kauffman and Landrum's *Characteristics of Emotional and Behavioral Disorders of Children and Youth, Ninth Edition* (2009). The basic working knowledge, including clinical presentations, that it provides has been compiled by special educators particularly for special educators. However, I am not sure how widely it is used in training programs (J. M. Kauffman, personal communication, July 16, 2011). I am also not sure how sufficiently such classroom/textbook knowledge is typically supplemented by live experience, which is of course probably even more important to consolidate working knowledge.

More fundamentally, in order for EBD trainers to incorporate CP knowledge into the curriculum for their EBD teachers, they have to become more convinced of its practical value. This process should accelerate through recognition of the increasing CP

evidence base for treatments of their students' disorders. The potential usefulness of psychiatric disorders will also be determined by EBD trainers through EBD research literature that uses DSM diagnoses, showing what value the disorders do and do not have for EBD educators. An important question, then, is this: How can DSM diagnoses be incorporated more thoroughly into EBD research?

Methodology

Structured, objective CP interviews constitute the cornerstone of much CP research. Such structured interviews vary from intensive versions that must be administered by someone with clinical training (and are favored in studies of more specific disorders) to computerized versions that can be completed by parents and/or youth (and are more common in epidemiological studies), with their attendant strengths and weaknesses. Unfortunately, no teacher interview of either type has been fully developed as yet.

Rating scales constitute the other primary diagnostic approach. A special section of the *Journal of Clinical Child and Adolescent Psychology* (Volume 34, No. 3, 2005) was devoted to the poorly researched issue of evidence-based assessment of major child psychiatric diagnoses (both interviews and rating scales). Two articles discuss the general methodological usage, particularly in diagnosis, of rating scales (Achenbach, 2005; Pelham, Fabiano, & Masseti, 2005); EBD researchers might find these articles especially useful. However, this special section confirms the absence of appropriate teacher instruments for most DSM diagnoses (aside from ADHD), though one of the emphasized principles is the collection of information from multiple informants.

Fortunately, some general checklists that collect information specific to DSM diagnoses have been developed for use by teachers. For example, Achenbach's battery (Achenbach & Rescorla, 2001) yields DSM scales, and Gadow and Sprafkin (2002) have developed the Child Symptom Inventory-4 (CSI-4), which is based on DSM criteria and includes a teacher version. Furthermore, both have brief versions that could be used in RTI-type screening and subsequent tracking. In my recent experience, school districts

are increasingly using the BASC-2 (Reynolds & Kamphaus, 2004), which features some scales that appear to be related to specific DSM diagnoses (though these are not yet well demonstrated beyond possibly ADHD).

Recognition of CP Disorders: Summary and Commentary

Teacher diagnostic instruments for use by EBD researchers are not plentiful, and their development would generate ideal dissertation topics for PhD candidates. However, this paucity presents another opportunity. Since the research diagnostic protocols for many child psychiatric illnesses involve parent and/or student instruments, EBD researchers can closely examine the predominant procedures/instruments for diagnoses they are interested in and select accordingly. Special attention should be paid to those instruments with the best accuracy in identifying target diagnoses.

I have also noticed occasional relaxation of the rigorous diagnostic interview demands under appropriate circumstances in some CP research. For example, if an EBD researcher wishes to investigate students with depressive disorders, one approach might begin with the requirement that a student first be diagnosed as having a depressive disorder by a mental health clinician in the community (especially a child psychiatrist or psychologist), as a substitute for an interview diagnosis. Further verification could be offered through the student meeting cutoff criteria on a depression instrument used in CP depression research. Although this approach would not be the "gold standard" for research, it would be a solid beginning to show that a student's clinician, plus the student him- or herself, a parent, and/or a teacher, agree on the presence of serious depressive psychopathology. Less desirable, but also a possible beginning, would be a student meeting instrument criteria according to more than one rater when a clinician's diagnosis is not available.

Examples of using checklist methodology to reasonably represent DSM diagnoses have begun to appear in EBD-related literature. For example, a Conners teacher instrument was used to define ADHD in an intervention study using First Step to Success for at-risk elementary schoolers (Seeley et al., 2009).

The self-report Reynolds Child Depression Scale was employed to define a depressed group in a longitudinal investigation of school-based predictors for depression (Ward, Sylva, & Gresham, 2010). And in a study that did not use psychiatric interviews, the CSI-4 helped to define other psychiatric disorders that may be associated with autism spectrum disorders (Hayashida, Anderson, Paparella, Freeman, & Forness, 2010).

These studies also demonstrate the advantage of using an instrument that will permit results to be compared with CP studies of children not classified as having EBD. In particular, treatment studies of youth who are not thus classified can provide EBD teachers and researchers with benchmarks (Weersing, 2003), much like the benchmarks they use when implementing reading programs. For example, if one of their students is being treated for depression with a medication or CBT, and an established self-report measure of depression is used, they can assess whether the student's progress compares favorably with findings from treatment research that used that same instrument.

Meaningful Non-Treatment-Related CP Knowledge for EBD Educators

Beyond treatment and adequate clinical knowledge of diagnoses, what other CP knowledge may benefit EBD teachers? EBD educators have a core working knowledge of LD and language disabilities beyond teaching techniques. What should such knowledge become for psychiatric diagnoses?

Psychiatric consultation is often sought for students with EBD when classroom BIPs or other interventions are not working. In effect, CP consultants typically broaden the setting events that they examine and thoroughly consider, as well as the events' chronology/duration. They more intensively assess for internal/biological setting events, such as mood disruptions, cognitive deficits, LD, and/or hyperactivity (Carr, Ladd, & Schulte, 2008), which may be in the form of psychiatric disorders. More distal factors, such as family stresses (e.g., abuse or parental mental illness) are also assessed (Wahler & Dumas, 1989). Consultation may then lead to suggestions to adjust/reprioritize the BIP and/or broaden the treatment plan to

include medication, parent training, or other alternatives.

Over my years of EBD consultation, I have found certain areas of CP information that EBD teachers have thought are meaningful and useful. Therefore, I would like to suggest expanding the basic headings for psychiatric disorders in Kauffman and Landrum's (2009) text (definition, causal factors, and prevention) to include associated features (especially cognitive), family and stress factors, and course and outcome predictors. I do not discuss neurobiological knowledge for the various disorders. Though such knowledge is growing (Arnstén & Rubia, 2012; Beck, 2008) and EBD teachers find it fascinating, I do not feel it is currently the most important CP information for EBD teachers to know about, though it may become more so in the future.

I provide examples for the major DSM diagnoses that appear to occur most commonly in EBD students: ADHD (externalizing) and depressive disorders (internalizing). Rather than noting extensive specific references, I derive this information primarily from two major textbooks in child psychiatry that EBD educators can consult: *Lewis's Child and Adolescent Psychiatry: A Comprehensive Textbook, Fourth Edition* (Martin & Volkmar, 2007), and *Rutter's Child and Adolescent Psychiatry, Fifth Edition* (Rutter et al., 2008). I add occasional specific references, however.

Associated Features

Children with ADHD have high rates of comorbid psychiatric disorders (especially ODD and CD), language disorders, and LD. Such complex clinical presentations are overrepresented in students with EBD. It makes clinical sense that such students would end up classified as having EBD, as they are hard to treat both in and out of school. EBD teachers must be aware of such associations in order to prioritize their interventions appropriately.

Academically, in addition to comorbid LD and/or language disorders in their students with ADHD, EBD teachers must become more attuned to the increasingly important role attributed to deficits in executive functioning (EF)—working memory, processing speed, organization/planning, and so on—

in many students with ADHD. EBD teachers are likely to appreciate the direct and indirect impact of the cardinal symptoms of ADHD (hyperactivity, impulsivity, and poor attention) on academic performance, but may not yet be well enough informed about accompanying EF issues. Thus their toolkits must expand or be refreshed. In my experience, EF problems are especially important in students with EBD because stimulant medication appears less effective (50/50) in reducing EF deficits in these students, and it is not yet clear which EF deficits in which children in ADHD will respond to medication. While many of these students will have their most overt symptoms improve after medication, their academic performance may still lag at times because their EF deficits persist and must be remediated separately. Furthermore, EF deficits are increasingly suspected of often playing a role in LD and language disorders.

EBD teachers are likely to be aware that children with depressive disorders may have associated disruptions in cognitive skills such as concentration and memory. These problems may be secondary to acute or persistent depressive illness, or possibly to accompanying LD. Though students with LD may be more prone to depressive symptoms, it is not clear how many of them develop full depressive disorders (nor is the converse known). However, EBD teachers should also be cognizant of other aspects of cognition that may be affected. Neuropsychological testing has shown that children with depressive disorders are more likely to pay more attention to negative affect, sad words, and negative emotional distracters occurring in their environments. They are less able to inhibit negative affect (more so in response to distressing stimuli) or to develop positive affect. These disruptions can, of course, create vicious cycles and take away much time from the learning process. With recognition of these factors and an expanded CBT toolkit, EBD teachers can model/teach students CBT techniques designed to improve such cognitive biases, in concert with the work of community therapists.

Course and Outcome Predictors

Between high dropout rates ($\geq 40\%$) and frequently poor postgraduation functioning in

education, employment, and the legal arena (Newman et al., 2011; Smith, Katsiyannis, & Ryan, 2011), we have some understanding of the guarded long-term outcome for many students with EBD. However, we have few predictors of which newly identified students with EBD will do well or not educationally. Fortunately, CP knowledge about the course of some CP disorders can fill in some of these gaps for EBD teachers; in particular, it can alert them to students who may be worsening clinically, or who may be most vulnerable and thus in need of the most intensive interventions.

Generally, CP knowledge tells us that students with EBD (especially adolescents) are at high risk for their psychiatric illness to continue into adulthood because they will often have the worst or most persistent forms of such illness. More specifically, about 60% of youth with ADHD will have some of its symptoms persist into adulthood, especially EF dysfunction (as opposed to hyperactivity). Moreover, the list of compromised quality-of-life indicators is long, including various indicators of school performance. An especially poor prognostic indicator is the early occurrence of comorbid ODD or CD, with subsequent vulnerability to long-term morbidity such as substance abuse and antisocial personality disorder. Within ODD and CD, many such children are likely to be on a negatively accelerating continuum over time, especially younger ones. The outcome of ODD and CD seems to worsen in a dose-response manner; that is, the greater the number and variety of symptoms, the worse the prognosis. Other negative indicators are lower IQ, the presence of ADHD, and family adversity (such as parental alcoholism). Some protective school factors include academic success and a positive connection between a child and the school—factors that can be fostered in EBD classrooms.

Thus EBD teachers must be aggressive in identifying and treating ADHD, in particular to prevent the development of ODD/CD symptoms or to reduce them early. They must also be aware of the types of psychopathology that their students with ADHD may have to continue to live with, in order to help those students develop understanding and self-management of those symptoms. Barkley (2007) has pointed out that ADHD is not due to the wrong contingencies of reinforce-

ment in the environment; the etiologies of ADHD are more closely related to genetics and neurology. Removal of a helpful medication and/or FBA/BIP can lead to the return of ADHD symptoms, however. Therefore, Barkley states that FBA/BIP can affect the symptoms of ADHD positively (but not cure it), and, more importantly, should target the impairment that is causing a student the most trouble.

In regard to their students with depressive disorders, EBD teachers should be aware that depressive illness is often chronic. For example, those students with low-grade, chronic symptoms (i.e., dysthymia) are at risk to develop more serious major depressive episodes (which can last up to 6 months). At least one-third of youth with major depression will relapse eventually. The risk for recurrence is increased especially by such factors as partial/incomplete recovery, previous poor social functioning, family discord, or history of sexual abuse. Children suffering from depressive illness are also at additional risk for the development of CD, substance abuse, risky sexual practices, poor educational outcome, and of course suicidal behaviors. The risk for suicidal behaviors, in turn, increases in the presence of more severe and chronic depression, history of suicidal behavior, impulsivity, hopelessness, and family factors (abuse, suicide in the family, intrafamily conflict, and lack of family support).

Thus EBD teachers must be aware that many of their students with depressive disorders are at risk for relapse or other subsequent psychopathology. The information given above will help them appreciate which depressed students are most at risk, and for which symptoms/signs they must monitor these students. This situation constitutes a further example of the increased awareness of individual DSM disorders that EBD teachers must have to monitor students adequately for individual red flags, as well as the necessity of a close working relationship with community professionals to make them aware of worsening or improving symptoms.

Family/Stress Factors

Students with EBD often come from families with past and/or ongoing stresses. For example, such students experience high rates

of abuse (60%; Mattison, 2004a). Clearly, teachers know that if abuse has occurred, they must monitor closely for recurrence. (Or if a student without known history of abuse shows noteworthy aggression, they must be alert for the violence level/abuse in the home.) They must also be alert for resultant PTSD-type symptoms that may occur, acutely or chronically, in what students say, draw, write, or play. For example, with either overt external or less obvious internal triggers, abused children can show recurrent/intrusive distressing recollections of the trauma, reified flashbacks, intense distress from external cues, avoidance of specific stimuli, numbed/detached general responses, hypervigilance, or irritability/outbursts. These symptoms can persist for years and/or become part of another psychiatric disorder that develops. Community professionals may or may not be aware of their occurrence.

Students with EBD also experience high rates of parental psychiatric illness (82%; Mattison, 2004a), which can affect the students genetically and/or in daily living. With such awareness, EBD teachers can be alert to what students say about their parents, as well as to what occurs in their own interactions with parents. At times teachers may know more than community professionals about what is occurring in a student's home, and they should have open lines of communication to pass along important family observations to other members of the child's mental health team both in and out of school.

EBD teachers should be aware that with the known genetic risk for ADHD, there is a good chance that a student with ADHD will have a parent or sibling at home with the same disorder. This may not only disrupt the home environment for the child; if a parent has ADHD, it can interfere with parent-teacher collaboration. Sometimes a parent will bring up concerns about ADHD in the other parent or in another child, to which an EBD teacher can respond that ADHD is known to run in families. This may lead to a needed evaluation for that family member and a subsequent reduction in family stress.

Similarly, students with depressive illness are more likely to have a parent with the same illness. In particular, maternal depression can have several effects through genetics, modeling, and/or hostile or withdrawn

interactions with a child. Such maternal actions can produce cognitive distortions and problems with emotions. Thus EBD teachers of depressed students must be alert to the possibility of depression in parents and determine whether such parents are receiving treatment. Often depressed parents will have disclosed that they are depressed and on medication, so it is public knowledge. If a teacher sees a parent's depression worsening or surmises such over the phone, a simple inquiry about the parent's mood or feelings can lead to encouragement to consult his or her mental health care provider. Or such information can be transmitted to the teacher's school mental health team member or the child's therapist in the community. If not, the negative impact on the child will persist and could counter what is being done in the classroom.

Treatment

In recent years, coinciding with the EBD field's movement toward becoming more scientific and evidence-based, Forness and his colleagues have focused on integrating the evidence base for specific medications targeted to the various CP disorders of students with EBD (see Konopasek & Forness, Chapter 26, this volume). Lately, sobered by the ongoing poor outcome results for these students, Forness and his colleagues (Siperstein, Wiley, & Forness, 2011) have further suggested that the EBD field look to incorporate other evidence-based research for nonmedication treatment of CP disorders. Barkley (2007) notes that we are moving toward selecting among different evidence-based treatments (medication and otherwise, whether generated by the EBD or the CP field) to address a student's current major impairment. Several other chapters in this book present the evidence base that currently exists for nonmedication treatment of several externalizing and internalizing psychiatric disorders. In addition, textbooks are increasingly appearing that review this same evidence-based treatment literature in regard to either internalizing-externalizing disorders or CP disorders generally (Mash & Barkley, 2006; Mayer, Van Acker, Lochman, & Gresham, 2009; Weisz & Kazdin,

2010). Therefore, I would like to make other observations about treatment that I find pertinent for the EBD field.

Who Benefits from EBD Services?

We know little about the effectiveness of EBD programming except that, at first glance, it often appears not to work (e.g., 40–50% dropout rates; Mattison, 2004a). However, remarkably, given the serious at-risk profiles of most students with EBD, 50% of the time it does appear to help such children in school. Too often EBD placement is considered as a last-ditch effort for students with advanced school dysfunction, rather than as a true therapeutic component. The field needs to clarify for educators and community clinicians which children are most likely to benefit and when, so that these children can receive such intervention early and not later, when they may have deteriorated further.

My colleagues and I followed students newly classified as having EBD/SED over 8 years (Mattison, Spitznagel, & Felix, 1998) to investigate not only their course and educational outcome—but, possibly more importantly, to identify enrollment predictors that educators could use to appreciate the chances of success or failure for newly classified students, and thereby also begin to identify nonclassified but problematic students who might benefit from EBD programming. We then divided the cohort into successful and unsuccessful groups, depending on their success in school after enrollment in EBD classes. Next we examined a wide range of enrollment factors for the most significant predictors. Lack of success was significantly determined, in descending order, by the following: greater age at enrollment, the presence of a verbal IQ significantly lower than the performance IQ, the presence of DSM-defined ODD or CD, and the absence of a DSM-defined depressive or anxiety disorder. These findings made clinical sense and were consistent with other CP longitudinal work, especially for children with CD. We then developed a scoring protocol that yielded probabilities of success–failure, much like protocols for predicting heart attack risk.

Importantly, we were struck that some major factors, such as SES, family stresses,

and checklist severity scores did not emerge as predictors; in other words, such risk factors did not doom the students. We felt these results began to indicate the positive impact that EBD programming in schools could have on students with EBD who had such factors in their backgrounds. Conversely, increased chances for students' educational success were predicted by younger age at enrollment, normal IQ, the presence of dysfunctional anxiety or depressive disorders, and the absence of ODD or CD. Thus such elementary school children would seem to be good candidates for EBD programming.

Most recent EBD research has focused on behavioral and academic interventions, and has used single-case or small-group designs (Gage, Lewis, et al., 2010). I would make some suggestions for EBD researchers who want to determine the usefulness of FBAs/BIPs in the real world of students with EBD (Gresham, 2003; Lane, Kalberg, & Shepcaro, 2009). Of particular importance for case intervention studies is a student's treatment history. For example, behavioral management training for parents appears to be the most crucial intervention factor in improving students with CD symptoms (Beauchaine, Webster-Stratton, & Reid, 2005). Also, stimulants can markedly affect a student's ADHD symptoms in school. Thus, as part of the investigation of a behavioral intervention, certain treatment issues become important. What behavioral treatment has the student already been exposed to, both in and out of school? What treatment is the student currently receiving in the community that might affect results for the intervention being studied, such as parent management training, individual CBT, and/or medication? Whereas in the past only 15% of students newly classified with EBD were found to be receiving psychotropic medication (Mattison, 1999), a more recent study has found a medication rate of 75% of students in EBD programming (Mattison & Michel, 2013); these figures are similar to trends in the general population (Olfson, Marcus, Weissman, & Jensen, 2002). Thus medication use in case studies is now more likely to be the norm than the exception, and thus can become a major influence on intervention outcome in a case study.

Why Do Physicians Need Input from EBD Teachers about Medications?

From my perspective as a treating child psychiatrist, teachers' observations of medication effects are especially crucial for students with EBD. First, too often in this day and age (and for a variety of reasons), medication may be the only substantial mental health treatment that such students will receive outside of school. These medicines can help school performance, but their side effects can hinder it, and prescribers need solid information about both sets of effects. Second, many parents of students with EBD are often not good reporters of medication effects, again for a variety of reasons. Often students are changing positively or negatively at school while the opposite is occurring at home because of medication characteristics and/or home stress factors. Thus parental information is often insufficient for a physician to make a proper adjustment. Finally, physicians often have little time to make medication decisions, insufficient information, and little access to adequate delivery of other nonmedication treatments. So a second medication is often added, though we know little about the efficacy of combinations of psychotropic medicines in children (Comer, Olfson, & Mojtabai, 2010). While the addition of a second medicine may be helpful, it can also exacerbate symptoms and even worsen cognition in some cases (e.g., anticonvulsants/mood stabilizers). This reality emphasizes the importance of having EBD teachers (as well as all teachers) provide feedback to doctors, particularly because of their observational training and skills.

Paralleling physicians' need for input from EBD teachers, I would add that community mental health practitioners also need feedback on how their therapeutic efforts are faring with both students and parents. Feedback from youth and parents is often incomplete in regard to how well youth are practicing what is being taught or whether they are improving clinically. If EBD teachers know what community practitioners are doing therapeutically with students, they can provide feedback to community professionals about the degree of success or failure from their observations of the students, as well as of parent-child interactions.

Treatment Studies by EBD Researchers

Treatment research that incorporates CP knowledge is a wide-open area for EBD researchers, both within and outside the EBD field. They need not only to absorb and adapt CP research, but also to add to it with their unique expertise.

That is, school consultation to help students with a variety of psychiatric disorders has achieved mixed success at best (Nadeem & Jensen, 2009; Ringeisen, Henderson, & Hoagwood, 2003). In such research, school intervention is often provided by general education teachers with mentoring from trained consultants, or by mental health professionals who come into the school to work with students. In contrast, EBD teachers and researchers are rarely involved, though they in several ways have the most optimal skill sets among educators to begin with. Future efforts using EBD teachers in research designed by EBD researchers, either alone or as part of multidisciplinary research teams, may be more productive in establishing the true effectiveness of CP-generated interventions. EBD researchers have much to contribute not only to their own field, but also to their sister disciplines.

Conclusion

My aim in this chapter has been to alert EBD teachers, trainers, and researchers to relevant findings and methodology from CP research that they should increasingly consider, in addition to what CP evidence-based studies are showing for treatment/intervention. At the core of my recommendations is an adequate working knowledge of DSM disorders for EBD teachers that can enhance their existent toolkits. Are my thoughts too ambitious for EBD educators?

I don't believe so because I have already experienced models in which EBD teachers function as members of children's mental health teams. Their skill sets and contributions to children's mental health needs have been a prime influence on this chapter; I have simply recalled what they did and written it down, with some expansion. For example, I have been involved over my career in inpatient units with attached EBD classrooms. There I have seen EBD staffs execute much of

what I have suggested above. Indeed, during my fellowship training at UCLA, EBD staff members were some of my own best teachers and some of the best all-around therapists I have ever met. Later, when I was faced with establishing an inpatient unit elsewhere with few trained staff members available, I used the experienced EBD teachers of the inpatient classroom as models. My new staffers and I would watch the "old pros" through a one-way mirror where I could point out what they were doing and why. Subsequently, during daily interactions, the new staff members would also ask the "pros" questions as they built their own knowledge.

At one time, Steven Forness and his mentor Frank Hewitt conceived of EBD teachers as being at the center of special education and even mental health services in schools (i.e., serving as the primary resources for the whole educational staff). I have seen this most fully realized in a regular education grade school setting in St. Louis. There the EBD teacher and her child psychiatric social worker were considered by the principal and fellow teachers as their mental health resources on any struggling student, classified or otherwise. First of all, they intervened with full- and part-time students with EBD in their self-contained classroom, as well as helping these students' general education teachers to reintegrate them into their regular classrooms. In addition, this two-person team would consult with general education teachers on any student they were concerned about (behaviorally, emotionally, or socially). They would in tandem offer classroom intervention strategies or suggest mental health referrals depending on what was most appropriate. While this of course led to early help for students, general education teachers also received helpful training from fellow educators. This model deserves further investigation.

The two examples above have in common ongoing, live collaboration. This can occur in inpatient or EBD settings, or potentially in school-based mental health programs. Collaboration can be intensive as described above, or EBD teachers can receive mentoring from school psychologists. For example, Maag and Swearer (2005) have proposed how EBD teachers might work with depressed students under the guidance of more clinically trained school psycholo-

gists, who have greater familiarity with techniques that are usually part of CBT for depression. However, to me, it will be all the more effective if EBD teachers already have a working body of knowledge on which to build. Consultations and continuing education courses on new CP advances, I feel, work better if teachers are adding to such a base as opposed to starting from scratch.

The EBD field is now growing faster scientifically. Consequently, EBD educators can now become more sophisticated consumers of, as well as active contributors to, the CP treatment and general knowledge that its fellow disciplines are generating. If professionals in the EBD field do not do the work of bringing that knowledge into the classroom, who will? They work the most intensively with problematic students and must now adapt for the classroom those therapeutic tools and supplemental knowledge that are being generated outside their discipline for the treatment of children. My CP colleagues and I can point out the particular relevance of CP knowledge and suggest methodology to assist in translation, but EBD professionals must decide and create what is most useful for their students.

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**SCREENING, PERFORMANCE
MONITORING, AND ASSESSMENT**

Screening and Identification Approaches for Detecting Students at Risk

Kathleen Lynne Lane, Wendy Peia Oakes, Holly Mariah Menzies, and Kathryn A. Germer

School-age youth with emotional and behavioral disorders (EBD) include students with a wide range of behavioral and social characteristics, including externalizing and internalizing behavior patterns (Walker, Ramsey, & Gresham, 2004). Externalizing behavior problems include verbal and physical aggression, coercive tactics, and delinquent acts; internalizing behavior problems are manifested in conditions such as depression, anxiety, social isolation, somatic complaints, and obsessive-compulsive disorder (Eisenberg et al., 2009).

Externalizing behaviors disrupt the classroom environment, making it difficult for teachers and peers to focus on instruction (Bradshaw, Buckley, & Ialongo, 2008). As such, it is not surprising that teachers are far more apt to recognize externalizing than internalizing problem behavior. Yet internalizing behaviors are no less harmful to students. Unfortunately, students with internalizing problems are less likely to receive the school-based supports they need. This under-detection of internalizing student problems is concerning, given prevalence estimates suggesting that the magnitude of internalizing behaviors is higher than some educators may expect (Lane, Oakes, et al., 2012). For example, between 5.8% and 17.5% of school-age youth have anxiety disorders (Breton et al., 1999). Lifetime prevalence rates suggest that 46.6% of the population

will demonstrate internalizing disorders, with half of the cases occurring by age 14 (Kessler, Berglund, Demler, Jin, & Walters, 2005). In a study of common teacher-reported problem behaviors conducted with 3,600 children and adolescents, Harrison, Vannest, Davis, and Reynolds (2012) found that the most commonly reported behaviors included anxiety, learning problems, and distractibility, again reflecting the impact of internalizing *and* externalizing behaviors. In essence, the prevalence of problem behaviors is substantial, and these behaviors have myriad effects on the instructional day.

It is critical that students with or at risk for EBD be detected and supported as early as possible, given that externalizing and internalizing problem behaviors predict highly negative outcomes within and beyond the school setting (Masten et al., 2005). Their long-term impact poses significant challenges and costs to the educational system and to society in general. For example, students with EBD often struggle to negotiate relationships with peers and teachers, resulting in weak social networks and friendships along with low rates of academic engagement, poor work completion, limited academic achievement, and high rates of school failure (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000; Malecki & Elliott, 2002). Typically, these social and behavioral challenges do not improve after

the students leave the school setting, and they are also reflected in poor employment outcomes as adults. Characteristically, these individuals struggle in their interactions with authority figures and colleagues (King, Iacono, & McGue, 2004; Wagner & Davis, 2006). Clearly, their current and future lives are challenging for students with EBD and their families. Although these behavior patterns are often evident during the preschool years (such students are often referred to as “early starters”), students with EBD are frequently not detected and supported until much later in their educational careers.

Students with EBD: More than a Special Education Issue

Although many assume that students with EBD will be supported within the context of special education, according to the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, too often this is actually not the case. Fewer than 1% of students receive special education services under the label of emotional disturbance (ED), yet approximately 37% of school-age youth will have at least a mild manifestation of EBD at some point in their school careers (i.e., cumulative prevalence; Forness, Freeman, Paparella, Kauffman, & Walker, 2012). These prevalence estimates make it clear that supporting students with EBD is a responsibility of the general education community, as most of these students do not qualify for special education services. Furthermore, even for students with ED who are receiving special education services, the goal is to serve these students in the least restrictive environment possible—which is often the general education classroom. As such, identifying and supporting students with behavior challenges is broader than a special education issue. It is important to empower general education teachers with the knowledge, skills, and confidence to recognize and assist students at risk for EBD at the earliest possible juncture, when their behaviors are most amenable to intervention efforts.

Fortunately, many school-site teams are moving away from a “wait-to-fail” model and are welcoming the concepts of “prevention” and “search-and-serve” (IDEA, 2004).

Rather than waiting until a pronounced discrepancy is evident between current and desired performance levels, school-site teams are developing proactive, multilevel systems of support. Such models include response to intervention (RTI), focusing primarily on the academic domain (Fuchs & Fuchs, 2006); positive behavioral interventions and supports (PBIS), focusing primarily on behavioral and social domains (Sugai & Horner, 2002); and comprehensive, integrated, three-tiered (CI3T) models, focusing on academic, behavioral, and social domains (Lane, Oakes, & Menzies, 2010). Each model is dedicated to (1) preventing the development of learning and behavior problems, and (2) responding efficiently with evidence-based practices for students requiring secondary (Tier 2 for some, such as small-group social skills interventions) or tertiary (Tier 3 for a few, such as functional assessment-based interventions) supports.

A focal feature of these models is precise detection of students for whom primary efforts (Tier 1 for all) are inadequate (Lane, Oakes, et al., 2010). Current reactive techniques, such as relying solely on teacher nominations or waiting until students earn a specific number of office discipline referrals (ODRs, which are unlikely to be earned by students with internalizing issues) to connect students to secondary and tertiary supports are unsatisfactory (Walker et al., 2004). Although teacher nominations and ODRs will identify some of the students requiring support, they are inconsistent in whom they identify, and they usually overlook students with internalizing behaviors. It is essential that reliable, valid tools be used with procedural fidelity to guide movement among primary, secondary, and tertiary supports, to ensure that correct decisions are made in allocating resources. We need to limit the number of students identified for secondary and tertiary supports who do not require them (“false positives”), and—more importantly—limit the number of students *not* afforded secondary and tertiary supports who actually *do* need them (“false negatives”).

Many teachers have intensive training and expertise in conducting academic screenings, using tools such as AIMSweb (NCS Pearson Education, 2012) to benchmark and monitor progress of student performance.

Yet teachers have less knowledge regarding behavioral screening tools—the tools that are available, the research regarding their psychometric properties, and the logistics of how to conduct (prepare, administer, and score) screenings and utilize information gleaned to inform intervention efforts. The absence of knowledge about and confidence in using behavioral screening tools is unfortunate, given the interrelated nature of behavioral and academic performance (Morgan, Farkas, Tufis, & Sperling, 2008). Teachers can use information on students' behavioral patterns to inform instruction. For example, a student with high levels of anxiety or inattention may benefit from the addition of behavioral supports (e.g., self-monitoring or differential reinforcement) to increase participation in a Tier 2 writing intervention. In the absence of information on social and/or behavioral performance, the teacher may focus solely on the academic intervention, missing an opportunity to address an important variable (i.e., academic engagement) that moderates intervention outcomes. Information from behavioral screenings can be analyzed in tandem with academic data to interpret performance, inform instruction, enable students to access supports, and prevent teachers from overlooking a student whose behavioral challenges may otherwise go unnoticed (Kalberg, Lane, & Menzies, 2010).

The purpose of this chapter is to provide a user-friendly “desk reference” of systematic screening tools available for use in detecting students with EBD. It is designed for practitioners in a range of settings serving students with EBD, including teachers and administrators dedicated to learning more about how to identify and support such students, as well as researchers. We introduce herein several screening tools that are available to support instructional and classroom management decision making; for each tool, we provide a description and an overview of the research that has been conducted regarding its reliability and validity. We describe the Systematic Screening for Behavior Disorders (SSBD; Walker & Severson, 1990); the Early Screening Project (ESP; Walker, Severson, & Feil, 1995); the Student Risk Screening Scale (SRSS; Drummond, 1994); the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997);

the Behavior Assessment System for Children, Second Edition (BASC-2) Behavioral and Emotional Screening System (BASC-2 BESS; Kamphaus & Reynolds, 2007) and the Social Skills Improvement System (SSIS) Performance Screening Guide (SSIS-PSG; Elliott & Gresham, 2007b). Next, we discuss logistical considerations for conducting systematic screenings, with an emphasis on how to select, when to administer, how to prepare, how to administer, and how to score and interpret results. We conclude by offering some recommendations for developing the expertise of individuals involved in screening efforts, establishing the structures necessary to support screening practices, and screening responsibly.

Screening Tools Available for Use

In the past decade and a half, a number of behavior screening tools have become available, some with substantial utility. These tools vary along a number of dimensions, including the behavioral content measured, age and/or grade span of students served, and resources needed to implement the screening tool (e.g., teacher time). Herein we provide a description and summary of supporting research for each of the above-mentioned tools, offering additional logistical information in Table 7.1.

In reviewing the screening tools presented in the following sections, it is important to consider issues of psychometric rigor and feasibility. Screening tools need to have reliable and valid cutoff scores to correctly identify students who do (and do not) have certain conditions (e.g., internalizing or externalizing). As noted above, two types of errors can occur in screenings: false positives (students identified as have a given condition when they actually do not) and false negatives (students identified as *not* having a given condition when they actually *do*). The latter error (false negatives) is the more serious error in screenings, as the consequences of overlooking a student with behavioral challenges are more severe than those of offering additional support (e.g., small-group instruction in social skills) to a student who does not actually need this supplemental assistance (Gresham, Lane, & Lambros, 2000).

TABLE 7.1. Logistical Considerations of Screening Tools

Screening tool	Logistical considerations		
	Grade level designed for	Cost	How to access
Systematic Screening for Behavior Disorders (SSBD; Walker & Severson, 1990)	K–6	Full kit for less than \$150. Screening forms for less than \$20.	Cambium Learning/Sopris West (<i>store.cambiumlearning.com</i>).
Early Screening Project (ESP; Walker, Severson, & Feil, 1995)	Preschool–K	Full kit for less than \$100.	Applied Behavior Science Press (<i>www.appliedbehaviorscience.com</i>).
Student Risk Screening Scale (SRSS; Drummond, 1994)	K–12	Free access.	Create the SRSS as described in this chapter, using a computer program such as Excel.
Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997)	Preschool–12	Free access.	Visit <i>www.sdqinfo.org</i> to complete electronically, or download to complete with paper and pencil.
BASC-2 Behavioral and Emotional Screening System (BASC-2 BESS; Kamphaus & Reynolds, 2007)	Preschool–12	Preschool kit for around \$100; child/adolescent kit for around \$125. Forms available in packages for ≈\$1 per form. ASSIST software package for less than \$600. Web-based system for \$4 per student per year (\$1 per student per year if school or district has already purchased AIMSweb).	Pearson Assessments (<i>www.pearsonassessments.com</i>). Web-based system (including both the BASC-2 BESS and SSIS screening tools) available through NCS Pearson Education, AIMSweb (<i>www.aimsweb.com</i>).
Social Skills Improvement System—Performance Screening Guide (SSIS-PSG; Elliott & Gresham, 2007b)	Preschool–12	Preschool package (four forms) for less than \$20; elementary/secondary package (10 forms) for less than \$50. Each form screens up to 25 students.	Pearson Assessments (<i>psychcorp.pearsonassessments.com</i>).

The validity of a screening tool is defined by the available empirical and logical evidence supporting the use of test scores (American Educational Research Association [AERA], American Psychological Association [APA], & National Council for Measurement in Education [NCME], 1999). Yet, before one can evaluate the extent to which a tool is valid, reliability of the tool’s scores must be determined. A reliable tool is one in which a specific tool, when administered multiple times or from different stakeholder perspectives, produces consistent (or very similar) results (O’Rourke, Hatcher, & Stepanski, 2005). In Table 7.2, we list reliabil-

ity estimates for readers to consider when reviewing the supporting research offered for the tools examined (e.g., sensitivity, specificity, positive predictive value, negative predictive value, etc.).

It is imperative that a tool be reliable and valid, to ensure that accurate decisions are made regarding which students are considered and selected for additional supports. Yet also very important is the issue of feasibility or social validity. A systematic screening tool needs to be feasible in terms of pragmatic issues such as the time, effort, and costs required to complete the screening process (e.g., to prepare, administer, score,

TABLE 7.2. Psychometric Consideration: Issues of Reliability

<u>Reliability</u>		
<i>Internal consistency coefficient:</i> “An index of the reliability of test scores derived from the statistical interrelationships of responses among item responses or scores on separate parts of the test” (AERA, APA, & NCME, 1999, p. 176). In lay terms, a measure of how the items on a given test interrelate or “hang together” to measure a specific construct such as internalizing behavior.		
<i>Interrater agreement:</i> “The consistency with which two or more judges rate the work or performance of test takers” (AERA et al., 1999, p. 177). In lay terms, correlations between scores from two different raters who completed the same (or very comparable) measures at the same time, to see whether the same views are obtained from different raters. Also referred to as interrater reliability.		
<i>Test–retest reliability:</i> “A reliability coefficient obtained by administering the same test a second time to the same group after a time interval and correlating the two sets of scores” (AERA et al., 1999, p. 183). In lay terms, correlations between scores from the same rater on the same measure over time, to see how consistent the scores are over time. Also referred to as test–retest stability.		
<u>Conditional probabilities statistics</u>		
	<u>Proficiency (outcome)</u>	
	Below: Risk present	At or above: Risk not present
Identified by a screening tool as being at risk (risk present)	a	b
Not identified by a screening tool as being at risk (risk absent)	c	d
<i>Positive predictive power:</i> $PPP = a/(a + b)$, the proportion of students identified as high-risk who develop the outcome (risk indicator).	<i>Negative predictive power:</i> $NPP = d/(c + d)$, the proportion of students identified as low-risk who do not develop the outcome (risk indicator).	
<i>Sensitivity:</i> True positive rate = $a/(a + c)$ proportion of the risk group correctly identified.	<i>Specificity:</i> True negative rate = $d/(b + d)$, proportion of the not-at-risk group identified as not having a concern.	
<i>Base rate:</i> Prevalence = $(a + c)/(a + b + c + d)$	<i>Percentage of accuracy in classification:</i> Hit rate = $(a + d)/(a + b + c + d)$, accuracy of the tool.	

Note. Data from American Educational Research Association (AERA), American Psychological Association (APA), and National Council for Measurement in Education (NCME) (1999) and Severson and Walker (2002).

and interpret the tool). If a screening tool lacks social validity, it is unlikely to be used with procedural fidelity.

In examining the descriptions and supporting research of the instruments discussed in the following sections, we recommend attending to issues of psychometric rigor and feasibility. The goal is to identify screening tools with a balance of being “both scientifically rigorous with respect to issues of validity and reliability and reasonable in terms of the cost, financial and otherwise” (Lane, Menzies, Oakes, & Kalberg, 2012, p. 9).

Systematic Screening for Behavior Disorders

Description

The SSBD is a low-cost, empirically validated, multiple-gating system developed by Walker and Severson (1990) to detect elementary-age students in first through sixth grades with externalizing or internalizing behavior disorders. It includes three progressive stages: nominations and rank ordering; teacher ratings; and direct observations in structured (seatwork) and nonstructured (playground) settings in subsequent screening stages. Each teacher is given a screening packet including (1) Stage 1 nomination procedures, (2) three sets of Stage 2 ratings for students with internalizing behaviors, and (3) three sets of Stage 2 ratings for students with externalizing behaviors. Stage 3 forms are not distributed to the teacher, as these involve independent observations conducted by a professional other than the classroom teacher (e.g., an early interventionist or behavioral coach).

STAGE 1: NOMINATION AND RANK ORDERING. Each classroom teacher reads a description of internalizing behavior patterns, including their operational definitions with examples and nonexamples provided. The teacher lists the names of 10 students in his or her class whose characteristic behavior patterns are most like an internalizing behavior pattern. Next, each teacher rank-orders these students from “most like” (score of 1) to “least like” (score of 10) the internalizing dimension. This process is repeated on the externalizing dimension, resulting in two

rank-ordered lists: one for students with internalizing behaviors, and a second for students with externalizing behaviors. The six highest-ranked students (1–3 for internalizing, 1–3 for externalizing) pass through Gate 1 into Stage 2.

STAGE 2: TEACHER RATINGS. In Stage 2, teachers complete two nationally normed rating scales, the Critical Events Index (CEI) and the Combined Frequency Index (CFI), for the six students who passed through Gate 1 to obtain a more complete picture of their typical behavior patterns. The CEI is a checklist of 33 high-intensity, low-frequency behaviors (e.g., steals, vomits after eating, engages in self-injury). Teachers record the presence of any CEI-listed behaviors known to have occurred in the last 6 months, and they have the option of writing in up to two additional serious behaviors not included in the 33 items. The CFI is a behavior rating scale, completed by the general education teacher, to estimate the frequency of adaptive behaviors (i.e., behaviors that facilitate classroom adjustment and achievement) and maladaptive behaviors (i.e., behaviors that disrupt and impair these). The CFI has an Adaptive subscale of 12 positively worded items (e.g., follows established classroom rules) and a Maladaptive subscale of 11 negatively worded items (e.g., is excessively demanding). Items are rated by the teacher on a 5-point Likert-type scale ranging from 1 (“never”) to 5 (“frequently”), yielding total scores ranging from 12 to 60 for the Adaptive subscale and 11 to 55 on the Maladaptive subscale. Total scores from the CEI and CFI are examined to identify students who exceed cutoff points based on normative criteria, who then pass through Gate 2 into Stage 3. (We note here that schools often implement only Stages 1 and 2 of the SSBD, due to the resources required for Stage 3; Kalberg et al., 2010).

STAGE 3: DIRECT OBSERVATION. In screening at Stage 3, a professional other than the classroom teacher (e.g., a behavior specialist) conducts systematic observations of the target students to confirm their teacher’s ratings. Direct observations occur in two settings: the classroom to assess academic engaged time (AET), and the playground to assess the quantity and quality of peer-directed social

behavior (PSB). The SSBD technical manual includes explicit procedures for conducting these structured observations, including procedures for ensuring the reliability of the data collected. The SSBD observer training manual provides training procedures and practice coding examples to assist professionals in mastering the coding definitions, coding rules, and score derivation calculations. Each student's AET and PSB data are compared to normative levels provided by age and gender for the national standardization sample ($N = 1,400$ cases) on the AET and PSB observation codes. Students whose scores deviate significantly from normative levels pass through the final SSBD screening gate (Gate 3) and may be referred to the school- or district-level prereferral intervention team for further evaluation and/or access to supports and services.

Supporting Research

Field trials of the SSBD offer evidence establishing the reliability, validity, and feasibility of this tool, indicating that it is sensitive in differentiating among students with externalizing behaviors, those with internalizing behaviors, those with diagnosed emotional disturbances, and typically developing students (e.g., Walker et al., 1990, 1995). The SSBD technical manual offers extensive information on development and field-testing activities. In addition, several studies have been conducted by Walker and colleagues across the United States, funded in part by the Office of Special Education Programs; these studies have replicated and confirmed these initial findings for the SSBD. Lane, Menzies, and colleagues (2012; see Table 2.2 there) summarized the reliability and validity studies pertaining to the SSBD as published in peer-reviewed journals. In brief, these studies offer evidence of acceptable test–retest stability estimates and interrater agreement for the Stage 1 and 2 instruments, and interobserver agreement for the Stage 3 direct observation measures (e.g., Walker et al., 1988, 1990); these findings suggest that the instruments used in each screening stage are reliable.

Further findings support the validity of the SSBD. Walker and colleagues (1988) established the discriminative validity of Stage 2 measures in distinguishing among students

with internalizing, externalizing, and typical (control) behavior patterns, as well as convergent and concurrent validity with a number of other behavioral measures. These validation studies provide evidence of convergent validity between SSBD scores and scores on the Scale for Assessing Emotional Disturbance (SAED; Epstein & Cullinan, 1998), the Behavioral and Emotional Rating Scale (BERS; Epstein & Sharma, 1998), and the Student Risk Screening Scale (SRSS). For example, results of a study of 123 kindergarten and first-grade students in a small Midwestern city yielded correlation coefficients ranging from a low of .105 (SAED Unhappiness/Depression and SSBD Maladaptive) to a high of .810 (SAED Inappropriate Behavior and SSBD Maladaptive). SAED Overall Competence and Unhappiness/Depression subscales scores were not significantly correlated with the SSBD Maladaptive score (Epstein, Nordness, Cullinan, & Hertzog, 2002).

Evidence of convergent validity was also provided between the BERS and SSBD scores in a study of 220 kindergarten and first-grade students in three elementary schools in a medium-size city in the Midwest (Epstein et al., 2002). Results suggested a moderate to high relationship between all subscale scores, with a low of $-.263$ (BERS Intrapersonal Strengths and SSBD Maladaptive) and a high of $-.798$ (BERS Interpersonal Strengths and SSBD Maladaptive). BERS strength items were more closely related to externalizing than to internalizing behaviors.

Finally, studies have established the concurrent validity of SSBD and SRSS scores. The first study involved 562 kindergarten through second-grade students in seven inclusive elementary schools in a Southern state (Lane et al., 2009); the second study involved a larger sample of 2,588 kindergarten through fifth-grade students in five inclusive schools, also in a Southern state (Lane, Kalberg, Lambert, Crnabori, & Bruhn, 2010). In both studies, SRSS scores were more accurate for detecting externalizing behaviors (improving chance estimates by 45%) than internalizing behaviors (improving chance estimates by 26–30%), with dimensions assessed by the SSBD.

Evidence indicates that the SSBD is a reliable and valid tool for use in the elementary

school setting. We also note that efforts are underway to (1) develop a paper-and-pencil second edition of the SSBD; and (2) develop and test an electronic version of the SSBD (via a Small Business Innovation Research grant), which will allow its administration on laptop computers and similar devices, as well as the automatic calculation of scores and decision making with cutoff scores. The work of Caldarella, Young, Richardson, Young, and Young (2008) and Richardson, Caldarella, Young, Young, and Young (2009) on adapting the SSBD for effective use in middle school and junior high settings will also be incorporated into the SSBD's second edition.

Early Screening Project

Description

A downward extension of the SSBD, called the ESP, was developed to better address behavioral concerns of preschool students (ages 3–5) and teachers. The ESP offers a low-cost, empirically validated screening tool for the early detection of and intervention for preschool students with externalizing or internalizing behavior concerns (Feil, Severson, & Walker, 1998; Walker et al., 1995). The ESP involves three stages: nomination and rank ordering; teacher ratings; and direct observation by a school professional, plus a parent questionnaire. For screening purposes, Stages 1 and 2 are sufficient. Once purchased, the ESP materials are copied so that each teacher has one set of materials per class: (1) one copy of Stage 1, and (2) three copies of the Stage 2 rating scales for externalizing behaviors and three sets for internalizing. Materials for the optional direct observation and parent questionnaires are not provided to teachers at the initial screening. Conducting the Stage 3 direct observation requires additional training.

STAGE 1: NOMINATION AND RANK ORDERING. Teachers read the descriptions provided for the externalizing and internalizing dimensions, and compare each student's behaviors to the operational definitions, examples, and nonexamples. As in the SSBD, teachers list students according to the dimension better describing the students' behavior. Teachers select five students whose behaviors are

most characteristic of externalizing patterns and then five students whose behaviors are most characteristic of internalizing patterns. Once students are listed, the teacher rank-orders students within each dimension from "most like" (1) to "least like" (5). The students ranked 1 through 3 on each dimension (six students in all) pass through Gate 1 into Stage 2.

STAGE 2: TEACHER RATINGS. Stage 2 provides teachers with rating scales to examine students' behavioral patterns in more depth. As in the SSBD, teachers complete the CEI for all students progressing to Stage 2. The CEI addresses 15 high-intensity, low-frequency behaviors (e.g., sets fires, exhibits painful shyness). There is one open item (item 16) for teachers to add behaviors of concern. Next, teachers rate students with externalizing concerns on the Aggressive Behavior Scale (ABS) and students with internalizing concerns on the Social Interaction Scale (SIS). The nine-item ABS (e.g., has tantrums) requires teachers to rate the frequency of each item on a 5-point Likert-type scale (1 = "never," 3 = "sometimes," 5 = "frequently"). For the eight-item SIS (e.g., shares laughter with classmates), teachers evaluate students on a 7-point Likert-type scale (1 = "not descriptive or true," 4 = "moderately descriptive or true," 7 = "very descriptive or true"). Finally, teachers rate all students in Stage 2 using the Combined Frequency Index—Adaptive Behavior (CFI-A) and the Combined Frequency Index—Maladaptive Behavior (CFI-M). Teachers consider student behavior over the past 30 days when assessing frequencies of the listed behaviors. The CFI-A addresses adaptive behaviors (e.g., cooperates with other children) with 8 items rated by teachers on a 5-point Likert-type scale (1 = "never" to 5 = "frequently"). The CFI-M addresses maladaptive behaviors (e.g., is very demanding of teacher attention) with a nine-item scale rated by teachers on the same 5-point Likert-type scale as for the CFI-A. For all rating scales in Stage 2, raw scores are used to determine risk categories (at risk, at high risk, or at extreme risk) as defined in the technical manual for boys and girls separately, as well as *T* scores. Students who exceed normative criteria for Stage 2 pass through Gate 2 and are considered for

either the optional direct observation, referral, or provision of services and supports.

STAGE 3: DIRECT OBSERVATION. In Stage 3 (which is optional), parents complete a questionnaire, and students are observed by a qualified school professional after parental permission is secured. For additional information on these procedures, we refer readers to the ESP manual (Walker et al., 1995) and other resources (e.g., Lane, Menzies, et al., 2012).

Supporting Research

The ESP was developed from the SSBD to extend screening to the preschool level (Feil & Becker, 1993; Sinclair, Del’Homme, & Gonzalez, 1993). After extensive examination, Walker and colleagues (1995) published the ESP manual. Field trial findings suggest that the ESP is reliable, valid, and feasible within the preschool context (e.g., Feil et al., 1998). Feil and colleagues (1998) had an extensive norming sample ($N = 2,853$). In brief, quantitative procedures were used to aggregate items to scales. Interrater reliability using the ratings of teachers and teaching assistants was established at Stage 1, yielding kappa coefficients of .70 for externalizing behavior and .48 for internalizing behavior. A similar pattern was observed for Stage 2 rating scales, with negatively valenced items having greater interrater reliability than positively valenced items (range = .58–.74). Test–retest stability was also established. Stage 1 nominations repeated after 6 months yielded kappa coefficients of .63 for externalizing and .35 for internalizing dimensions. Stage 2 scales showed high test–retest stability, with Pearson coefficients ranging from .74 (CEI) to .90 (ABS).

Walker and colleagues (1995) established the validity of the ESP with evidence of content validity, concurrent validity, and discriminative validity. In brief, evidence supports convergent validity between the ESP and (1) the Behar Preschool Behavior Questionnaire (Behar & Stringfield, 1974), (2) the Conners Teacher Rating Scale (Conners, 1989), and (3) the Child Behavior Checklist’s Teacher Report Form (TRF; Achenbach, 1991). Initial findings were replicated and extended by Feil, Walker, Severson, and Ball

(2000) in a study of 954 children ages 3–4 attending a Head Start program. Results established concurrent validity between the ESP and teacher and parent versions of the Social Skills Rating System (Gresham & Elliott, 1990), as well as the TRF. Discriminative function analyses indicated a low false-positive rating—an important consideration for students in over- or under-represented populations. With a low false-positive rating, students are unlikely to be identified because of differences in cultural practices or language status.

Collectively, findings suggest that the ESP is a psychometrically sound measure for use with preschool and kindergarten-age students.

Student Risk Screening Scale

Description

Whereas the SSBD and ESP are multiple-gating systems, the SRSS is a one-stage, free-access, mass screening tool initially designed to detect elementary-age students who are at risk for antisocial behavior. In the last several years, additional studies have demonstrated the reliability and validity of the SRSS at the middle school (Lane, Bruhn, Eisner, & Kalberg, 2010; Lane, Parks, Kalberg, & Carter, 2007) and high school (Lane, Kalberg, Parks, & Carter, 2008; Lane, Oakes, Ennis, et al., 2013) levels as well.

The SRSS is quite simple: easy to prepare, complete, score, and interpret (Oakes et al., 2010). It requires one page (or one Excel worksheet if completed electronically) to rate an entire class. The SRSS begins with a listing of all students (names and/or district identification numbers) on a teacher’s roster (e.g., homeroom class) in the first column(s). Teachers rate students on the seven items constituting the SRSS, which are listed across the top row as follows: (1) steal; (2) lie, cheat, sneak; (3) behavior problem; (4) peer rejection; (5) low academic achievement; (6) negative attitude; and (7) aggressive behavior. Ratings are made on the following 4-point Likert-type scale: “never” = 0, “occasionally” = 1, “sometimes” = 2, “frequently” = 3. Item-level scores are summed, yielding a total ranging from 0 to 21. Drummond (1994) established three categories of risk from the total scores: low (0–3), mod-

erate (4–8), and high (9–21). Approximately 10 minutes of teacher time are needed to screen a class of 25 students.

Information from this tool can be used to monitor the overall level of risk present in a school at a given point in time, and can be used in conjunction with other data collected as part of regular school practices (e.g., curriculum-based measures of reading performance or grade point averages [GPAs]) to determine whether additional Tier 2 (secondary) and Tier 3 (tertiary) supports are warranted.

Supporting Research

Drummond conducted initial psychometric studies indicating that SRSS scores were reliable in distinguishing between elementary students who did and did not exhibit antisocial tendencies. Early studies suggested convergent validity between SRSS scores and TRF aggressive behavior subscale scores ($r = .79$), as well as predictive validity: The SRSS predicted negative behavioral and academic outcomes from 1.5 to 10 years later (Drummond, Eddy, Reid, & Bank, 1994).

EVIDENCE AT THE ELEMENTARY LEVEL. In addition to establishing convergent validity between SRSS scores and internalizing and externalizing behaviors as measured by Stage 2 of the SSBD (Lane, Kalberg, et al., 2010; Lane et al., 2009), initial work on an extended version, the SRSS–Internalizing and Externalizing scale, suggested that adding a few items to the SRSS would improve detection of internalizing behaviors (Lane, Menzies, Oakes, Lambert, et al., 2012; Lane, Oakes, Harris, et al., 2012).

Studies also established the predictive validity of SRSS scores in regard to behavioral and academic outcomes of elementary students. For example, in a study of 286 students in a diverse suburban school in California, Menzies and Lane (2012) found that SRSS scores predicted ODRs earned ($r = .48$), self-control skills (Social Skills Rating System, $r = -.59$), and language arts proficiency ($r = -.23$) at year's end. Similar results were found by Oakes and colleagues (2010) in a study of students attending three diverse urban Midwestern elementary schools. Findings indicated that students with higher levels of risk in the fall were likely to earn

more ODRs over the course of the academic year, and, to a lesser extent, to end the year with lower levels of oral reading fluency.

EVIDENCE AT THE MIDDLE SCHOOL LEVEL. In recent years, several psychometric studies have been conducted to explore the reliability and validity of using the SRSS with middle school students. Lane and colleagues (2007) conducted the first study with 500 sixth through eighth graders. Results suggested high internal consistency, test–retest stability, and convergent validity with the SDQ (a tool described in the next section). Also, the predictive validity of SRSS scores was established, with students in higher-risk categories earning more ODRs and in-school suspensions. Students in the low-risk category had higher GPAs and fewer course failures than students in the moderate- and high-risk categories.

Lane, Bruhn, and colleagues (2010) found similar outcomes in a series of studies exploring the reliability and validity of the SRSS in urban middle schools. In the first study ($N = 534$), the reliability of SRSS scores was confirmed, with alpha coefficients ranging from .84 to .89 across administrations. In addition, SRSS scores differentiated students in the low-risk category from those with moderate- to high-risk status on behavioral (ODR) and academic (GPA) measures. Results of the second study ($N = 528$) also indicated adequate internal consistency (.83–.88) and test–retest stability (.41–.71) over 2 academic years. Students in the low-risk category for fall data had statistically significantly fewer out-of-school suspensions, fewer unexcused absences, and higher GPAs than higher-risk students with risk 2 years later.

Just recently, initial evidence was also offered to establish the reliability of the extended version of the Student Risk Screening scale for Internalizing and Externalizing behavior at the middle school level (Lane, Oakes, Carter, Lambert, & Jenkins, in press).

EVIDENCE AT THE HIGH SCHOOL LEVEL. Two studies were conducted examining the utility of the SRSS at the high school level. Lane and colleagues (2008) conducted a study with 674 students in grades 9–12 at a rural high school. Results revealed adequate internal

consistency (.79–.86), test–retest stability over a 2-year period, interrater reliability between instructional and noninstructional raters, convergent validity between SRSS total scores and subscale scores of the SDQ, and predictive validity. High school students at low risk for antisocial behavior differed in ODRs and GPAs from students with moderate and high levels of risk. Lane, Oakes, Ennis, and colleagues (2013) also explored reliability and validity of SRSS scores with a sample of students in grades 9–12 at a large high school ($N = 1,854$, 2008–2009; $N = 1,920$, 2009–2010). Results yielded outcomes comparable to those found in Lane and colleagues (2008), as well as a new finding: Teacher ratings evaluating students' performance later in the course of the school day (after lunch period) were more predictive than teacher ratings conducted earlier in the day.

Overall, evidence from these lines of inquiry suggests that the SRSS is a reliable, valid tool for use with elementary through high school students.

Strengths and Difficulties Questionnaire

Description

The SDQ is another free-access, one-stage screening tool, available for use with students ages 3–16. The SDQ is an extensively researched, factor-analytically derived instrument containing 25 items, and it is used internationally by educational and clinical communities. This instrument was initially developed as a relatively brief alternative to other measures such as the TRF, which contains 118 items (five demonstration and 113 actual items).

The SDQ contains several versions (i.e., Teacher, Parent, and Student, with items slightly modified for the preschool Teacher and Parent as well as Student versions) and has been published in 70 different languages (see www.sdqinfo.com). The 25 items constituting each version are distributed equally across five scales: Emotional Symptoms (five items), Conduct Problems (five items), Hyperactivity/Inattention (five items), Peer Relationship Problems (five items), and Prosocial Behavior (five items). The first four scales are summed to provide a Total Difficulties score (20 items). Each version con-

tains items phrased negatively (e.g., often lies or cheats) as well as positively (e.g., considerate of other people's feelings). The rater evaluates the student (or the student rates him- or herself) on a 3-point Likert-type scale (0 = "not true," 1 = "somewhat true," or 2 = "certainly true") to determine the occurrence of each behavior over the past 6 months or current academic year.

As part of the scoring procedures, positively stated items are reverse-scored, such that higher ratings indicate higher levels of concern. Subscale scores range from 0 to 10, and the Total Difficulties score ranges from 0 to 40. Summed scores are compared to cutoff scores provided for each individual scale and the Total Difficulties score, and students are placed into one of three categories for each scale: normal, borderline, or abnormal.

In addition, an extended version of the SDQ was developed to inform intervention efforts and includes an impact supplement on the reverse side of the form. These items allow the rater to provide more information about the level of distress, chronicity of the concern, social implications, and relative impact on others. Also, there are follow-up SDQ versions to determine intervention outcomes.

Supporting Research

The SDQ is a well-researched tool, with several validation studies conducted to establish the reliability and validity of the Teacher, Parent, and Student (self-report) versions. To date, normative data are available for six countries: Australia, Britain, Finland, Germany, Sweden, and the United States. Studies have documented the reliability of the SDQ Teacher version as evidenced by high internal consistency, with Cronbach's alpha coefficients of .87 (Total Difficulties), .78 (Emotional Symptoms), .74 (Conduct Problems), .88 (Hyperactivity), .70 (Peer Problems), and .84 (Prosocial Behavior) (Goodman, 2001). Also, SDQ scores have concurrent validity with the Child Behavior Checklist (Achenbach, 1991) and the Rutter Questionnaires (Goodman & Scott, 1999; Rutter, 1967). SDQ scores identify students whose behavior patterns differ from normative behavior levels, detecting individuals as abnormal who had a previous psychiatric diagnosis with a specificity of 94.6% (95%

confidence interval [CI] = 94.1–95.1%) and sensitivity of 63.3% (CI = 59.7–66.9%; Goodman, 1997).

Studies conducted in recent years with samples in the southern region of the United States offer additional evidence of convergent validity between SDQ and SRSS scores. Specifically, studies conducted with school-wide, nonclinical samples at the elementary (Ennis, Lane, & Oakes, 2012), middle school (Lane et al., 2007), and high school (Lane et al., 2008) levels suggest convergent validity between SRSS and SDQ scores. For example, in a study of 448 elementary-age students attending an urban elementary school in a southern state, Pearson correlation coefficients between SRSS and SDQ total scores were statistically significant and moderately to highly positive, with scores ranging from .71 to .80 across fall, winter, and spring administrations. Correlations between SRSS total scores and SDQ Conduct Problems (.76–.85) and Hyperactivity (.60–.69) subscale scores were statistically significant, yielding moderate to high correlations. Correlations between SRSS total scores and SDQ Peer Problems subscale scores were moderate, with r values ranging from .41 to .58; correlations between the SRSS total scores and SDQ Emotional Symptoms subscale scores were low to moderate, ranging from .18 to .31 (yet still statistically significant). SRSS total scores were moderately negatively correlated with the SDQ Prosocial Behavior subscale scores at each administration, with correlation coefficients ranging from $-.46$ to $-.63$.

Comparable findings of convergent validity were established at the middle and high school levels as well. In a study of 500 students attending a rural middle school, Lane and colleagues (2007) reported that fall SRSS scores were moderately to highly positively correlated with the SDQ Total Difficulties ($r = .66$), Conduct Problems ($r = .51$), Emotional Symptoms ($r = .42$), Hyperactivity/Inattention ($r = .55$), and Peer Problems ($r = .41$) scores. Fall SRSS scores were also moderately negatively correlated with the SDQ Prosocial Behavior subscale scores ($r = -.44$), with comparable findings at winter and spring assessment points. Similarly, in a study of 674 students attending a rural high school, Lane and colleagues (2008)

also established convergent validity between SRSS and SDQ scores for instructional and noninstructional raters. For instructional raters, fall SRSS scores showed low to moderate positive correlations with the SDQ Total Difficulties ($r = .47$), Conduct Problems ($r = .39$), Emotional Symptoms ($r = .19$), and Hyperactivity/Inattention ($r = .53$) scores. Fall SRSS scores were also negatively correlated with the SDQ Prosocial Behavior subscale scores ($r = -.17$). For noninstructional raters, correlation coefficients suggested moderate to high relations between SRSS scores and SDQ Total Difficulties ($r = .74$), Conduct Problems ($r = .69$), Emotional Symptoms ($r = .58$), Hyperactivity/Inattention ($r = .67$), and Peer Problems ($r = .33$) scores. Fall SRSS scores were negatively correlated with the SDQ Prosocial Behavior subscale scores ($r = -.27$).

Overall, the SDQ is a widely researched tool. Evidence suggests that it is a reliable, valid tool for use with preschool and school-age students in several countries.

BASC-2 Behavioral and Emotional Screening System

Description

The BASC-2 BESS is part of a family of products that includes targeted assessment tools, intervention programs, and a computerized progress monitoring system. The BASC-2 BESS itself is a mass screener developed to assess behavioral strengths and concerns of students in preschool through high school. It identifies students' internalizing and externalizing risks, school problems, and adaptive skills. The BASC-2 BESS can help school personnel identify students experiencing behavioral or social issues that are negatively affecting their social relationships or academic achievement. Like the SDQ, the BASC-2 BESS offers Teacher, Student, and Parent versions of the measure, allowing for multiple perspectives. There are two levels of the Teacher and Parent versions: preschool (ages 3–5) and grades K–12. Students in grades 3–12 complete the Student form. The Parent and Student versions are also available in Spanish. The authors have developed an audio CD for parents and students who may struggle with readability.

The BASC-2 BESS is available in three different forms: (1) as a four-page paper booklet that can be hand-scored; (2) in Scantron format for electronic scanning and scoring with the accompanying ASSIST software (self-explanatory); and (3) as part of the AIMSweb electronic assessment and data management system (NCS Pearson Education, 2012). Raters completing the paper format fill out one form for each student. Depending on the version, there are 25–30 items (e.g., pays attention), and the student is rated on each with a 4-point Likert-type scale (“never,” “sometimes,” “often,” “almost always”). In the AIMSweb tool, student names may be entered individually, or the entire class can be uploaded electronically. Teachers can screen their entire class by clicking on a button (Assess Now) next to each student’s name and then clicking on the Likert-type scale choice. Once the teacher rates each item, a color-coded total score is generated instantly and displayed in a space next to each student’s name. There is also an option to generate reports for each student, class, school, or district. Once teachers are familiar with the process, it takes approximately 4–6 minutes per student to complete.

The BASC-2 BESS is norm-referenced and provides percentiles and *T* scores with which a student’s score can be compared to a norm group. The scoring report generates cutoff points for risk classification levels as follows: normal, elevated, and extremely elevated. Tables in the technical manual must be used for hand scoring. Raw scores are summed, and the corresponding *T* score or percentile is located in the appropriate tables. Both the electronic scoring option and the AIMSweb program provide automated scoring and report generation.

The authors developed three indexes to protect the validity of the measure. The Response Pattern Index detects whether too many items have been scored similarly, which can mean that the rater has not carefully read each item. The Consistency Index checks whether a rater has given a different rating to responses that would typically be rated similarly. The F Index is used to monitor for overly negative responses by comparing high ratings of negative items with low ratings of positive behaviors. These indexes are unique features of the BASC-2 BESS.

In addition, the BASC-2 BESS is part of a comprehensive program of behavioral assessments and interventions. When a school-site leadership team is developing a multi-tiered system of support (e.g., RTI, PBIS, or CI3T models of prevention), they may want to consider adopting other tools such as the BASC-2 Rating Scales for in-depth assessment of students who demonstrate some level of risk on the BASC-2 BESS. This can assist in developing secondary and tertiary interventions. In addition, the BASC-2 Intervention Guide offers detailed information on how to deliver 60 different interventions. As more schools make use of sophisticated educational technology, the electronic scoring and web-based applications available with the BASC-2 BESS allow a school to efficiently evaluate, monitor, and provide intervention opportunities for students. However, BASC-2 components are not inexpensive, and the total cost and time investment will have to be considered in choosing an instrument.

Supporting Research

The authors created this brief screening tool with items validated with the BASC-2 Rating Scales by analyzing data from a sample from the 4-year study conducted with the Teacher, Parent, and Student versions of the BASC-2 (DiStefano & Kamphaus, 2007; Kamphaus & Reynolds, 2007). The authors examined test–retest and interrater reliability, as well as criterion and predictive validity. The technical manual reports adjusted test–retest reliability coefficients ranging from .80 to .91. Of the three versions (Parent, Teacher, and Student), the most reliable scores are for students rated by teachers. Interrater reliability on the BESS compared mothers and fathers who completed parent forms. Coefficients were high at .83 for the preschool level and .82 for the child/adolescent level. Interrater reliability between teachers was .80 for the preschool level and .71 for the child/adolescent level.

The BASC-2 BESS was compared to other measures (including the BASC-2, from which it is derived) to establish criterion validity. The BASC-2 BESS (total scores) is highly correlated with the BASC-2 (global scores), with coefficients ranging from .86

to .94. The BASC-2 BESS also correlates adequately with aspects of the Achenbach System of Empirically Based Assessment (.71–.77; Achenbach & Rescorla, 2000) and the Conners Rating Scales—Revised (.51–.87; Conners, 1997).

Recent articles have examined technical properties of the BASC-2 BESS. To explore theoretical questions about test construction, Kamphaus, DiStefano, Dowdy, Eklund, and Dunn (2010) conducted a study with 472 elementary students from 20 schools in Los Angeles to examine alternative constructions of a universal screener. The authors compared the technical properties of the BASC-2 BESS Teacher version and the Behavior Assessment System for Children Teacher Rating Scale—Child (BASC TRS-C; Reynolds & Kamphaus, 1992). Results indicated that the Teacher version of the BASC-2 BESS was significantly correlated with the TRS-C in all domains: externalizing problems ($r = .764$), internalizing problems ($r = .523$), school problems ($r = .817$), and adaptive skills ($r = -.820$). The teacher version scores also demonstrated (1) moderate correlations with student grades (math, $r = -.445$, and English language arts, $r = -.448$) and norm-referenced tests (math, $r = -.447$, and English language arts, $r = -.432$); (2) high sensitivity (.94); and (3) adequate internal consistency ($\alpha = .939$).

A peer-reviewed study by Renshaw and colleagues (2009) indicated that the BASC-2 BESS scores have concurrent validity with teacher ratings of academic and behavioral skills, as measured by academic, engagement, and behavioral indicators from the report cards of 26 third graders and 22 fourth graders in two suburban schools. Correlations between BASC-2 BESS and composite scores were $-.55$ for academic achievement, $-.61$ for engagement, and $-.51$ for behavioral performance. Renshaw and colleagues also reported evidence from an analysis of variance conducted between the mean composite scores of students identified as at risk by the BASC-2 BESS compared to those not so identified; the results suggested that BASC-2 BESS scores accurately discriminate between students who do and do not have behavioral problems. Similarly, Kamphaus and Reynolds (2007) reported evidence in the technical manual indicating that BASC-2 BESS teacher scores were sig-

nificantly correlated with reading achievement ($-.26$ [Year 3] to $-.43$ [Year 2]), math achievement ($-.19$ [Year 3] to $-.52$ [Year 0]), and GPA ($-.46$ [Year 1] to $-.65$ [Year 2]). Collectively, these findings provide evidence that BASC-2 BESS teacher scores are predictive of academic performance 4 years following initial ratings.

Dowdy and colleagues conducted a series of studies exploring the factor structure of the BASC-2 BESS. Dowdy, Chin, Twyford, and Dever (2011) examined the factor structure of the Parent form, using exploratory factor analysis (EFA) followed by confirmatory factor analysis (CFA) using two subsets of a nationally represented sample. Results indicated that the screener contained a four-factor latent structure: Externalizing, Internalizing, Adaptive skills, and Inattention. Dowdy, Twyford, and colleagues examined the factor structure of the Student version, following a comparable analytic plan with three samples. Results of EFA indicated that the student version contained a four-factor structure: Personal Adjustment, Inattention/Hyperactivity, Internalizing, and School Problems. Findings were consistent with the results of CFA conducted with two additional samples.

Dowdy, Dever, DiStefano, and Chin (2011) explored the validity of the BASC-2 BESS for students with limited English proficiency (LEP) by comparing scores from the BASC-2 BESS Teacher version and a comprehensive behavioral rating scale for elementary-age students with LEP ($n = 142$) and those classified as English-proficient ($n = 110$). Findings suggested that most items could be considered invariant between these two groups. Results also explored how behavior ratings on invariant measures varied at the mean level for student groups. Moreover, students with LEP did not have rates of internalizing or externalizing behaviors differing from those of English-proficient students, but were rated as having more school problems and fewer adaptive skills. The authors reported that these findings were in line with previous research and suggest the BESS is capturing difficulties related to language acquisition issues.

Overall, these studies of the BASC-2 BESS provide sufficient evidence for its use as a mass screening tool at the preschool through high school levels.

Social Skills Improvement System Performance Screening Guide

Description

The SSIS-PSG is a universal screening tool that offers versatility because it evaluates performance in both behavioral and academic areas: Prosocial Behavior, Motivation to Learn, Reading Skills, and Math Skills. Like the BASC-2 BESS, the SSIS-PSG is part of a family of tools for use within three-tiered models to support social skills development.

The SSIS includes several products: (1) the universal screener (SSIS-PSG) to screen students for behavioral and motivation issues, academic performance, and prosocial behavior, and to monitor progress on target skills; (2) the SSIS Classwide Intervention Program (SSIS-CIP; Elliott & Gresham, 2007a), to serve as a primary prevention (Tier 1) program of 10 core social skills that can be taught by classroom teachers; (3) the SSIS Rating Scales (SSIS-RS; Gresham & Elliott, 2008), to conduct in-depth assessments of students' academic and social behaviors and identify areas for intervention; and (4) the SSIS Intervention Guide (SSIS-IG; Elliott & Gresham, 2008), offering interventions (secondary and tertiary) customized to each student's area of need.

The SSIS-PSG has versions specific to preschool, elementary, and secondary students. Teachers evaluate each student's performance on a rating scale (1–4 for preschool and 1–5 for elementary and secondary). The measure is relatively quick to administer; it takes approximately 30 minutes to assess a class of 25 students in all four domains. The SSIS-PSG consists of an 8½- × 11½-inch booklet of six double-sided pages. Inside the front cover is an overview of the purpose of the instrument and how to administer it. The back cover includes spaces to enter the teacher's name, school name, grade level, completion date, and the purpose of the evaluation (classwide screening, progress monitoring, or program evaluation). The interior of the booklet contains four separate sheets with performance descriptors for each area (Prosocial Behavior, Motivation to Learn, Reading Skills, and Math Skills) that line up with a column where students' names are entered. Next to each name is a rating scale, which is used to indicate each

student's level of performance in the area under consideration. After entering all the student names into the Class Roster Scoring Summary Sheet (which is the column for the student names with an accompanying 4- or 5-point scales for each domain), the rater starts by reading the definition of the first performance skill area and descriptions of each of the accompanying rating levels. When familiar with the performance skill definition and the descriptions for each level of performance, the rater evaluates each student's current level of functioning and circles the level (1–4 or 1–5) that most directly corresponds to the student's ability in that area.

A detailed description is provided for each performance level for the four areas. After rating students on Prosocial Behavior (the first area), the teacher (or other rater) flips the page to the next performance skill area and follows the same procedure. The pages are designed so that it is not necessary to reenter student names every time the rater considers a new performance skill area. After students have been rated in all four areas, the page is turned, and each student's level for all of the performance areas is easily visible. The columns can be visually scanned to determine which students have scores of 1 or 2 in any of the performance areas, indicating that the student is experiencing some risk. On this same page, there are two additional boxes. One box is for entering the names of all students who have a rating of 1 (highest risk, red band) in any of the four areas. The other box is for entering the names of students who have a rating of 2 (some risk, yellow band) in any of the four areas. Each box also includes a line for recording what action will be taken to assist students who have ratings of 1 or 2. In this way, a student at risk for poor performance in any of the areas has been systematically and objectively identified.

Supporting Research

Development and field testing of the SSIS-PSG took place during the standardization of the SSIS-RS, with 138 teachers in the United States completing the SSIS-PSG for students in their class (30 preschool, 76 elementary, and 32 high schools). Results of a usability study examining teachers' perceptions about the quality and utility of the SSIS-PSG are

reported in the technical manual. Teachers reported that the SSIS-PSG required nominal time (≈ 30 minutes), with 98% indicating behaviors included in the screening tool as important. Overall, teachers viewed the SSIS-PSG as clearly written and easy to use.

The authors examined test–retest and interobserver reliability during the standardization of the measure. Twenty-five teachers rated 543 students (64 preschool, 302 elementary, and 177 secondary), with an average of 74 days between administrations. Results suggested adequate test–retest reliability, according to the intraclass correlations reported. Test–retest reliability coefficients were generally higher for the elementary (range = .68–.74) and secondary (range = .56–.73) versions than for the preschool version (range = .53–.62).

Field testing for interrater reliability included 44 teachers who administered the measure in 22 classrooms to 434 students. Second raters included team teachers, instructional aides, reading specialists, or colleagues. Correlations for interrater reliability had more variability, with a low of .37 (no other correlation was below .55) for Prosocial Behavior at the secondary level to .73 for Reading Skills at the preschool level.

Elliott and Gresham established concurrent validity of the SSIS-PSG scores with SSIS-RS (Teacher version) scores, using a sample of 22 preschoolers and 63 elementary or secondary students. The authors reported correlations across forms and ages between the SSIS-RS mean scale (Social Skills, Problem Behaviors, and Academic Competence) and subscale (e.g., Communication, Cooperation, Assertion, etc.) scores. Results indicated average levels of Social Skills and Problem Behaviors. Also, there was a positive relation between SSIS-RS Social Skills scores and SSIS-PSG Reading Skills, Math Skills, and Motivation to Learn scores, as well as a negative relation between SSIS-RS Problem Behaviors and SSIS-PSG scores.

Kettler, Elliott, Davies, and Griffin (2011) conducted a predictive validity study with a sample of Australian third- and fifth-grade students ($N = 360$) to examine the extent to which SSIS-PSG scores predicted future achievement on a new Australian national achievement test administered midyear. Teachers also completed the SSIS-RS on a subset of students ($n = 178$). Results estab-

lished concurrent validity between SSIS-RS (Teacher version) and SSIS-PSG scores. There was also evidence of predictive validity, with both SSIS-PSG scores and SSIS-RS scores predicting performance on year-end achievement tests, working best when used together. Importantly, the SSIS-PSG had high sensitivity (.95), suggesting that a large proportion of students performing below minimum standard were identified correctly.

Like the BASC-2, the SSIS family of products can be very useful as leadership teams design, implement, and evaluate CI3T models addressing academic, social, and behavioral domains. Evidence supports the use of the SSIS-PSG as a reliable and valid screening measure.

Logistical Considerations for Conducting Systematic Screenings

In this section, we focus on a few key issues to consider regarding screenings: how to select, when to administer, how to prepare, how to administer, and how to score and interpret.

How to Select

We strongly encourage all school-site and district-level leadership teams to support systematic screenings for social and behavioral performance as well as academic performance. In our view, the question should not be “Should we conduct behavior screenings?” Instead, we should ask, “Which behavior screening tool should we use?” (Lane, Menzies, et al., 2012). Essentially, the general educator “is the primary link between a student who is in trouble and the necessary school-based evaluation and intervention services” (Walker & Severson, 1990, p. 1).

We encourage leadership teams selecting a screening tool to review the available information describing existing tools as well as the psychometric rigor of the tools available. Team members should pay special attention to the norming samples used in the studies conducted, to ensure that the tool is appropriate for use with their school’s or district’s demographics. The goal is to achieve a balance between issues of social validity or fea-

sibility (e.g., cost, personnel time, and effort) and issues of psychometric rigor (reliability and validity), to make certain that the tool is both manageable and appropriate for the intended purpose.

Next, we encourage leadership teams to consider several questions: What age levels or grade levels of students are being served (preschool, elementary, middle, or high school)? What types of concerns are prevalent in the school or district (e.g., internalizing and externalizing behaviors, motivational issues)? Are team members interested in obtaining multiple perspectives (teachers, parents, and students)? Do they have the financial resources to purchase screening tools, or are they restricted to no-cost measures? How much teacher time are they prepared to devote to screening (e.g., 10–15 minutes/class or 5–10 minutes/student)? Do they prefer electronic or paper-and-pencil formats? Are they seeking a tool that also has companion resources to link students to secondary (Tier 2) or tertiary (Tier 3) strategies and practices? What are state and district policies in regard to screenings (e.g., information letters to parents, passive consent, active consent)? These are some of the considerations to be weighed in selecting a screening tool to implement as part of regular school practices. We do not recommend a particular tool, but we do encourage leadership teams to make informed decisions (see Table 8.1 in Lane, Menzies, et al., 2012, to guide the decision process).

Once a tool is selected, we recommend that team members review all available information provided in accompanying technical manuals, if available, before implementing the screenings. In the following sections, we offer additional guidelines based on the 15 years of our work conducting systematic screenings across the continuum from pre-kindergarten through high school.

When to Administer

If behavioral screenings are adopted as part of regular school practices, we recommend completing ratings three times a year: approximately 6–8 weeks after the onset of the academic year (to allow teachers time to familiarize themselves with students' behavior patterns); prior to winter break; and again in spring prior to year's end. Fall data can be

analyzed in conjunction with academic data to identify students for secondary (Tier 2) and tertiary (Tier 3) supports following the first screening time point. Changes between fall and winter scores can be used to examine how individual students respond to primary prevention (Tier 1) efforts, with a goal of implementing targeted supports following winter break, as warranted. Also, winter scores can be used as one type of exit criteria for students who began receiving secondary and/or tertiary support programs after the first screening (Lane, Kalberg, et al., 2011; Lane, Menzies, et al., 2012). Spring scores can be used to plan for the following year (e.g., class assignments, additional targeted supports needed), as well as to examine year-end performance. For any screening tool, it is important that a student has been enrolled in the school for at least 30 days before the given screening time point.

How to Prepare

Most screening tools come with explicit instructions on how to prepare the screening materials. For example, the SSBD and ESP contain reproducible forms, with instructions for preparing screening packets for each teacher rating his or her home-room students. The SSIS-PSG is a screening booklet, with instructions provided. The SDQ and BASC-2 BESS can be completed either online or in paper-and-pencil format; instructions are provided for both. The SRSS can be created in an Excel file or Word document and can be completed electronically or with paper and pencil. It is important to check the accuracy of any document (e.g., to make sure that items appear in the exact wording required and the correct Likert-type scale is presented). Many school-site teams work with office staff (e.g., attendance clerks) to be certain that all students are evaluated.

How to Administer

Because data security is essential, we recommend that screening measures be completed on secured network drives, on secured websites, or (for paper-and-pencil measures) during regularly scheduled faculty meetings (see www.privacyrights.org/fs/fs29-education.htm#3 for information on

students' privacy rights). If all staff members involved in screening come together for the first and/or second screening time point each year, administration instruction can be shared with the full faculty, to ensure procedural fidelity and provide an opportunity for clarifying questions. It is important to refresh all teachers on the procedures at the onset of each year, and it is particularly critical to explain the procedures to newly hired teachers. Teachers should individually rate each student and should not discuss their scores with each other, as these tools are only validated for use by individual raters. Discussions of screening results are best suited for intervention team meetings where action plans are made. Also, because these conversations may violate the privacy rights of students, district policies for notifying parents of these intervention team meetings must be followed.

How to Score and Interpret

We recommend that the leadership team responsible for overseeing the screening process be familiar with the details of scoring and interpreting outcomes of the selected screening tool. We also encourage building reliability checks into the screening process to ensure procedural fidelity of not only the preparation and administration steps, but also scoring and interpretation. For example, consider the SRSS. Teachers can compute each student's total score by either using a formula in Excel or performing simple addition for each row of scores. Although this seems a simple task, we recommend the computation be verified before determining students' risk status. Ideally, teachers will leave the faculty meeting with a list of students' individual risk scores and corresponding risk categories (low, moderate, and high). As previously mentioned, this information can be used to (1) create a graph of the overall level of risk at a given point in time or over time for the school or grade level; and (2) determine (with other data sources) those students for whom primary prevention efforts are proving insufficient. We advise that completed screeners be kept at the school site and not emailed (if prepared electronically) to avoid unintentionally sending them to someone who does not have permission to view them.

Recommendations to Consider before Conducting Systematic Screenings

In addition to these practical considerations, we offer more global recommendations to consider before conducting systematic screening. We focus on three points that are developed more fully in Lane, Menzies, and colleagues (2012).

Develop Expertise

As discussed at the start of this chapter, central to multi-tiered systems of support is precise detection of students who need additional support beyond primary prevention practices. Although many educators have received extensive training in how to administer academic screening tools, less emphasis has been placed on conducting behavioral screenings. We feel that this is a major shortcoming due to the transactional nature of academic and behavioral performance.

Information on social and behavioral strengths and deficits can be highly important information for adjusting or enhancing instruction. Students whose anxiety impedes their participation in class activities may suffer both academically and socially (Caprara et al., 2000; Malecki & Elliott, 2002). Teachers need the opportunity—professional development, time, and other resources—to learn how to conduct behavioral screenings, with emphasis on accurately detecting students and using this information to inform instruction. Teachers need support in learning about the options available with respect to existing school supports.

Once a screening tool is selected, teachers also need support in learning the logistics, with an emphasis on how data from academic and behavioral screening tools can be used as part of a transparent, resource-effective, equitable system for linking students to needed evidence-based secondary and tertiary supports (Lane, Oakes, et al., 2010). As the scientific community develops new information as to “what works” for students with various needs, it is important to provide the time and professional development needed to stay informed with respect to evidence-based practices. All stakeholders—administrators, teachers, related personnel, parents, and students themselves—should be informed of the benefits and consequences

of screening and given opportunities to build skills in screening and intervention efforts.

Establish Structures to Support Screening

Another recommendation is to develop structures needed to sustain and improve screening practices as new information is developed through school–university partnership research. One key consideration here is time. Teachers are confronted with an already enormous set of demands each day. Behavioral screening cannot be another task added to their existing responsibilities unless time is provided for it within the school schedule, such as professional development days, regularly scheduled faculty meetings, and grade-level or department-level planning meetings. This time can be used to prepare, administer, score, and interpret screening data.

When interpreting performance, staff members should analyze behavioral and academic screening data in conjunction with data from other sources (e.g., attendance, treatment integrity of the primary plan). This information can be used together to determine appropriate next steps. For example, if a student is often absent from school and/or is in a setting where the primary prevention programs are not implemented with sufficient integrity (e.g., <80%), this student should not be considered unresponsive. Instead, intervention efforts should focus on refining the primary plan's implementation (Lane, Oakes, Menzies, Oyer, & Jenkins, 2013). We recommend that the time set aside for behavioral screening also be used for collaboration with other school-site personnel experts, such as literacy specialists, behavior specialists, school psychologists, and mental health professionals. Then their expert advice can be considered during the process of linking students to additional supports, monitoring responsiveness, and deciding when these additional supports should be concluded or modified.

Planning time is also needed to examine the quality and efficiency of the school's overall three-tiered model, to ensure that students have the benefit of a well-implemented primary plan. Adequate time is necessary to assess treatment integrity (how the plan is being implemented), social validity (perceptions of the plan's goals, procedures, and

outcomes), and shifts in students' performance patterns (academically, behaviorally, and socially).

Screen Responsibly

Although we strongly recommend that school-site leadership teams conduct behavioral screening, we emphasize that such screening must be conducted responsibly. First and foremost, team members should review federal, state, and local guidelines to ascertain what is permitted with respect to behavioral screenings for instructional purposes. We encourage leadership teams to become familiar with the IDEA Regulations of 2006, Sections 300.301 through 300.311, and with the Protection of Pupil Rights Amendment of 1978 (see Kamphaus & Reynolds, 2007). Below the federal level, guidelines and practices vary across states and even across districts. For example, some states do not require parental consent for academic and behavioral screenings conducted as part of regular school practices, whereas others require either active or passive parental consent prior to screening. Active consent requires parents to provide express written permission before their children are screened. Passive consent requires parents to return a signed letter if they *do not* want their children to participate in the screening process. Regardless of the procedures in place regarding screenings, parents must be informed if Tier 2 or Tier 3 supports are being considered.

Second, leadership teams need to have systems and structures in place within the context of their multi-tiered model to assist students identified via screening tools as needing additional supports. This is an enormous responsibility. It would be irresponsible to conduct screenings, identify students for whom primary prevention efforts are not sufficient, and *not* offer additional assistance. In the medical profession, this would be akin to conducting a breast cancer screening and then not providing treatment options for those with identified concerns.

Clearly, there are other considerations warranting careful thought before conducting screenings. However, we contend these are three particularly salient issues.

Summary

In this chapter, we provide professionals dedicated to serving students with or at risk for EBD with a user-friendly “desk reference” on systematic behavioral screening tools. We have provided a description and an overview of the psychometric properties of six screening tools: the SSBD, ESP, SRSS, SDQ, BASC-2 BESS, and SSIS-PSG. We have addressed logistical issues and provided recommendations such as developing expertise, establishing infrastructure, and screening responsibly. We hope that the content will prove useful to practitioners, university students, and researchers interested in promoting prevention and intervention for students at risk for EBD.

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Social Skills Assessment and Training in Emotional and Behavioral Disorders

Frank M. Gresham and Stephen N. Elliott

Children and youth with serious emotional, behavioral, and social difficulties present substantial challenges for schools, teachers, parents, and peers. These challenges cut across disciplinary, instructional, and interpersonal domains, and they frequently create chaotic home, school, and classroom environments. Children with or at risk for emotional and behavioral disorders (EBD) often overwhelm schools' capacity to accommodate their instructional and disciplinary needs effectively (Walker, Ramsey, & Gresham, 2004). Schools are charged with teaching an increasingly diverse student population in terms of prevailing attitudes, beliefs, behavioral styles, and racial/ethnic and language backgrounds. In addition, pressures for higher academic standards and outcomes for all students are reaching nearly unattainable levels for students with severe emotional and behavioral challenges.

This chapter reviews the evidence-based literature on social skills assessment and intervention strategies for children and youth with or at risk for EBD. We begin the chapter with a discussion of the conceptualization of social competence; we describe how social skills can function as academic enablers and how problem behaviors can function as academic disablers. We then discuss various methodological and conceptual

issues in social skills interventions (SSIs) and detail specific social skills assessment strategies. We follow this discussion with a description of SSI strategies and provide a discussion of multi-tiered SSI programs. The chapter concludes with a discussion of this literature's implications for the EBD field.

Conceptualization of Social Competence

An important distinction in the theoretical conceptualization of social behavior is the distinction among the concepts of "social skills," "social tasks," and "social competence." Social skills can be conceptualized as a specific class of behaviors that an individual exhibits to complete a social task successfully. Social tasks might include such things as entering a peer group, having a conversation, making friends, or playing a game with peers. Social competence, in contrast, is an evaluative term based on *judgments* (given certain criteria) that an individual has performed a social task adequately. Social agents base these judgments on numerous social interactions with given individuals within natural environments (e.g., home, school, community). Given this conceptualization, social skills are specific behaviors exhibited in specific situations

that lead to judgments by others that these behaviors are competent or incompetent in accomplishing social tasks (Gresham, 2010).

Gresham (1986) suggested that evaluations of social competence might be based on three criteria: (1) relevant judgments of an individual's social behavior (e.g., by peers, teachers, and parents); (2) evaluations of social competence relative to explicit, pre-established criteria (e.g., number of steps successfully performed in the completion of a social task); and (3) social-behavioral performances relative to a normative standard (e.g., scores on standardized social skills rating scales). It is important to note that social behaviors in and of themselves cannot be considered "socially skilled," apart from their impact on the judgments of social agents in a given social environment.

Social Skills as Academic Enablers

Researchers have documented meaningful and predictive relationships between children's social behaviors and their long-term academic achievement (DiPerna & Elliott, 2002; Malecki & Elliott, 2002; Wentzel, 2009). It has been documented that children who have positive interactions and relationships with their peers are more academically engaged and have higher levels of academic achievement (see Wentzel, 2009, for a review). The notion of "academic enablers" evolved from the work of researchers who explored the relationship between students' nonacademic behaviors (e.g., social skills and motivation) and their academic achievement (Gresham & Elliott, 1990; Malecki, 1998; Wentzel, 2005, 2009; Wentzel & Watkins, 2002).

Academic enablers are the attitudes and behaviors that allow students to participate in and ultimately benefit from academic instruction in the classroom. Research using the Academic Competence Evaluation Scales (DiPerna & Elliott, 2000) showed that academic enablers were moderately related to students' academic achievement as measured by standardized achievement tests (median $r = .50$). In a major longitudinal study, Caprara and colleagues found that teacher ratings of prosocial behavior in third grade were better predictors of eighth-grade academic achievement than academic achievement in

third grade was (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000).

Most researchers have concluded that positive peer interactions promote displays of competent forms of social behavior, which in turn promote successful academic performance. Behaviors such as cooperation, following rules, and getting along with others are related to efficient classrooms and allow students to benefit from academic instruction (Gresham & Elliott, 2008; Walker, Irvin, Noell, & Singer, 1992). Displays of prosocial behavior patterns, and restraint from disruptive and antisocial forms of behavior, have been consistently and positively related to peer acceptance, achievement motivation, and academic success (Wentzel, 2009). Socially competent behavior provides the essential basis for learning that allows students to benefit from classroom instruction (DiPerna & Elliott, 2002; Elliott & Gresham, 2007; Wentzel & Looney, 2007).

Problem Behaviors as Academic Disablers

Whereas social skills or prosocial behaviors function as academic enablers, it has been documented that problem behaviors, particularly externalizing behavior patterns, interfere with or compete with the acquisition and performance of both social and academic skills (Gresham, 2010; Gresham & Elliott, 2008; Walker et al., 1992). In other words, these competing problem behaviors have been known to function as "academic disablers," in that they are associated with decreases in academic performance. Children with externalizing behaviors such as aggression, noncompliance, and/or teacher defiance often have moderate to severe academic skill deficits that are reflected in below-average academic achievement (Coie & Jacobs, 1993; Hinshaw, 1992; Offord, Boyle, & Racine, 1989; Reid, 1993). It is unclear whether these academic problems are primarily the correlates (moderators), causes (mediators), or consequences of problem behaviors; however, there is little doubt that they greatly exacerbate them. The nature of this relationship should be expected to vary across children. As these children progress through their school careers, their academic deficits and achievement problems become even more severe (Walker et al., 2004).

Types of Social Skills Deficits

An important conceptual consideration in designing and delivering SSIs is distinguishing between different types of social skills deficits. Gresham (1981a) first distinguished between social skill “acquisition deficits” and “performance deficits.” Since that time, other researchers in the social skills area have supported this distinction (Elliott & Gresham, 2008; Gumpel, 2007; Maag, 2005; Merrell, 2003; Walker et al., 2004). The distinction is important because different SSI approaches to remediating the two types of deficits are indicated, and different settings (e.g., general education classrooms versus pullout groups) are required for Tier 2 selected interventions.

Acquisition deficits result from the lack of knowledge about how to perform a given social skill, an inability to enact a sequence of social behaviors fluently, or difficulty in knowing which social skills are appropriate in specific situations (Gresham, 2002, 2010). According to this conceptualization, acquisition deficits can result from deficits in social-cognitive abilities, difficulties in integrating fluent behavior patterns, and/or deficits in appropriate discrimination of social situations. Acquisition deficits can be characterized as being more of a “can’t do” problem because the child has difficulty in performing a given social skill under the most optimal conditions of motivation. Remediation of these types of deficits requires direct instruction of social skills in protected settings that will promote the acquisition of socially skilled behaviors.

Performance deficits can be conceptualized as the failure to perform a given social skill at an acceptable level, even though the child knows how to perform the social skill. These types of social skills deficits can be thought of as more of a “won’t do” problem because the child knows what to do, but chooses not to perform a particular social skill in given situations. These types of social skills deficits can better be thought of as motivational or performance problems than as learning or acquisition problems. As such, remediation of these types of deficits often requires manipulation of antecedents and consequences in naturalistic settings to increase the frequency of these behaviors.

What empirical evidence exists that supports this theoretical distinction between acquisition and performance deficits? We (Gresham & Elliott, 1990) provided the first empirical attempt to quantify this distinction, the Social Skills Rating System (SSRS). Each SSRS social skill item is rated on a 3-point frequency dimension (0 = “never,” 1 = “sometimes,” 2 = “very often”) and a 3-point importance dimension (0 = “not important,” 1 = “important,” 2 = “critical”). In a general population, acquisition deficits received a frequency rating of 0 (“never”) and an importance rating of 1 (“important”) or 2 (“critical”), whereas performance deficits received a frequency rating of 1 (“sometimes”) and an importance rating of 2 (“critical”). This approach enjoyed widespread acceptance and use over the next 18 years until a revision of the SSRS, the Social Skills Improvement System Rating Scales (SSIS-RS), was published (Gresham & Elliott, 2008). Social skills on the SSIS-RS are rated on a 4-point frequency dimension (0 = “never,” 1 = “seldom,” 2 = “sometimes,” 3 = “very often”) and a 3-point importance dimension (0 = “not important,” 1 = “important,” 2 = “critical”). With this method, acquisition deficits have been found in a general population to receive a frequency rating of 0 (“never”) and an importance rating of 1 (“important”) or 2 (“critical”), whereas performance deficits receive a frequency rating of 1 (“rarely”) and an importance rating of 2 (“critical”).

Recently we investigated the base rates of social skills acquisition and performance deficits, using the national standardization data of the SSIS-RS (Gresham, Elliott, & Kettler, 2010). Participants were 4,550 children and adolescents ages 3–18 years, with equal numbers of males and females; they were matched to the U.S. population with regard to race/ethnicity, socioeconomic status, and geographic region. Using the SSIS-RS methodology for identifying social skill acquisition and performance deficits, we identified the base rates for social skill acquisition deficits across teacher, parent, and student raters as extremely low, with less than 1% of the standardization sample showing these types of deficits. In short, social skills acquisition deficits appear to be a rare phenomenon in a representative nor-

mative sample of children and adolescents. It should be noted, however, that the base rates of social skill acquisition deficits are most certainly higher in at-risk and clinical populations.

Role of Competing Problem Behaviors

Another important consideration in the conceptualization of social skills deficits is the influence of “competing problem behaviors” on the acquisition and performance of social skills (Gresham & Elliott, 1990, 2008). Competing problem behaviors effectively compete with, interfere with, or “block” either the acquisition or performance of a given social skill. Competing problem behaviors can be broadly classified as either externalizing behavior patterns (e.g., noncompliance, aggression, or impulsive behaviors) or internalizing behavior patterns (e.g., social withdrawal, anxiety, or depression). For example, a child with a history of noncompliance, oppositional, and impulsive behavior may never learn prosocial behavior alternatives such as sharing, cooperation, and self-control because of the absence of opportunities to learn these behaviors caused by the competing function of these externalizing behaviors (Eddy, Reid, & Curry, 2002). Similarly, a child with a history of social anxiety, social withdrawal, and shyness may never learn appropriate social behaviors, but for a different reason: Avoidance of the peer group creates an absence of opportunities to learn peer-related social skills (Gresham, Van, & Cook, 2006).

Social skills performance deficits have been previously described as being due primarily to motivational variables, rather than to a lack of knowledge or learning about how to enact a given social skill. One of the most conceptually powerful learning principles that can be used to explain the relationship between social skills performance deficits and competing problem behaviors is the “matching law” (Herrnstein, 1961, 1970). This law states that the relative rate of any given behavior matches the relative rate of reinforcement for that behavior. In other words, response rate matches reinforcement rate. Matching is studied in “concurrent schedules of reinforcement”—that is, an experimental arrangement in which two

or more behaviors are reinforced according to two or more simultaneous, but quantitatively different, schedules of reinforcement (i.e., concurrently).

Matching involves the issue of “choice behavior,” in that behaviors having a higher rate of reinforcement will be “chosen” more frequently than behaviors reinforced at lower rates. Research in naturalistic classroom environments has consistently shown that behavior rates observed under concurrent schedules of reinforcement closely follow the matching law (Martens, 1992; Martens & Houk, 1989; Martens, Lochner, & Kelly, 1992; Snyder & Stoolmiller, 2002).

Maag (2005) has suggested that one way to decrease competing problem behaviors is to teach “positive replacement behaviors,” using what he calls “replacement behavior training” (RBT). RBT may help solve many of the problems described in the social skills training literature, such as poor generalization and maintenance, modest effect sizes, and social invalidity of target behavior selection. The goal of RBT is to identify a prosocial behavior that will replace a competing problem behavior. Conceptually, RBT depends on identifying “functionally equivalent behaviors.” Behaviors are said to be functionally equivalent if they produce similar or greater amounts of functionally relevant reinforcement from the environment (Horner & Billingsley, 1988).

History of Selected SSIs

The importance of social competence for children with or at risk for serious social behavioral difficulties has been translated into various service delivery and instructional approaches to remediate deficits in social skills functioning. SSIs are designed to remediate children’s acquisition and performance deficits and to reduce or eliminate competing problem behaviors (Elliott & Gresham, 2008; Gresham & Elliott, 2008; Gresham, Sugai, & Horner, 2001). From the late 1970s to early 1980s, SSIs targeted poorly accepted or rejected children; these interventions were linked to the developmental literature, research on interpersonal dynamics, and the longitudinal course of poor peer relations (Bierman & Powers,

2009; Parker & Asher, 1987). By the early 1990s, SSIs were incorporated into epidemiologically based, long-term, multicomponent interventions, targeting children with significant behavior problems such as conduct disorder and attention-deficit/hyperactivity disorder (Conduct Problems Prevention Research Group, 1992; MTA Cooperative Group, 1999). From 2000 to the present, SSI research has focused primarily on promoting behavior change in special needs populations and has often been embedded in disorder-specific, multicomponent intervention models. Despite these advances, a comprehensive framework that facilitates the identification of theoretical and methodological common ground across SSI studies is currently lacking, and this lack has resulted in a disparate empirical literature on SSIs (Bierman & Powers, 2009).

Methodological and Conceptual Issues in SSIs

In meta-analytic reviews of the literature, SSIs have been shown to produce, on average, medium effect sizes. These effect sizes suggest that almost two-thirds of children and youth receiving SSIs will improve their social-behavioral competencies. Three major issues have been proffered repeatedly in the literature to account for SSI outcomes: (1) matching treatments to the types of social skills deficits displayed, (2) treatment integrity issues, and (3) types of outcome measures used (Ang & Hughes, 2001; Beelmann, Pfingsten, & Losel, 1994; Gresham, 1997, 1998; Gresham et al., 2001; Maag, 2005, 2006; Schneider, 1992). Each of these issues is discussed in the following sections.

Matching Interventions to Types of Deficits

Studies in the various meta-analyses described above failed to match specific types of social skills deficits to specific types of intervention strategies. Most SSI studies deliver an intervention to children with an almost complete disregard for the types of social skills deficits children might have (Gresham, 1998). In fact, most research suggests that little if any systematic effort is devoted to specifically assessing whether

children should be taught the specific target behaviors they receive in SSI programs.

As described earlier, an important distinction in conceptualizing social skills deficits is the difference between *acquisition* and *performance* deficits. Instructional strategies for remediating acquisition deficits are fundamentally different from those strategies for remediating performance deficits and theoretically derive primarily from social learning theory and cognitive-behavioral therapy. Instructional procedures for acquisition deficits assume that a child does not have a social skill in his or her repertoire or does not know a critical step in performing the social skill in a sequence of behaviors. As such, intervention procedures for these types of deficits must directly teach the social skill in question, using direct instructional strategies (e.g., modeling, coaching, behavioral rehearsal, and performance feedback). These interventions typically take place in small-group, pullout settings and include a combination of direct instructional strategies (see Elliott & Gresham, 2008).

Procedures for remediating performance deficits are based on arranging antecedents and consequences for the performance of desired behaviors and derive primarily from principles of applied behavior analysis. These interventions typically occur in naturalistic settings (e.g., classrooms, playgrounds) and include a combination of antecedent-based and consequence-based intervention procedures (Cooper, Heron, & Heward, 2007; Crone, Hawken, & Horner, 2010; Elliott & Gresham, 2008).

Treatment Integrity Issues

There is little evidence in the meta-analyses of the SSI literature as to the degree to which these interventions were implemented as planned or intended. In short, we cannot judge from the extant SSI literature whether these interventions were implemented with integrity. Treatment integrity is usually conceptualized as involving three dimensions: (1) “treatment adherence,” or the degree to which an intervention is implemented as planned or intended; (2) “interventionist competence,” or the interventionist’s skill and experience in implementing a particular treatment; and (3) “treatment differentiation,” or the extent to which interven-

tions differ on critical dimensions (Nezu & Nezu, 2008; Perepletchikova, Treat, & Kazdin, 2007). Conceptually, treatment adherence represents a quantitative dimension of treatment integrity, in that it can be measured in terms of the number of critical treatment components that are implemented (Gresham, 1989, 2009). Therapist or interventionist competence might be conceptualized as more of a qualitative dimension of treatment integrity because it reflects the quality with which the treatment procedures are delivered. Finally, treatment differentiation represents theoretical distinctions of different aspects of two or more treatments.

The relationship between treatment adherence and interventionist competence can be confusing because competence presupposes adherence, but adherence does not presuppose competence. One can adhere to a particular intervention with perfect integrity, but can do so in an incompetent manner. A breakdown in treatment integrity in this case would dictate training and feedback to ensure a more competent delivery of a treatment. A breakdown in adherence would dictate performance feedback and training in key components of an intervention plan (Noell, 2008).

Given the paucity of treatment integrity data in the SSI literature, we do not know whether a given SSI was ineffective because it was a poor treatment or whether it would have been effective if it were implemented with higher integrity. Moreover, because data on interventionist competence is sparse in the SSI literature, we do not know the degree to which competence moderates outcomes of SSIs.

Treatment adherence is often measured by using an accuracy criterion that reflects the extent to which observations scored by observers match those of a predetermined standard (see Cone, 1988). Specifying intervention components in standard and absolute terms and computing percentages of accuracy can establish the accuracy of any assessment method. The value of an independent variable (the intervention) is known prior to an intervention's implementation, whereas the value of a dependent variable (outcome measure) can be known only after an intervention has been implemented (Peterson, Homer, & Wonderlich, 1982).

Types of Outcome Measures

The magnitude of effect sizes reported in the various meta-analyses of the SSI literature varies as a function of the type of outcome measure used in particular studies. For example, the meta-analysis by Beelmann and colleagues (1994) showed the largest effect sizes for social-cognitive tests ($d = 0.77$), followed by direct observations ($d = 0.49$). The smallest effect sizes were reported for peer sociometrics ($d = 0.13$) and parent-teacher reports ($d = 0.10$). In contrast, the meta-analysis by Ang and Hughes (2002) reported identical effect sizes for behavior ratings, behavioral observations, and self-reports ($d = 0.46$) and the largest effect size for measures of skill acquisition ($d = 1.09$). Clearly, the interpretation of the effects of SSIs is influenced greatly by the type of outcome measure used in a given study.

Outcome measures in SSIs can be classified based on a social validity criterion (Gresham, 1983; Gresham et al., 2001; Wolf, 1978). In this classification system, these measures represent socially valid treatment goals because social systems (e.g., schools, mental health agencies) and significant others (teachers, parents) refer children on the basis of these treatment goals. These measures are socially valid in the sense that they predict long-term outcomes that are important to society including such events as school dropout, delinquency, adult mental health difficulties, and arrest rates (Kupersmidt, Coie, & Dodge, 1990; Parker & Asher, 1987; Walker et al., 2004). These measures might include sociometric status, friendship status, and various types of archival data (e.g., office disciplinary referrals, school suspensions, and arrest rates).

Other measures are not in and of themselves inherently socially valid, but they are indicators or correlates of children's standing on socially valid measures. The most common of these types of measures are systematic direct observations of social behavior in naturalistic settings, such as classrooms, playgrounds, home, and community settings. A major advantage of these measures is that they tend to be highly sensitive in detecting short-term treatment effects. One weakness in the SSI literature is that these measures of social behavior are often not based on a sound theoretical or empirical framework

or taxonomy. Advances in this respect are the taxonomy developed by Caldarella and Merrell (1997) and the social skill domains found in the SSIS-RS (Gresham & Elliott, 2008), from which theoretically sound direct observation measures can be developed.

More recent work using direct behavior ratings—hybrid measures with characteristics of both direct observations and behavior rating scales—hold promise as less expensive and time-consuming alternatives to systematic direct observations (Chafouleas, Christ, Riley-Tillman, Briesch, & Chanese, 2007). Another alternative to direct observations is the development of *change-sensitive* brief behavior rating scales. Change sensitivity is a quantifiable characteristic of an item on a behavior rating scale, and several statistical metrics can be calculated to quantify, rank, and interpret items according to their change sensitivity. Gresham, Cook, and colleagues (2010), for example, developed a 12-item brief behavior rating scale, using items from the Teacher version of the SSRS (SSRS-T; Gresham & Elliott, 1990); the 12-item scale was found to be technically adequate in terms of internal consistency and criterion-related validity.

Social Skills Assessment Strategies

Several viable methods exist for assessing children's social skills: direct observations, interviews, role plays, and rating scales. Over the past 20+ years, however, the most frequently used methods for assessing social skills have been rating scales (Crowe, Beauchamp, Catroppa, & Anderson, 2011; Humphrey et al., 2011). There are several reasons for this preference for rating scales. First, rating scales are relatively efficient tools for representing summary characterizations of individuals' observations of other people or their own behavior. As noted by Elliott and Busse (2004), rating scales are imperfect "mirrors" for reflecting images of individuals' social, emotional, and personal functioning; yet, in many cases, the information reflected by a well-constructed rating scale can be very useful to researchers and practitioners alike. Of course, there are many investigators and practitioners who believe that direct observations are the "gold standard" for assessing social behavior.

In research like that of Doll and Elliott (1994), the term "gold" takes on added meaning. That is, observations can be expensive in terms of time if observers are to achieve a highly representative sampling of the targeted behaviors. For example, Doll and Elliott addressed the issue of how many observational data are enough in a study of preschoolers' social behavior. They used a correlational research design to examine the number of classroom observations it would take to gain an accurate and representative sample of a preschool child's social behavior. Twenty-four children were observed, and a partial interval-sampling procedure was used. Observations were conducted over 6 weeks, and each child was observed for nine 20-minute periods in his or her classroom through one-way mirrors during free-play periods. Doll and Elliott compared early observation sessions to later sessions, using correlations and kappa coefficients; they also compared the results of the complete set of nine observation sessions to those of the first session, the first two sessions, the first three sessions, and so on. Results from these comparisons indicated that neither two nor three observation sessions were sufficient, from a reliability perspective, to describe a consistent pattern of social behavior. After five observations, six out of eight behaviors correlated highly ($r = .80$) with the total observation record. From these data, the authors concluded that at least five 20-minute observation sessions across several weeks would adequately represent students' social skills.

Doll and Elliott (1994) also found that the type of behavior accounted for the variation in predictability of behaviors. Some behaviors, such as directed play or physical aggression, were much more consistent in their occurrence than other behaviors. A less consistent social behavior, such as sharing, often depended more on context or setting events than did other behaviors and was therefore difficult to predict even with seven or eight observations. The authors concluded that, "depending upon the behaviors of interest for a particular child, observational records might need to be quite lengthy before a sufficiently consistent description of child behavior can be recorded" (p. 234).

Rating scale technology today represents one of the primary and most efficient meth-

ods used by researchers to describe and categorize children's behaviors and attitudes, and identify target behaviors in need of intervention. Behavior rating scales and inventories are versatile assessment tools and are the most common methods for quantifying teacher and parent judgments (Edelbrock, 1983; Elliott & Busse, 2004; Merrell, 2003). Rating scales can be used repeatedly, across settings, and by numerous sources (i.e., teachers, parents, therapists, children themselves) to provide multiple indicators of a wide range of behavior. Well-designed behavior rating scales essentially are raters' summary characterizations of recent observations and experiences with children or youth. Of course, rating scales have limitations and must be used as part of a more comprehensive database to increase the likelihood that their resulting scores are reliable and valid.

Rating scales are more than checklists or survey questionnaires of children's and youth's observable behaviors or self-reported emotions or attitudes, although they often have much in common with checklists and survey questionnaires. As discussed in detail by Elliott and Busse (2004), the following six assumptions help to differentiate rating scales from less rigorous assessment tools and serve as part of the defining attributes for the rating scales.

- *Assumption 1:* Ratings are efficient summaries of observations of specific behaviors or response classes of behavior. These observations typically feature the frequency dimension of human behavior.
- *Assumption 2:* Ratings of behavior are evaluative judgments affected by the environment and a rater's standards for behavior.
- *Assumption 3:* Multiple raters of a child's behavior may agree only moderately.
- *Assumption 4:* Rating scales can be used to make both norm-referenced and criterion-referenced decisions.
- *Assumption 5:* The social validity of behaviors assessed and possibly treated should be understood. Socially valid behaviors are those behaviors that society considers important, encourages, and reinforces.
- *Assumption 6:* The user's purpose and theoretical framework are compatible

with those of the rating scale he or she selects to use.

Practical and Technical Issues That Influence Use of Rating Scales

Base Rates

Knowing the base rates of phenomena is important because one cannot know how unusual or typical a phenomenon is without first knowing its base rate in the population. That is, accurate diagnostic and prognostic statements can frequently be made on the basis of extant actuarial data, thereby not requiring the use of a psychometric device (Meehl & Rosen, 1955). Several of the points made in Meehl and Rosen's (1955) classic paper on base rates are particularly germane to the assessment of social skills. First, base rates are rarely reported in the clinical assessment literature; therefore it is impossible to know whether a given psychological assessment device will produce a greater number of correct decisions than simply using extant actuarial data (i.e., base rates) will. Second, data provided by most psychological assessment tools are not sufficient to determine the efficiency of those tools in other settings where base rates are substantially different. This is because sample sizes are frequently too small to determine the optimal cutoff points for valid decision making. Third, the type of population to which a given assessment instrument will be applied is often unclear because base rates will necessarily vary, depending on the clinical population to which one is interested in generalizing. Fourth, the results of psychological assessment research are often reported only in terms of significance tests reflecting group differences, rather than the number of correct decisions (true positives and true negatives) for individuals within those groups. Thus the practical value of a sign, pattern of responding, or cutoff score depends on the intrinsic validity of a test in discriminating among categories and the base rate of the phenomenon one is trying to predict (Gresham, Elliott, & Kettler, 2010).

As such, Gresham, Elliott, and Kettler (2010) recently established the base rates of social skills acquisition/performance deficits, social skills strengths, and prob-

lem behaviors. Using the national standardization sample of the SSIS-RS ($N = 4,550$) across three types of informants (teacher, parent, and student) and across three broad age groupings (3–5 years, 5–12 years, and 13–18 years), we found that base rates for social skills acquisition deficits and problem behaviors were extremely low in the general population. Base rates for social skills performance deficits and social skills strengths were considerably higher, with students ages 5–12 years reporting fewer performance deficits and strengths than older children (13–18 years) as well as teachers and parents across all three age groups.

Multiple Informants

Typically, informants are teachers, parents, and children themselves. Some behavior rating scales are for teachers only; other rating scales are for parents only or children only; and still others utilize all three informants. Some informants are in a better position to rate certain behaviors. For instance, teachers are in a better position to rate attention span, classroom behaviors, social interactions in school settings, and the like. Parents are likely to be more knowledgeable about behaviors such as sleep disturbances, sibling interactions, mealtime behaviors, and so forth.

The best practice in using behavior rating scales is to employ multiple informants to rate the same child's behavior, to provide a more complete view of the child's behavior across situations and settings (Edelbrock, 1983; Gresham & Elliott, 1990). By using multiple informants, one can discern which behaviors tend to occur across a variety of situations and which behaviors appear to be situationally specific. This information can be of use in classification decisions as well as for intervention planning. Of course, researchers have repeatedly found that multiple informants often agree only moderately at best (Achenbach, McConaughy, & Howell, 1987; Gresham, Elliott, Cook, Vance, & Kettler, 2010; Ruffalo & Elliott, 1997).

Self-Report Assessments

Self-report assessments require individuals to provide standardized information about

themselves, such as thoughts, feelings, and physical experiences. They allow researchers and practitioners to gain information about an individual's own perceptions, which can "provide 'red flags' that may be indicative of general social or emotional distress" (Merrell, 2003, p. 180), and in some cases they can isolate specific areas of concern in which additional assessment is needed. Self-report information can be used in screening and can aid in making diagnoses and formulating interventions. Kazdin (1986) recommended the use of self-reports in the assessment of children's internalizing symptoms, and several researchers have documented the utility of having children assess their own anxiety levels (Edelbrock, Costello, Dulcan, Kalas, & Conover, 1985).

A number of concerns, however, about the use of self-report measures have been noted. First, self-report measures require individuals to provide information about their own perceptions, which are relatively subjective (McConaughy & Ritter, 1995), are often retrospective in nature (Kratochwill & Shapiro, 2000), and are often setting-specific (Kazdin, 1979). Self-report measures of behavior also need to be developmentally appropriate for their intended population, and users must consider respondents' cognitive, language, and reading abilities. These factors may play a significant role in determining whether responses are valid. Other factors that influence the validity of respondents' completion of a self-report scale are commonly referred to as "response bias factors," including faking, acquiescence, or social desirability (Merrell, 2003). Despite criticism or concerns about self-report measures, they play a role in research and the comprehensive assessment and treatment of students with social-emotional difficulties. The multidimensional scales described later in this chapter include self-report measures that can be used in a multiaxial assessment and have created methods for detecting faking or likely response bias.

Validity of Rating Scales with Direct Observation

As with any assessment instrument, the scores from a rating scale need to have evidence for their valid use. Given that behav-

ior rating scales are intended to be indirect observational measures, it is logical that an important part of the validation effort for a rating scale is to compare its results with those from direct observations of the same target child. This logic is especially true within a behavioral model of assessment, wherein direct observation is considered the “gold standard” for which all other assessments should be compared. Few authors of behavior rating scales, however, report information about the relationships between ratings and observations. This may surprise readers, but most direct observation systems and behavior rating scales differ in several significant ways that result in only a modest comparability of results. As noted by Elliott and Busse (2004), a key difference is that behaviors targeted for direct observation are often far more molecular or discrete than those operationalized by items on a rating scale. Another difference is that the results from a direct observation of behavior are rarely aggregated across response classes or subscales, as they are on most behavior rating scales. In addition, behavior assessed via a direct observation is often limited to one or two discrete skills, whereas on a rating scale it is common to gather information on 50 or 60 behaviors or skills. These differences in coverage and scoring reduce the comparability of the results of direct and indirect observational assessments, and thus decrease concurrent validity estimates.

The research data are limited regarding how much observational data one should collect to gain a representative sample of behavior, whereas many behavior rating scales suggest that the rater summarize his or her observations over the past month or two. To ensure representativeness, an observational procedure should acquire a sufficiently large sample of behavior, but it can only be estimated how often the periods of observation should occur and how long they should last (Johnston & Pennypacker, 1980). As noted in one of our fundamental assumptions about rating scales, it is considered a best practice to use a multisource, multimethod approach in the assessment of children’s social-emotional behavior. One must recognize, however, that variance exists in all assessments. Common sources of variance stem from different methods,

informants, settings, and times. Given this variance, it is important to consider two fundamental measurement principles: There is error in all measures, and tests are samples of behavior.

The reaction to these principles has been to use multiple sources and multiple methods to reduce error and gain more representative samples, despite the chance that there may not be high agreement among the methods or sources. For example, Achenbach and colleagues (1987), in a meta-analysis of 119 studies where agreement among informants’ ratings of children’s behavior was examined, found that the mean correlations between all types of informants were statistically significant, yet moderate in magnitude. Similar informants (e.g., pairs of teachers, pairs of mental health workers) had the highest correlations (mean $r = .64$ and mean $r = .54$, respectively). Informants with different roles (e.g., teacher–parent pairs) had lower correlations, but still significant, with the highest occurring between teacher and observer pairs (mean $r = .42$). Mean agreement between pairs of observers was $r = .57$.

Though different informants using the same assessment method can have significant levels of agreement, it is another issue to conclude that different assessment methods share consistency. Elliott, Gresham, Freeman, and McCloskey (1988) found that teachers’ and observers’ ratings on the SSRS-T (Gresham & Elliott, 1990) and observers’ observations correlated moderately with observed behaviors. Likewise, Merrell (1993b) found that correlations between the Child Behavior Checklist—Direct Observation Form (Achenbach & Edelbrock, 1986) and the School Social Behavior Scales (SSBS; Merrell, 1993a) were weak to moderate between teachers and observers for problem behavior scores ($r = -.06$ to $-.39$) and moderate for on-task ratings ($r = .26$ to $.52$).

Research conducted with observation systems designed to be used with specific rating scales also has shown only moderate correlations between the two methods. Robertson (1993) and Racine (1994) both researched the relationship between observations and ratings, using an observation system designed by Robertson to be used with the SSRS-T. Robertson found moderate correlations between teachers’ and observers’ rat-

ings (mean $r = .58$), but low to moderate correlations (mean $r = .38$) between teachers' ratings and observers' observations.

In summary, behavior rating scales appear to be more than an aggregation of a series of structured direct observations. The rater is often a "participant" in the environment where the target child behaves, and the behavior to be rated is often a more comprehensive collection of skills than typically operationalized via a direct observation system. Rating scales offer an efficient means for collecting data to create a relatively comprehensive picture of functioning. Although some behaviorists will argue that rating scales are not the "gold standard" for assessing children's and youth's social skills, they are definitely a part of a sound multiple-measure, multiple-source assessment. And for many practitioners, with limited time and the need to sample a range of social behaviors, behavior rating scales are a critical component of their assessment for intervention work.

Frequently Used Social Skills Rating Scales

Several social skills rating scales are currently available; however, only four of them have sufficiently large and representative standardization samples, adequate psychometric properties, and customer-friendly availability from reputable test publishers. These scales are (1) the SSIS-RS (Gresham & Elliott, 2008); (2) the Walker-McConnell Scales of Social Competence and School Adjustment (Walker & McConnell, 1995); (3) the SSBS (Merrell, 1993b); and (4) the Preschool and Kindergarten Behavior Scales (Merrell, 1994). Due to space considerations, only the SSIS-RS is discussed in the following section.

For a more comprehensive review of measures of children's social function, we recommend two recent reviews (Crowe et al., 2011; Humphrey et al., 2011). Specifically, Crowe and his colleagues (2011) identified 86 measures in the research literature on social function assessment tools for children and adolescents, while Humphrey and colleagues (2011) identified 189 such measures, but focused on only 12 that met rigorous psychometric criteria.

Social Skills Improvement System Rating Scales

As noted earlier in the chapter, the SSIS-RS (Gresham & Elliott, 2008) is a revision of the SSRS (Gresham & Elliott, 1990). Both the SSRS and the SSIS-RS are sold today because there continues at least a research demand for the SSRS. The SSRS, according to Humphrey and colleagues (2011), is the most widely cited measure of children's and youth's social-emotional behavior over the past 20 years, with more than 1,300 published studies in which it was used. The SSRS (Gresham & Elliott, 1990) is a broad-based, multiple-rater assessment of students' social behavior that examines teacher-student relations, peer interactions, and academic performance. The SSRS and SSIS-RS are the only social skills rating scales that yield information from three key rating sources: teachers, parents, and students. These assessments solicit information from these three sources in grades 3–12 and from parents and teachers for children ages 3–5. The two instruments also have three forms reflecting three developmental age ranges: preschool (ages 3–5 years), elementary (grades K–6), and secondary (grades 7–12). The SSRS and SSIS-RS focus on a comprehensive assessment of social skills. In addition, they measure problem behaviors that often compete with the acquisition and/or performance of socially skilled behaviors. The Teacher version of the two rating scales also includes a measure of academic competence because poor social skills, competing problem behaviors, and poor academic performance often co-occur.

Although similar to the SSRS, the SSIS-RS has a number of advantages over its predecessor: (1) updated national norms; (2) four additional subscales (Communication, Engagement, Bullying, and Autism Spectrum); (3) greater overlap in topics covered across raters, improved psychometric properties, and validity scales; (4) Spanish versions of the Parent and Student forms; (5) scoring and reporting software; and (6) a direct link from item scores to skill-focused interventions. Table 8.1 compares key features of the SSRS and the SSIS-RS (Gresham, Elliott, Vance, & Cook, 2011). All forms of the SSIS-RS include common social skills across seven subdomains: Communication, Coop-

TABLE 8.1. Features of the SSRS and SSIS-RS

Rating scale features	SSRS	SSIS-RS
Scales	<ul style="list-style-type: none"> • Social Skills • Problem Behaviors • Academic Competence (Teacher only) 	<ul style="list-style-type: none"> • Social Skills • Problem Behaviors • Academic Competence (Teacher only)
Social Skills subscales	<ul style="list-style-type: none"> • Cooperation (10 items, all forms) • Assertion (10 items, all forms) • Responsibility (10 items, all forms) • Self-Control (10 items, all forms) 	<ul style="list-style-type: none"> • Cooperation (6 items, Parent/Teacher; 7 items, Student) • Assertion (7 items, all forms) • Responsibility (6 items, Parent/Teacher; 7 items, Student) • Self-Control (7 items, Parent/Teacher; 6 items, Student) • Communication (7 items, Parent/Teacher; 6 items, Student) • Empathy (6 items, all forms) • Engagement (7 items, all forms)
Problem Behaviors subscales	<ul style="list-style-type: none"> • Externalizing (6 items, all forms) • Internalizing (6 items, all forms) 	<ul style="list-style-type: none"> • Externalizing (12 items, all forms) • Internalizing (10 items, Parent/Student; 7 items, Teacher) • Bullying (5 items, all forms) • Hyperactivity/Inattention (7 items, all forms) • Autism Spectrum (15 items, Parent/Teacher; 0, Student)
Rating dimensions and descriptive anchors	<ul style="list-style-type: none"> • Frequency (never, sometimes, or very often) • Importance (not important, important, or critical) 	<ul style="list-style-type: none"> • Frequency (never, seldom, often, or almost always) • Importance (not important, important, or critical)
Points on scales	<ul style="list-style-type: none"> • 3-point frequency rating (0–2) • 3-point importance rating (0–2) 	<ul style="list-style-type: none"> • 4-point frequency rating (0–3) • 3-point importance ratings (0–2)
Respondent forms	<ul style="list-style-type: none"> • Parent form • Teacher form • Student Elementary form • Student Secondary form 	<ul style="list-style-type: none"> • Parent form • Teacher form • Student Ages 8–12 form • Student Ages 13–18 form
Number of Social Skills items	<ul style="list-style-type: none"> • Parent form, 39 items • Teacher form, 30 items • Student Elementary form, 34 items • Student Secondary form, 34 items 	<ul style="list-style-type: none"> • Parent form, 46 items • Teacher form, 30 items • Student Ages 8–12 form, 46 items • Student Ages 13–18 form, 46 items
Number of Problem Behaviors items	<ul style="list-style-type: none"> • Parent form, 10 items • Teacher form, 10 items • Student Elementary form, 0 items • Student Secondary form, 0 items 	<ul style="list-style-type: none"> • Parent form, 33 items • Teacher form, 30 items • Student Ages 8–12 form, 29 items • Student Ages 13–18 form, 29 items
Number of Academic Competence items	<ul style="list-style-type: none"> • Teacher form, 9 items 	<ul style="list-style-type: none"> • Teacher form, 7 items
Average time to complete form	<ul style="list-style-type: none"> • Parent form, 20 minutes • Teacher form, 15 minutes • Student forms, 20 minutes 	<ul style="list-style-type: none"> • Parent form, 15–20 minutes • Teacher form, 15–20 minutes • Student forms, 25 minutes
Other system components	<ul style="list-style-type: none"> • Assessment–Intervention Record (AIR) • Intervention Guide • Computerized Scoring ASSIST 	<ul style="list-style-type: none"> • Performance Screening Guide (PSG) • Classwide Intervention Program (CIP) • Intervention Guide (IG) • Computerized Scoring ASSIST

eration, Assertion, Responsibility, Empathy, Engagement, and Self-Control. Each item on the SSIS-RS is rated on a 4-point frequency scale (0 = "never," 1 = "seldom," 2 = "often," and 3 = "almost always"), according to the rater's perception of the frequency of the behavior. In addition, all SSIS-RS forms (except the Student Elementary form) use a 3-point importance rating (0 = "not important," 1 = "important," 2 = "critical") as a means of identifying deficits requiring immediate intervention.

The Teacher and Parent forms include problem behaviors from the following five subdomains: Externalizing, Bullying, Hyperactivity/Inattention, Internalizing, and Autism Spectrum. The Teacher form includes an Academic Competence scale measuring student performance in reading, math, motivation, parental support, and general cognitive functioning. Scores on the three main scales (Total Social Skills, Total Problem Behaviors, and Total Academic Competence) are expressed as standard scores ($M = 100$, $SD = 15$).

The SSIS-RS was normed on a nationwide representative sample totaling 4,700 children and adolescents ages 3 through 18 years, who were assessed in 115 sites in 36 states. Each age group sample was designed to have equal numbers of males and females and to match the U.S. population with regard to race/ethnicity, socioeconomic status, and geographic region.

The SSIS-RS has strong psychometric properties in terms of internal consistency and test-retest reliability estimates. Median scale reliabilities of the Social Skills and Problem Behavior scales were in the mid- to upper .90s for every age group on each form. Coefficient alpha was also in the upper .90s for the Academic Competence scale. Median subscale reliabilities were in the high .80s for the Teacher form, the mid-.80s for the Parent form, and near .80 for the Student form. All alpha coefficients were equal to or exceeded .70. Test-retest indices for Total Social Skills were .82 for the Teacher form, .84 for the Parent form, and .81 for the Student form. Test-retest indices for Total Problem Behavior were .83 for the Teacher form, .87 for the Parent form, and .77 for the Student form. Median subscale stability indices for the Social Skills subscales were in the .80s across Teacher, Parent, and Student forms

and in the .80s for the Problem Behavior subscales across all three raters. The stability estimate for the Academic Competence scale was .92.

SSI Strategies

Teaching social skills to children involves many of the same fundamental methods used to teach academic concepts. Effective teachers model correct behavior, elicit an imitative response, provide corrective feedback and reinforcement, and arrange opportunities to practice the new skills. A review of the research literature and several existing social skills intervention programs (Elliott & Gresham, 2007) identified six effective and research-proven components or intervention phases of effective social skills improvement programs: tell (coach), show (model), do (behavioral rehearsal), practice (repeated practice), monitor progress (self-evaluate), and generalize (practice similar behavior in a related environment).

Effective teachers or other school-based interventionists also use their knowledge of behavior management methods to address children's social skill performance deficits. Performance deficits, as previously defined, are due primarily to motivational variables rather than to a lack of knowledge or learning about how to enact a given social skill. Many of the students with the most significant problems will have both social skill deficits and competing problem behaviors that need attention. As described earlier in this chapter, Maag (2005) has suggested that one way to decrease competing problem behaviors is to engage in what he calls RBT. The goal of RBT is to identify a prosocial behavior that serves the same function as the competing or inappropriate problem behavior; thus it depends on identifying functionally equivalent behaviors (Horner & Billingsley, 1988). An RBT approach would identify a prosocial behavioral alternative, such as completing work and paying attention to the teacher, that would result in peer and teacher attention. RBT depends largely on principles derived from the matching law (Herrnstein, 1961, 1970), in which the rates of reinforcement for prosocial behavior are increased and rates of reinforcement for competing problem behaviors are

decreased, thereby encouraging children to choose appropriate behaviors over inappropriate behaviors. Elliott and Gresham (1991, 2007) have recommended similar strategies based on differential reinforcement techniques to decrease occurrences of competing problem behaviors and increase occurrences of prosocial behaviors.

Overview of SSI Efficacy and Examples of Tier 1 Programs

As noted earlier, SSIs produce moderate effect size estimates when conventional standards for effect sizes are used, as summarized in seven recent meta-analyses (Ang & Hughes, 2001; Beelmann et al., 1994; Cook et al., 2008; Losel & Beelman, 2003; Quinn, Kavale, Mathur, Rutherford, & Forness, 1999; Schneider, 1992; Schneider & Byrne, 1985). This quantitative evidence suggests that almost two-thirds of children receiving SSIs will improve, compared to only one-third of children in control groups. In summary, these meta-analytic reviews of the social skills intervention literature suggest that these interventions are generally effective for children with or at risk for serious behavioral disorders. Also, all of the studies in these reviews should be considered Tier 2 or selected interventions because these interventions typically are delivered on an individual or small-group basis. No studies in these reviews could be considered Tier 1 or universal interventions, and none of the studies could be characterized as function-based Tier 3 interventions; thus there are obvious gaps in the literature.

A number of universal or Tier 1 social skills programs have begun to emerge, with the primary goal of promoting positive social behavior in school settings. Although many of these programs have a strong theoretical evidence base or include strategies and tactics based on empirical evidence, a smaller number of these universal programs have been empirically tested. Such universal programs include the Good Behavior Game (Barrish, Saunders, & Wolf, 1969); Promoting Alternative Thinking Strategies (PATHS; Kusché & Greenberg, 1994); the Incredible Years (Webster-Stratton & Hancock, 1998); and the SSIS Classwide Intervention Program (SSIS-CIP; Elliott &

Gresham, 2007). Table 8.2 summarizes the key characteristics of each approach, along with the current evidence base for its use in the elementary grades. Although all of these programs share some similarities, there are differences as well. We focus on one universal social skill intervention program in this chapter, the SSIS-CIP, which is widely used and has been used in an Institute of Education Sciences (IES) research grant awarded to one of us (Frank M. Gresham).

The SSIS-CIP (Elliott & Gresham, 2007) focuses on teaching and increasing 10 skills: (1) listening to others, (2) following directions, (3) following classroom rules, (4) ignoring peer distractions, (5) asking for help, (6) taking turns in conversations, (7) cooperating with others, (8) controlling one's temper in conflict situations, (9) acting responsibly with others, and (10) showing kindness to others. These 10 skills were chosen on the basis of research conducted with teachers, who rated them as most critical to classroom success from preschool to early adolescence (Gresham & Elliott, 2008).

Three versions of the SSIS-CIP accommodate different developmental levels: preschool and kindergarten, lower elementary, and upper elementary and middle school. The content of the SSIS-CIP units at each level focuses on helping students acquire and apply the same 10 social skills; however, the content of the intervention program at each level has been customized to accommodate (1) developmental differences in the amount of required reading, (2) the ages of social models used in video vignettes, and (3) the nature of interactions students are expected to engage in when applying their social skills. Otherwise, the implementation of the CIP curriculum by classroom teachers is structurally similar. The SSIS-CIP skill units are supported with student booklets, video vignettes, and several other resources to foster student and parent involvement. Each of the 10 SSIS-CIP skill units is taught across three 20- to 25-minute lessons per week for about 10 weeks (a total of 30 lessons). Conceptually, each lesson follows the six-phase instructional model presented earlier: tell (coaching), show (modeling), do (role plays), practice (behavioral rehearsal), monitor progress (feedback), and generalize (application in multiple settings). An additional 2 weeks of review are built into

TABLE 8.2. Comparison of Universal Positive Classroom Behavior Programs

Program	Primary goal	Target skills/behaviors	Target grades	Guiding theory	Format/method	Evidence base
Good Behavior Game (Barrish et al., 1969)	Reduce classroom disruption, aggression, and shyness	<ul style="list-style-type: none"> Talking or verbal disruption Aggression and physical disruption Out-of-seat behavior Noncompliance 	1–6	Behavior modification	Interdependent group contingency teams; review of conduct rules followed by brief (10- to 20-minute) daily probes	Effective results on aggressive, disruptive behavior, and youth violence in over 10 studies across grades 3–5; endorsed by AFT and U.S. Surgeon General Behavior effect sizes: 0.18–0.71
Incredible Years: Child Training Program (Webster-Stratton & Hancock, 1998)	Reduce conduct problems; promote social, emotional, and academic competence	<ul style="list-style-type: none"> Peer aggression and disruption Social skills and cooperation Understanding of feelings Conflict management skills Academic engagement 	PreK–3	Social learning (Patterson, 1982)	Classroomwide curriculum; two to three times weekly in 20- to 30-minute circle discussions	Four randomized studies in grades K–2; improved social skills, positive conflict management, and playground aggression with peers Behavior effect sizes: –0.14–1.00
PATHS Curriculum (Kusché & Greenberg, 1994)	Facilitate self-control, emotional awareness, and interpersonal problem-solving skills	<ul style="list-style-type: none"> Improvement of self-control Conflict resolution strategies Aggressive responses Problem-solving skills 	K–6	Affective–behavior–cognitive–dynamic (ABCD) model (Greenberg & Kusché, 1993)	Daily class curriculum; 20–40 minute lessons for approximately 22 weeks	Three randomized controlled clinical trials across grades 1–6; improved understanding of social problems, alternative solutions, and violence reduction Behavior effect size: 0.40
SSIS-CIP (Elliott & Gresham, 2007)	Learn and apply social skills; enable academic achievement and enhance interpersonal relationships	<ul style="list-style-type: none"> Cooperation Assertion Responsibility Empathy Self-control 	PreK–8	Behavioral and social learning	Ten sequenced units on social skills, with each unit consisting of three 25- to 30-minute weekly lessons organized into a six-phase instructional approach	Efficacy study (randomized controlled trial) currently being completed

Note. Incredible Years includes the Dina Dinosaur Social Skills and Problem-Solving Curriculum. PATHS, Promoting Alternative Thinking Strategies; SSIS-CIP, Social Skills Improvement System Classroomwide Intervention Program.

the program. The SSIS-CIP teacher's guide instructs teachers to review their classwide progress monitoring data and to identify priority skills that need to be retaught. Thus the entire program lasts 12 weeks. The teacher's guide provides detailed plans for each lesson, including instructional objectives, suggested instructional scripts (detailed use of video vignettes and integration of student activity books), and take-home activities for students.

The SSIS-CIP and its Tier 2 companion program, the Intervention Guide (SSIS-IG; Elliott & Gresham, 2008), were recently evaluated in an IES-sponsored project directed by Gresham (2008–2010). During the first year of this project, 450 students in 22 classrooms were exposed to a universal social skills intervention program, the SSIS-CIP. At the conclusion of this program, classroom teachers rated students in their classrooms on the Performance Screening Guide (SSIS-PSG), a criterion-referenced measure on which students' prosocial behavior is rated on a 5-point Likert scale (1 = "very limited" to 5 = "excellent").

After the Tier 1 SSIS-CIP intervention, approximately 13% of students did not respond adequately to the program as measured by PSG ratings. Students receiving PSG ratings of 1 ("very limited") or 2 ("limited") were rated by these same classroom teachers on the SSIS-RS (Gresham & Elliott, 2008). Students rated as having social skills of 1 standard deviation below the mean (< 16th percentile or a standard score of < 85) targeted as potential participants in the Tier 2 SSIS-IG selected intervention program. Of the 59 possible Tier 2 qualifiers, 40 students (68%) met the SSIS-RS criteria.

Outcome measures for all students were collected both before and after the intervention, using the SSIS-RS (pre–post). Biweekly direct classroom observations were collected to examine the percentage of time students were academically engaged in classroom activities. We also collected data on absences, office discipline referrals, and weekly conduct grades. In addition, we created Daily Behavior Reports (DBRs) and utilized these to track specific target behaviors from the teacher's perspective. At the conclusion of the interventions, teachers completed an exit interview assessing intervention effectiveness and acceptability.

Outcome data for the SSIS-IG intervention showed promising results as indicated by substantial improvements across all outcome measures. On the SSIS-RS, students had a mean pretest score of 67 (2nd percentile or 6.7 normal curve equivalents [NCEs]) and a mean posttest score of 83 (13th percentile or 26.3 NCEs), or a change of 12 percentile ranks (19.4 NCEs). Systematic direct observations of academic engaged time showed a mean pretest score of 69.5% and a mean posttest score of 81.8% (a change of 12.2%). Teacher-rated DBRs had a mean pretest score of 4.30 and a mean posttest score of 6.15 (a change of 1.85). Mean weekly conduct grades improved from a pretest of 62% to a posttest of 70% (8% change). Treatment integrity for the SSIS-IG averaged 93.39%, demonstrating that it can be implemented accurately over the duration of the intervention.

In summary, both the SSIS-CIP and SSIG-IG interventions show promise for improving students' social behaviors, as evidenced by observed changes in social skills and problem behaviors on a variety of outcome measures. The CIP is based on the effective intervention components identified in the empirical research literature, and it represents the next generation of a widely used and commercially available social skills intervention program that has a strong theoretical and empirical evidence base.

Conclusions and Implications

Social skills have been shown to function as academic enablers for children and youth, in that they allow students to benefit from academic instruction. Behaviors such as cooperation, rule following, and paying attention in class are related to efficient classrooms and produce academic benefits for students. Despite the salutary effects of social skills, not all children have a sufficient social skills repertoire to allow them to profit maximally from academic instruction. We have described two basic types of social skills difficulties: acquisition deficits ("can't do" problems) and performance deficits ("won't do" problems). These two types of social skills problems require very different approaches to remediation (direct instruction vs. contingency management).

We have also described the role of competing problem behaviors that interfere either with the acquisition or performance of specific social skills. The “matching law” has been presented as a conceptually powerful principle that describes how and why competing problem behaviors may occur more frequently than prosocial behaviors. RBT has been discussed as a promising approach to social skills interventions (Maag, 2005).

Various Tier 1 or universal intervention programs have been described in this chapter. These include the Good Behavior Game, the Incredible Years, the PATHS curriculum, and the SSIS-CIP. Each of these has an adequate base of empirical support to be considered an evidence-based intervention.

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Progress Monitoring Methods and Tools for Academic Performance

Mark R. Shinn

It is widely acknowledged that students who exhibit challenging behavior or who are identified as having emotional/behavior disorders (E/BD) often have significant achievement discrepancies as well.¹ For example, although this finding is not universal, students with E/BD typically score about 1 standard deviation below average on most achievement measures, with low reading and mathematics scores around the 25th percentile nationally (Lane, Barton-Arwood, Nelson, & Wehby, 2007; Nelson, Benner, Lane, & Smith, 2004).

What seems particularly disturbing is that these academic achievement discrepancies for students with E/BD actually *increase* with time, compared to a *reduction* of academic discrepancies for students with severe learning disabilities (Anderson, Kutash, & Duchnowski, 2001). Initial severe achievement discrepancies that are not reduced seem like a plausible explanation for the fact that students with E/BD have the highest dropout rate for all students with disabilities. As reported in the latest available data from the U.S. Department of Education, Office of Special Education Programs (OSEP), about

45% of students with E/BD drop out; this is more than twice the rate of students in the disability category with the next highest rate (U.S. Department of Education, 2008).

Given these early achievement discrepancies (Lane et al., 2007; Nelson et al., 2004), especially in the essential basic skills of reading and mathematics, and a convincing pattern of decreasing school success resulting in frequent dropout, it is not surprising that schools would be looking for and motivated to use the most powerful interventions at their disposal. However, remarkably few schools implement one of the most powerful evidence-based interventions currently available: frequent progress monitoring with general outcome measurement (GOM), accomplished via curriculum-based measurement (CBM). This chapter attempts to bridge the gap between research and practice in frequent progress monitoring, in order to increase the achievement of students having E/BD and all students with achievement discrepancies.

The big ideas of this chapter are as follows:

1. Frequent progress monitoring is one of the most powerful tools in educators' intervention toolbox, and the single most powerful teaching variable that they can control.
2. We educators typically have lots of opinions about assessment, and progress mon-

¹In this chapter, I refer to students who display challenging behavior as students who have emotional/behavior disorders (E/BD). I do this for purposes of economy, not to suggest that there are clear diagnostic features for these students or homogeneity in etiology or in the behaviors themselves.

itoring is no exception. However, few of us have sufficient training in assessment in general or progress monitoring in particular.

3. There are two “families” of tools for frequent progress monitoring: mastery monitoring (MM) and GOM.
4. MM is used most commonly and, at best, allows informal progress monitoring that is logistically challenging. It answers the question of “Did the student learn what I taught today (or this week)?” It is associated with instructional validity.
5. GOM, via CBM, is an evidence-based practice that is logistically feasible and can produce powerful outcomes when used formatively. It answers questions like “Is the student becoming a ‘better reader?’” It is associated with gains in “important” outcomes or “big things.”

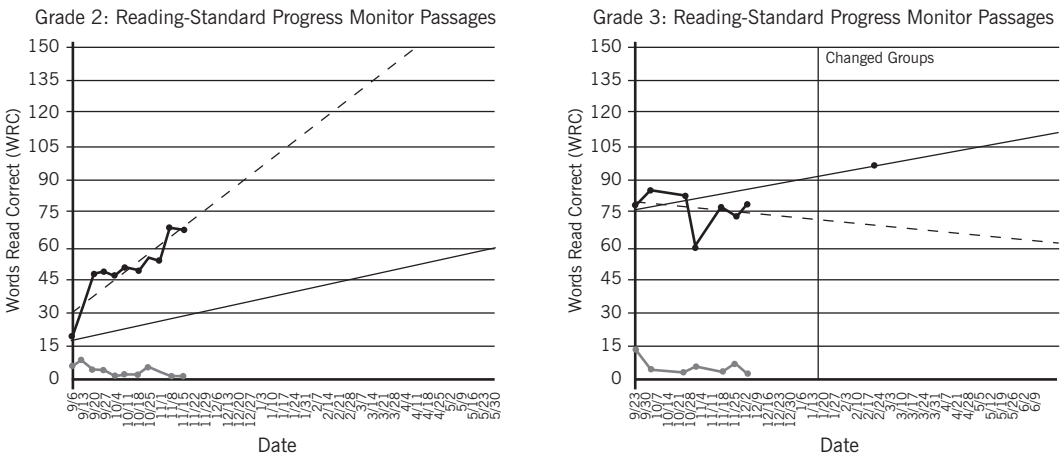
This chapter illustrates how to use CBM as a tool for frequent progress monitoring with students having E/BD, whether (1) as part of their individualized education programs (IEPs); (2) in connection with academic basic skills interventions as part of multi-tiered systems of support (MTSS) or response to intervention (RTI); or (3) as part of proactive progress monitoring for all students (Batsche et al., 2005; Shinn, 2010). Examples are presented herein for writing IEP goals to enable frequent progress monitoring for those students who may be receiving

Tier 2 and Tier 3 basic skills interventions in addition to behavioral support. Moreover, as part of benchmark assessments in core basic skills instruction, procedures are presented to ensure that problems are identified early so intervention can be maximally effective.

The Impact of Frequent Progress Monitoring for Formative Evaluation

Almost 30 years’ worth of school-based research has shown that when teachers engage in frequent basic skills progress monitoring (e.g., once per week) using a type of testing called CBM, and when instructional decisions are made formatively, student achievement is impacted in a positive way (Fuchs, Deno, & Mirkin, 1984; Fuchs & Fuchs, 1986). CBM is a set of standardized short tests, simple to administer and score, that are used to set goals, graph results, and judge the effectiveness of intervention.

An example of two CBM progress monitoring graphs is shown in Figure 9.1. In this figure, each of the two students was tested with Reading CBM (R-CBM), a standardized 1-minute simple test of oral reading of graded passages, where the number of words read correctly (WRC) is counted and recorded. R-CBM is a reliable and valid measure of general reading ability (Fuchs, Fuchs, Hosp, & Jenkins, 2001; Fuchs, Fuchs, & Maxwell, 1988; Shinn, Good,



Knutson, Tilly, & Collins, 1992). Errors are also recorded in this system.

For the first student, the present level of performance or PLOP (i.e., 17 WRC on grade 2 passages) was determined, and a goal was identified (i.e., 60 WRC by the end of the year) that would reduce the student’s reading achievement gap. An expected rate of progress, the “aim line,” was then generated, represented by the solid line in the graph. The student was tested once per week, and the student’s actual rate of progress, the “trend line,” was calculated; this is represented by the dashed line. Comparing the trend line to the aim line allows a judgment of whether the reading intervention reduces the gap. This formative assessment makes clear that the reading intervention delivered to the student was having a powerful effect and should be continued.

For the second student, an identical process was used. The PLOP was first determined and then used to write a goal that would reduce the gap. In this instance, frequent progress monitoring showed that the student was not making sufficient progress to reduce the gap. This formative assessment made it clear that the reading intervention delivered to the student was not having a powerful effect and should be changed.

Accumulated evidence shows that this type of formative assessment is among the most powerful interventions in our educational repertoire. A recent synthesis of over

800 meta-analyses by Hattie (2009) confirms this finding. He put his results on a common visual scale and provided a set of interpretive statistics for each of the following sets of influences: (1) student, (2) home, (3) school, (4) teacher, (5) curricula, and (6) teaching. Results for frequent formative evaluation are shown in Figure 9.2.

Hattie’s visual scale displays the outcome statistic known as the effect size (ES), and provides a descriptive label for different ES values. Hattie’s analysis identified interventions (1) that had “reverse effects,” or decreased student achievement; (2) whose effects could be “developmental,” or attributable to maturation, growth, or development; (3) that produced positive outcomes equal to a number of other teaching interventions, or “teacher effects”; and (4) that generated important results above and beyond teacher effects, called “desired effects.” Hattie’s analysis showed that the ES of 0.90 for frequent formative progress monitoring was in the zone of desired effects, and that in fact, such monitoring was the third most powerful intervention of the over 800 variables investigated. Notably, this type of assessment was the most powerful *teaching* intervention! For all students with achievement problems, and particularly students with E/BD, one would thus surmise that this type of frequent progress monitoring would be standard practice to reduce the achievement gap.

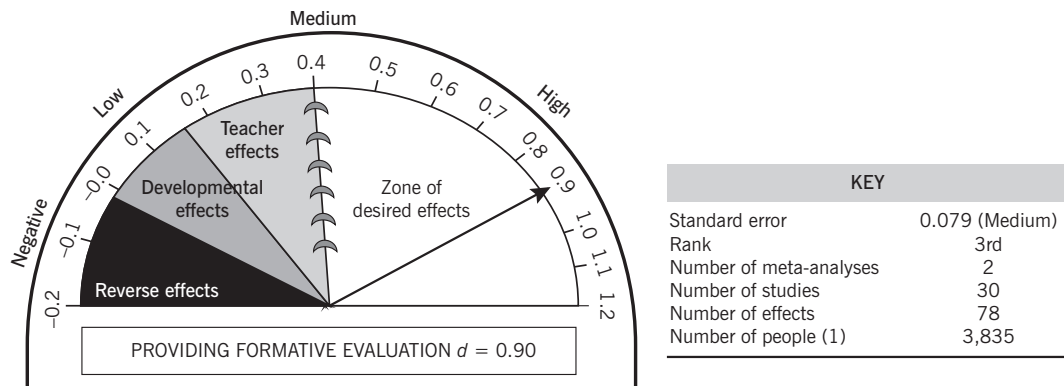


FIGURE 9.2. Effect size for frequent formative progress monitoring, showing a powerful effect and the basis for this conclusion. From Hattie (2009). Copyright 2009 by John A. C. Hattie. Reprinted with permission from Routledge/Taylor & Francis Group.

Weaknesses in Teachers' Prevailing Progress Monitoring Practices

In general, teachers recognize the importance of monitoring progress so that they can evaluate students' learning and the effects of their teaching. However, the quantity and quality of their progress monitoring practices vary considerably. Among a variety of potential explanations (e.g., lack of administrative support), a likely one may be their lack of preservice training in assessment and decision making. A recent review of undergraduate and graduate teacher preparation programs (National Council on Teacher Quality [NCTQ], 2012) graded only 21% of these programs as "adequate" in preparing educators for "assessment literacy," the lowest level of the NCTQ assessment knowledge hierarchy. Only 1% of the preparation programs were rated adequate for "assessment analytical skills," the second level of this hierarchy, which the NCTQ defines as the ability to "understand how to dissect, describe, and display the data that emerge from assessments" (2012, p. 14). Similar results (i.e., only 1% of programs rated as adequate) were reported for "instructional decision making," the highest level of the NCTQ hierarchy, defined as "an understanding of how to derive instructional guidance from assessment data" (p. 16).

Due largely to this lack of preservice training, *systematic* progress monitoring is infrequent and informal (Fuchs & Fuchs, 2004). For example, teachers may ask individual students spontaneous questions orally during instruction, such as "So what happened next?" Teachers may also ask standard questions of all students, such as "Why was the Declaration of Independence essential to the colonies' efforts to separate from England?" and require short written answers. Elementary teachers regularly ask students to write orally dictated spelling words or write and revise a short paper. Elementary or middle school teachers may grade mathematics homework for the percentage of problems answered correctly, or construct a midquarter test that is a cumulative evaluation of all the mathematics skills taught to date.

Many teachers go further than these types of informal assessments. They may assess progress by using more standard end-of-unit tests that accompany published interven-

tion programs, or by using computer-driven adaptive tests that give students easier problems when they struggle or more difficult problems when they succeed. Unfortunately, although this type of testing is more structured than informal progress monitoring assessments, it falls short of *scientifically based* progress monitoring practice.

These commonly employed general education and special education progress monitoring practices are closely tied to instructionally relevant questions, such as "What has the student learned today, or this week, or this term?" This type of information is important for teachers' ability to judge students' learning. However, the focus is short term and constrained to the individual student. It typically is not long-term (e.g., "Is the student on the pathway to attaining a preset standard?" or "Is the student reducing the achievement gap?"), and the results are not used formatively to judge whether a given intervention is effective or ineffective and needs modification. My point is not to judge this lack of high-quality progress monitoring practice, but to point out the lack of a scientific perspective—which is attributable primarily, in my view, to a deficiency in teachers' higher education.

Two Families of Scientifically Based Progress Monitoring

Within the science of progress monitoring, as noted earlier, there are two major approaches or "families": (1) GOM, sometimes known as "long-term goal monitoring"; and (2) MM, sometimes known as "short-term monitoring." Each approach is based on a fundamental set of assumptions with known advantages and disadvantages, which need to be understood to make valid decisions about the quality of progress monitoring, as well as accurate judgments about interventions' effectiveness. Although the underpinnings of the two "families" were first articulated in 1977 (Deno & Mirkin, 1977) as part of the effort to improve progress monitoring practices implicit in the Education for All Handicapped Children Act of 1975, the classic article comparing and contrasting these two progress monitoring approaches was published in 1991 by the noted educational scientists Lynn S. Fuchs

and Stanley L. Deno (Fuchs & Deno, 1991). This paper then was modestly revised by Fuchs and Fuchs (1999) and more recently by Jenkins and Fuchs (2012).

The “big ideas” of these two progress monitoring approaches can be understood as follows. GOM is a process of measuring one simple or “little” thing in a standard way over time to make a statement about something complex or “big.” In contrast, MM is a process of measuring different things in different ways at different times to make statements about simple or “little” things.

Let me illustrate the differences between GOM and MM with an example of progress monitoring outside of education that most persons can relate to. A little more than a year ago, I began a quest to lose 30 pounds. As part of my weight loss intervention, I changed what I eat, how much I eat, when I eat, and how much I exercise. This intervention and all its components generated lots of potential data I could collect if I wanted to know whether it was working. I could record the number of calories in every food I ate and compare it to a daily target. I could record the type of exercise I engaged in and the number of minutes I spent doing so. I could measure the intensity of the workout by estimating the number of calories I burned. I could record my heart rate and my cadence when bike riding. These data are all examples of MM. I could collect lots of individual pieces of information (each in and of itself a very specific or “small” thing), with the assumption that if

I met some specific level of *performance*, I would lose weight.

In contrast, I could stand on a bathroom scale at the same time each day under the same conditions. This simple measure could reduce the level of inference and allow me to draw direct conclusions about my *progress* (i.e., “Am I losing weight?”). This would be GOM. It should be obvious that there is a difference between these methods in complexity. A single simple measure is easier to collect than multiple measures. A single simple measure can be graphed over time.

A graph of my weight loss is shown in Figure 9.3. The graph shows that I am close to my weight loss goal, but that I made more progress early in the intervention program. More recently, the intervention has been less effective, and I need to make a program modification if I am to lose the remaining 5 pounds. With a validated GOM (i.e., pounds as measured by a bathroom scale), I can make the decision about the intervention’s effectiveness or my “progress” with confidence. However, to determine what potential component(s) of the intervention to *change*, I would need to use other data. This question is where MM is more relevant. I could examine outcomes from my daily calorie or exercise targets to judge what intervention components might need to be changed.

In the past decade, the U.S. Department of Education’s OSEP has been actively promoting the increased use of scientifically based progress monitoring practices for all students because of frequent forma-



FIGURE 9.3. Progress toward weight loss goal over time, using the GOM of pounds as measured by a bathroom scale.

tive assessment's known effects on achievement. From 2003 to 2008, OSEP funded the National Center for Student Progress Monitoring (NCSPM; www.studentprogress.org) for the purposes of providing independent reviews of GOM and MM tests and supporting school-based progress monitoring efforts. A set of technical adequacy standards (i.e., reliability, validity) was created for both types of instruments, and publishers submitted evidence for evaluation. The results were posted on the NCSPM website in a "tools chart" for use by consumers. When the NCSPM's funding expired, the site was (and still is) maintained, but the independent review and professional development responsibilities were rolled into the OSEP-funded National Center on Response to Intervention (NCRTI; www.rti4success.org). The NCRTI expanded the psychometric standards for progress monitoring and continues to publish reviews of GOM and MM instruments.

MM in Education

Teachers use MM when they teach students to write answers to addition facts through 10 or read combination words like *boat*, *coat*, and *float*, and then systematically test students on exactly those skills. For example, they may make a test that consists of all the addition facts through 10 and judge that students have mastered this content when they get all the problems correct. Student

performance is measured on these specific skills, but *progress* in mathematics skills is an inference. Concluding that because students have learned addition facts, they have become "better at mathematics" seems plausible, but is often not correct.

How so? Let's go back to the weight loss program. I counted calories relative to a daily calorie target. It is reasonable to assume that if I made my daily calorie target, I would be losing weight. But, for a variety of reasons (e.g., misjudging the amount of calories consumed, setting the wrong daily calorie goal or criterion for success), I could have made my daily calorie target for a number of days and not lost weight.

An illustration of a prototypical MM graph is shown in Figure 9.4. This figure shows that the teacher taught mathematics computation by starting with a separate unit for multidigit addition, followed by multidigit subtraction (and so on) when the student achieved mastery. The teacher established eight correct multidigit addition problems during the 5-minute test as the criterion for acceptable performance (CAP). When the student's performance was consistently above the CAP, the teacher moved to the next unit.

Advantages of MM

The primary advantage of MM is that it conveys important information to the teacher about the *immediate* impact of teaching and student learning. In the example of the mul-

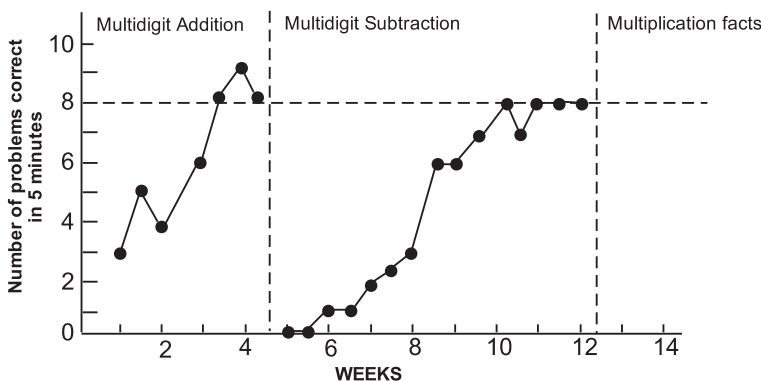


FIGURE 9.4. A prototypical MM progress monitoring graph for a grade 2 student, showing repeated assessments within a specific mathematics skill area until mastery, then moving to the next skill taught. Adapted from W. Donaldson (www.studentprogress.org/library/presentations.asp).

tidigit addition instructional intervention, MM answers the question “Did the student learn what was taught?” within a specific short-term time frame (e.g., today, this week). MM has high instructional validity, and the results inform day-to-day teaching. As noted earlier, MM is useful to assess student performance. Secondly, MM has the advantage of “comfort level” for teachers. It is the type of progress monitoring they themselves experienced as students, and, given their lack of preservice assessment training, it is the only approach they have experienced as teachers. Assessing student performance as indicative of progress makes intuitive sense, especially in the short term.

Disadvantages of MM

Although MM practices may have strong instructional validity, teacher familiarity/comfort, and common-sense appeal, they are not often the best ways to judge progress. This is not to say that MM practices are wrong. Data about student *performance* are necessary, but they may not be sufficient to determine *progress*. MM’s ability to help educators make high-quality progress monitoring decisions is compromised by its disadvantages. First and foremost, in MM each instructional skill, objective, or unit requires a different test with multiple forms, each of which should (1) meet the NCSPM and NCRTI psychometric standards, (2) have an empirically validated CAP, and (3) include decision rules about when individual students will progress or be retaught. Of special importance is “content validity” (i.e., evidence that the progress monitoring instrument specifically *tests what has been taught*).

These MM requirements can be daunting, even for test publishers. To date, in more than 10 years only five MM instruments have even been submitted to the NCSPM and NCRTI for review, and only two were reviewed favorably, both in the area of mathematics. This lack of independently reviewed tools means that to do MM, teachers must use the tests that accompany interventions or instructional programs, and/or must create their own tests. With respect to the former, there is little evidence that curriculum developers attend to test quality (Fuchs, 1994; Fuchs & Fuchs,

1984; Tindal et al., 1985). With respect to the latter, requiring teachers to create their own high-quality progress monitoring tests seems unrealistic, especially given the lack of preservice assessment training noted earlier in this chapter. In either instance, the lack of information on progress monitoring test quality (i.e., reliability, validity) makes the quality of the progress monitoring *decisions* suspect (Fuchs, 1994; Fuchs, Fuchs, & Hamlett, 1994).

Compounding a pervasive lack of high-quality MM tests is that their test content typically does not include either previously taught or future untaught test items. The former enable statements to be made about student *retention*. The latter enable statements to be made about student *generalization*. These two student learning features are frequently reported to be problems for struggling learners (Coyne, Kame’enui, & Carnine, 2007; Stein, Kinder, Silbert, & Carnine, 2006) and thus are critical for judgments about progress. For example, the student in Figure 9.4 passed the multidigit addition test and moved to the next instructional unit, but he or she might not be evaluated systematically on his or her multidigit addition skills again. Furthermore, while the student was being taught multidigit addition, the teacher’s specific skills testing practices did not address where he or she was generalizing some of the number sense skills inherent in multidigit addition to the related area of multidigit subtraction.

Whether teachers are using publishers’ tests or creating their own, the ever-changing processes of instruction *and* thus ever-changing assessment tests create logistics challenges for teachers. Compounding these challenges, if MM is used formatively (i.e., to adjust instruction), students who fail MM tests will continue to receive instruction in that skill/unit until they achieve mastery. Instructional delivery will thus have to be much more individualized. The consequence is that unless all students achieve mastery at the same rate, instruction must be individualized so that Student 1 is instructed and his or her progress is monitored on Skill A, while Student 2 is instructed and monitored on Skill C, Student 3 on Skill D, and so forth. For teachers, this means trying to keep track of which students are being taught which skills, and which students need to be moni-

tored on which corresponding tests. Because of the challenges this differentiated instruction may (and perhaps should) present to teachers, they may collect MM data, but not use it formatively. Of course, when data are collected and not used, this does not qualify as scientifically based progress monitoring and is of little use. Because of the psychometrics and logistical challenges presented by high-quality MM, it is not surprising that there is little empirical research on MM, and that what does exist does not support its use in improving student achievement (Fuchs, 1994; Fuchs & Fuchs, 1984).

GOM in Education

In other professions and disciplines, GOM is a standard practice. Major decisions about the state of the national economy (i.e., “big” things) are made on the basis of simple “indicators” like the Dow Jones Industrial Average, even though that metric is based only on a small sample of stock prices for hundreds of thousands of businesses. Publicly owned stocks are evaluated on their earnings per share. Major health decisions are made by measuring blood pressure or, in the case of a disease like diabetes, blood glucose levels. Cars are evaluated on the basis of their gas mileage, and housing price changes are evaluated with the Schiller–Case Home Price Index.

If one feature stands out about GOM, it is its simplicity. In GOM, measures are selected and constructed to be time-efficient to collect, and they are consistently collected the same way (i.e., the testing content and materials don’t change each time). The data, once collected, are not difficult to organize, report, or understand. This feature leads to one of the major advantages of GOM: its *feasibility*. In other words, with GOM, progress decisions can be made economically in terms of time, cost, and complexity. As I have noted earlier, I could stand on my bathroom scale at the same time and under the same conditions each day, and look at the number of pounds shown on the scale. Parallel actions can occur to judge reading progress: A student whose reading progress is monitored weekly reads a randomly sampled reading passage of approximately the same difficulty (e.g., grade 5) for 1 minute, and the number of WRC is counted.

An illustration of a GOM graph in mathematics computation is shown in Figure 9.5. In contrast to the information displayed in Figure 9.4 (where a student’s progress through a curriculum was taught and assessed a different skill or unit at a time), in GOM the instructional content would be different over time, but the progress monitoring test would be the same over time. As Figure 9.5 shows, the student would not be tested solely on multidigit addition problems and then on multidigit subtraction prob-

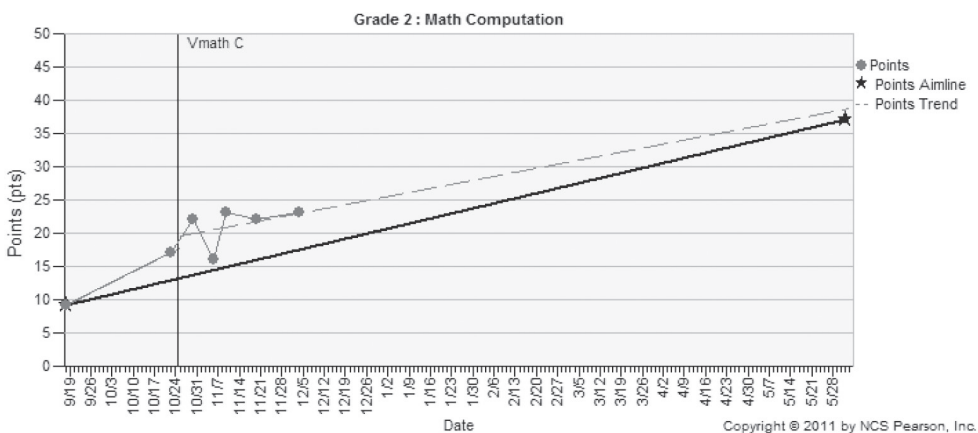


FIGURE 9.5. A GOM progress monitoring graph, showing repeated assessments on alternate forms of a test of a broad range of grade 2 mathematics skills. Copyright 2011 by AIMSweb NCS Pearson, Inc. Reproduced with permission. All rights reserved.

lems, but with alternate forms of a short mathematics test sampling problems from the *annual* mathematics curriculum. The GOM test would include some multidigit addition and multidigit subtraction probes, but it also might include basic mathematics facts, columnar addition, and horizontal addition and subtraction, as well as vertical addition and subtraction. Although the student might be taught *different* instructional content of varying difficulty over time, the progress monitoring task would not change. Therefore, change in performance should be easy to see. When I stand on my bathroom scale, the scale doesn't change, even though my weight loss intervention may have changed. In Figure 9.5, the student's actual rate of progress, the trend line, shows a rate of improvement above the aim line, or expected rate of progress. With confidence, it can be concluded that this student has been making adequate progress.

Advantages of GOM

The major advantage of GOM is that the progress monitoring practices (e.g., test materials) are intervention-eclectic (Fuchs & Deno, 1991); in educational practice, the test materials reflect the *general* outcomes of particular content (e.g., reading, mathematics), rather than each and every specific skill that might be taught. Much as my weight scale works with any weight loss program, educators can monitor the progress of their intervention the same way—whether the intervention is based on Program A for 90 minutes a day, Program B for 45 minutes a day, or Program A for 90 minutes followed by Program B for an additional 45 minutes.

A second major feature of GOM is that when test materials of equal difficulty from the general curriculum are administered over time, students will be tested on content they have previously learned and related content they will learn in the future. This feature contributes to continuous testing for retention (i.e., maintaining what has been learned) and generalization (i.e., applying skills and strategies to untaught content). But the real bottom-line advantage of GOM is that it is highly related to gains in student achievement (Fuchs & Fuchs, 1986, 2004; Hattie, 2009). Frequent formative evaluation, consisting of progress monitoring dur-

ing instruction on standard tasks of equal difficulty, results in some of the most powerful intervention effects in educational science. The reasons are clear: It makes little sense to keep delivering the same intervention when there are data showing no progress. When teachers have accurate information that validates student progress, an intervention can be continued. When teachers have accurate information about lack of progress, the intervention can be changed.

Disadvantages of GOM

The primary GOM assumption is that the "simple indicator" of a skill domain (e.g., reading, mathematics, written expression) is validated empirically. That is, a GOM test producer can't simply "say" that the test can be used to make judgments about student progress. It needs to be validated for this purpose. In contrast to MM, where the key validity standard is strong content validity, for GOM it is strong "construct validity." An example of the type of construct validity evidence that should be evaluated is shown in Figure 9.6.

In the Shinn and colleagues (1992) study, the relations of various reading tests to a construct of general reading competence were examined via confirmatory factor analysis to judge the explanatory power of the tested model. Oral reading measures (i.e., the variable CBM Oral Reading Fluency 1 and 2 in Figure 9.6) correlated strongly with the Reading Competence construct, and significantly more strongly than any of the other reading tests that were compared. For a test to be used in GOM progress monitoring, evidence of construct validity like this must be compiled and submitted for evaluation in peer-reviewed journals and for independent evaluation by qualified experts such as those in the NCSPM and NCRTI. To date, in contrast to the five MM instruments reviewed by the NCSPM and NCRTI, more than 50 GOM instruments have been submitted for evaluation, and most meet the GOM-specific psychometric standards.

An example of a NCRTI Progress Monitoring Tool Chart is shown in Figure 9.7. It compares a number of GOM reading measures for use with elementary-age students in regard to the 10 standards employed to evaluate the tests as scientifically based.

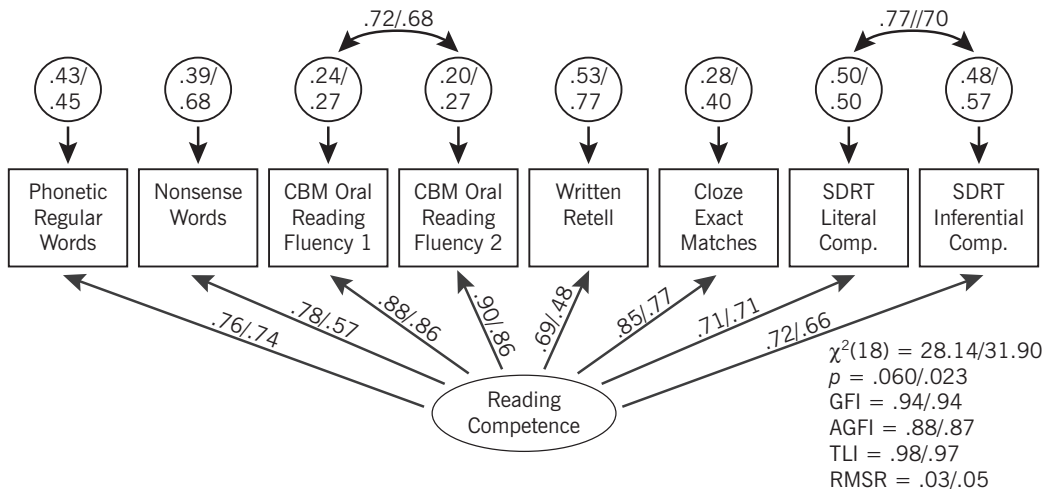


FIGURE 9.6. An example of construct validity, showing the relation of oral reading fluency to the construct of general reading competence. From Shinn, Good, Knutson, Tilly, and Collins (1992). Copyright 1992 by the National Association of School Psychologists, Bethesda, MD. Reprinted with permission of the publisher, www.nasponline.org.

Progress monitoring test publishers submit evidence to the NCRTI that is independently reviewed by at least two content experts who have been vetted for potential conflict of interest. Solid circles in Figure 9.7 correspond to judgments that the submitted evidence is “convincing” for the specific standard. Half-filled circles represent “partially convincing evidence,” while open circles or horizontal lines show judgments of “unconvincing evidence” or “data unavailable or inadequate,” respectively.

Two obvious conclusions can be drawn from analysis of the NCRTI GOM charts. First, educators have a variety of scientifically based tests available that meet scientific standards for progress monitoring. However, *all* of these tests are used to conduct frequent *basic skills* progress monitoring (i.e., reading, written expression, and mathematics computation and problem solving/application). Second, and relatedly, there are no validated tools for GOM outside the basic skills areas. Despite long-standing federally funded research efforts (Espin, 1993; Espin & Foegen, 1996; Espin & Tindal, 1998), validated GOM tests for monitoring progress in content-area classes such as science, social studies, and advanced language arts are lacking. As a result, MM, despite its inherent weaknesses, remains the more

viable method for progress monitoring in content-area intervention.

CBM as GOM Progress Monitoring for Students with E/BD

Most of the 50 or more GOM progress monitoring tests reviewed by the NCSPM and NCRTI can be described as CBM. For example, as shown in Figure 9.7, the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) program (Kaminski & Good, 1996, 1998) is a publisher of CBM materials with an emphasis on early reading skills. Similarly, AIMSweb is a publisher of CBM materials in a variety of basic skills areas, and Monitoring Basic Skills Progress (MBSP) and Yearly Progress Pro (Fuchs, Fuchs, & Hamlett, 1995) are publishers of CBM reading and math test materials.

Although these materials are published by different testing programs or companies, they are all derived from the work of Stanley Deno at the University of Minnesota (Espin, McMaster, Rose, & Wayman, 2012). Although GOM remains underutilized as a progress monitoring practice in education, it is not “new.” Initial implementation of GOM progress monitoring was begun in the Minneapolis schools in 1971

Progress Monitoring Tools

View the Progress Monitoring Mastery Measures Tools Chart

Subject: Reading Grade: Elementary Filter Reset

Tools	Area	Reliability of the Performance Level Score	Reliability of the Slope	Validity of the Performance Level Score	Predictive Validity of the Slope of Improvement	Alternate Forms	Sensitive to Student Improvement	End-of-Year Benchmarks	Rates of Improvement Specified	Norms Disaggregated for Diverse Populations	Disaggregated Reliability and Validity Data	COMPARE RESET
AIMSweb	Oral Reading	●	●	●	●	●	●	●	●	No	●	<input type="checkbox"/>
Curriculum Based Measurement in Reading (CBM-R)	Passage Reading Fluency	●	●	●	●	●	●	●	●	No	—	<input type="checkbox"/>
Dynamic Indicators of Basic Early Literacy Skills (DIBELS 6th Edition)	Oral Reading Fluency	●	—	●	—	●	●	●	○	No	●	<input type="checkbox"/>
easyCBM	[†] Reading - Passage Reading Fluency	●	●	●	●	●	—	●	○	No	●	<input type="checkbox"/>
Edcheckup Standard Reading Passages	[*] Oral Reading Fluency	●	○	●	●	●	●	●	○	No	○	<input type="checkbox"/>
Yearly ProgressPro	Reading Language Arts	●	●	●	●	●	●	●	●	No	—	<input type="checkbox"/>

Legend: ● Convincing evidence ○ Partially convincing evidence ○ Unconvincing evidence — Data unavailable or inadequate

^{*} Added in the 2011 review [†] Updated in the 2011 review

FIGURE 9.7. An example of the NCRTI Progress Monitoring Tool Chart, comparing six GOM reading tests by the psychometric standards developed for the independent review process. From U.S. Department of Education, Office of Special Education Programs, National Center for Response to Intervention (www.rti4success.org/progressMonitoringTools).

by Deno. See Deno (1985, 2003), Deno and Fuchs (1987), and Jenkins and Fuchs (2012) for more details about the history of this work. Research and practice efforts were then accelerated through federally funded efforts after the Education for All Handicapped Children Act of 1975 was passed, to improve the quality of IEP goals and progress monitoring of students with disabilities. Following the first refereed journal article in 1982 (Deno, Mirkin, & Chiang, 1982) that validated a standardized 1-minute sample of oral reading as a progress monitoring test, in the next 30 years more than 250 refereed articles and book chapters supported the use of CBM to gauge student achievement improvements in reading and other basic skill areas (Jenkins & Fuchs, 2012; Wallace, Espin, McMaster, Deno, & Foegen, 2007).

Other CBM tests that have been validated for use in GOM include the following:

1. Reading Maze, a silent reading test of 3–5 minutes where students read a passage from which every seventh word is

deleted, and fill each gap by selecting the one word (out of three choices) that preserves the meaning (Ardoin et al., 2004; Fuchs & Fuchs, 1992; Shinn & Shinn, 2003).

2. Mathematics Computation, where students write answers to a range of number sense and computational problems for 8–10 minutes and are scored for the number of items answered correctly (Foegen, 2000; Foegen, Jiban, & Deno, 2007; Shinn & Shinn, 2004; Thurber & Shinn, 2002).
3. Mathematics Concepts and Applications, where students write answers to a range of word, concept, and application problems for 8–10 minutes, and again the items answered correctly are counted; this number is a valid indicator of general mathematics application and problem-solving proficiency (Foegen et al., 2007; Fuchs, Fuchs, Hamlett, et al., 1994).
4. Written Expression, where students are required to write a short essay for 3 minutes about a given topic, and the number

of words or correct writing sequences is counted; this is a valid indicator of general writing skill (Deno, Marston, & Mirkin, 1982; McMaster & Espin, 2007).

Originally, CBM test materials were developed from the specific curriculum used in a school's general education classrooms. Although this curriculum-specific approach was defensible, it was pragmatically challenging, given curriculum differences within and between schools and over time. More importantly, this curriculum-specific approach generated test probes that differed in difficulty level because of the inherent variability in the source curricula. Subsequent research found that alternate-form reliability could be increased through use of standard probes, with further gains in logistics and without a loss in validity of progress decisions (Fuchs & Deno, 1992; Hintze & Shapiro, 1997; Hintze, Shapiro, & Lutz, 1994). As a result, *standardized* CBM test materials that assessed basic skills in general rather than specific curricula, as any other achievement test does, became the model of practice among different publishers of CBM materials.

Frequent CBM Progress Monitoring with IEPs as Essential Practice for Students Identified with E/BD

The most pressing need for scientifically based, frequent progress monitoring is with students identified as having E/BD who are receiving special education. It has been noted earlier in this chapter and throughout this volume that students who present challenging behaviors typically also have severe achievement needs, and that they tend to fall farther behind academically each year and to drop out at high rates. Special education eligibility is intended to provide sets of protections for students with disabilities, and foremost among those protections are IEPs with observable and measurable goals (Prasse, 2008). Although it can be argued that frequent progress monitoring is best practice and should occur with integrity for any student, special education law is written to *ensure* that this best practice is implemented with students having disabilities. Unfortunately, for almost 40 years, IEPs

(including goals and progress monitoring) have been the procedural nightmare predicted by Rinaldi (1976), with more attention paid to “paper compliance rather than real or exemplary implementation” (p. 151). Legal experts have noted that IEPs “have not yet met the expectations that Congress originally intended” (Yell & Busch, 2012, p. 39) and that “lack of measurability is the largest problem in goals” (Bateman & Linden, 2006, p. 95). Federal efforts to improve goal writing and progress monitoring include, as noted earlier, the establishment of the OSEP-funded NCSPM (2003–2008) and subsequently the NCRIT. Changes in legislation, most recently in the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, have also attempted to address the problem. According to Bateman and Linden (2006),

IDEA 1997 and IDEA 2004 place strong, new emphasis on the measurability of student progress and on the overall effectiveness of programs . . . it has become far more crucial than ever that IEP goals be measurable and that the child's performance be measured. (p. 95)

Among the legislative changes has been dropping the requirement of IEP short-term objectives due to their general lack of measurability, which at best resembles the challenges presented when progress is monitored via MM.

An examination of CBM's history clearly shows its evolution through federal efforts to provide a scientific basis for IEP goals and frequent progress monitoring (Deno, Mirkin, & Wesson, 1984; Jenkins & Fuchs, 2012; Yell & Busch, 2012). Given the widespread disappointment with current IEP goals and progress monitoring practices, federal efforts to improve practices and develop a validated technology with powerful evidence in improving achievement outcomes have been and continue to be needed. It makes sense to ensure that students with E/BD who receive special education are guaranteed goals such as the following:

1. In reading, [student name] will read aloud 110 words correctly in 1 minute from randomly selected standard grade 4 passages.
2. In written expression, [student name] will

write a story in 3 minutes with 50 total words and 45 correct writing sequences, given a grade-level-appropriate story starter.

3. In mathematics computation, [student name] will provide correct answers to 35 computational problems on 8-minute standard grade 3 mathematics computation probes.

With CBM, a few high-quality, observable, and measurable goals that reflect general and important outcomes (i.e., “big things”) like these replace the large number of less observable and immeasurable short-term goals that attempt to measure “small things.” The goals are written to reduce the achievement gap, and progress is monitored one to two times per week at an estimated cost of about 2–5 minutes of instructional time.

The progress monitoring process begins as current practices do—that is, by determining the discrepancy between the expected level of performance and the PLOP. See Fuchs and Shinn (1989), Shinn (2003), and Shinn and Shinn (2000) for more detail. A testing process called “survey-level assessment” (SLA) is used that is much like an informal reading inventory, but is conducted in a standard way with validated CBM tests. In a reading SLA, for example, a student reads three passages beginning at his or her cur-

rent grade level, and then three additional passages from consecutively lower levels of the curriculum until he or she reads “successfully.”

A sample SLA is shown in Figure 9.8. Joseph, a grade 6 student identified with E/BD, was given an SLA to determine his PLOP and the severity of his achievement discrepancy. His R-CBM scores in WRC are represented by the starred bars and are compared to the “box-and-whiskers” scores of peers across three different testing points (i.e., “benchmarks,” in fall, winter, and spring) within the academic year. Scores in each “box” represent *average* readers (i.e., scores between the 25th and 75th percentiles) at each grade. Scores in each lower “whisker” are scores *below average* (i.e., <25th percentile), and scores below the whisker are scores of students who are *severely discrepant* (i.e., <10th percentile). Joseph’s reading skills were found to be significantly discrepant, compared to students in grades 6, 5, 4, or even 3. He read grade 2 passages as well as a beginning-of-the-year grade 2 student. Therefore, his PLOP in reading skills was determined to be the grade 2 level.

To write an IEP goal for Joseph, an IEP team would have to consider whether it would be plausible for the intervention to *eliminate* Joseph’s severe achievement discrepancy. To do so, he would have to read

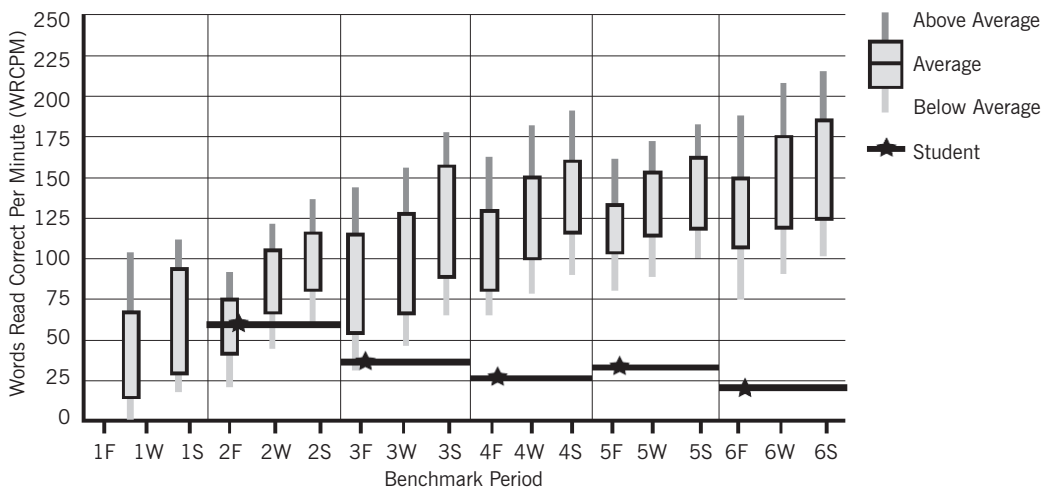


FIGURE 9.8. A survey-level assessment for Joseph, a grade 6 student with severe reading difficulties. From Shinn (2008). Copyright 2008 by the National Association of School Psychologists, Bethesda, MD. Reprinted with permission of the publisher, www.nasponline.org.

grade 6 passages successfully in 1 year, the time of his IEP expiration. If it was determined that this would not be plausible, a lower goal would be written, but one that still would be expected to reduce Joseph's achievement gap. In this student's case, the IEP team determined that Joseph's academic needs would best be met if the gap was significantly reduced by 3 years. He would still be below the skills of his grade-level peers, but much less so. Therefore, the intervention goal was written to have him read grade 5 passages successfully at the time of his annual review. The last step in setting the goal was for the team members to operationalize what they considered to be successful reading, or the CAP. In Joseph's case, the IEP team expected him to read 130 WRC, a score that would place him in the average range for end-of-grade-5 reading skills. The rate of improvement between his current level of performance on grade 5 passages (i.e., 40 WRC, as shown in Figure 9.8) and the CAP of 130 WRC would enable the expected rate of progress or aim line to be drawn graphically.

For progress monitoring purposes, Joseph's reading interventionist would have him read a single randomly sampled R-CBM grade 5 passage once or twice per week. When a clear rate of improvement was identified, typically at least 7–10 data points, a judgment could be made about Joseph's progress and whether the intervention was effective or needed improvement.

CBM Progress Monitoring in Tiers 2 and 3 in MTSS or RTI

Most chapter readers are well aware of current efforts to use data-based decision making to provide evidence-based academic and behavioral support practices to *all* students, and to provide proactive and early support to at-risk students through increasingly intensive interventions. Evolving out of an RTI framework (Batsche et al., 2005; Gresham, Reschly, & Shinn, 2010) and a special education perspective, this comprehensive school reform effort is described better as MTSS (Walker & Shinn, 2010), with an emphasis on school improvement. In MTSS, intervention intensity is aligned with the severity of students' need. Instead of students' being designated as "on track" and receiving gen-

eral education instruction *or* "off track" and receiving special education services through an entitlement process, schools have recognized the need to provide more powerful intervention options for at-risk students without the long delay often associated with special education entitlement. Most often, MTSS is delivered through a three-tiered model: Tier 1 consists of differentiated general education instruction and behavior support; Tier 2 is for students at risk; and Tier 3 is for students with severe achievement and/or behavior discrepancies.

The goal of MTSS is to provide intensive and evidence-based interventions that students need *as soon as possible*, to improve important educational outcomes. A related goal is to reduce the need for special education services to achieve these outcomes. Frequent progress monitoring is a key component of data-based decision making in MTSS. The scientifically based basic skills progress monitoring tools remain the same (i.e., CBM used in a GOM approach). What varies is (1) the use of a more *standardized* progress monitoring plan than the individualized approach, which is the hallmark of a special education IEP; and (2) the *frequency* of progress monitoring.

Although students with E/BD often have severe achievement discrepancies, two points must be noted. First, not all students who present challenging behaviors have these achievement discrepancies. Although they may be at risk academically (i.e., below the 25th percentile), their educational needs may be best served in a tiered instructional approach by appropriately intensive Tier 2 or 3 instruction. Second, and consistent with the premises of MTSS, not all achievement discrepancies must be addressed by special education.

The standardized progress monitoring plan is straightforward. Instead of individually determining a PLOP as in IEP goal development, the discrepancy in a student's *grade-level* academic performance is determined. Typically, these data are extant as part of the universal screening process associated with MTSS. See Shinn (2010) for more details. That is, a grade 5 student with E/BD who is at risk (e.g., 15th percentile) in reading may be targeted for more intensive Tier 2 reading instruction. The goal material for monitoring progress would be grade

5 CBM probes. The CAP would be based on reducing the achievement gap, which may be to have the student read as well as an average reader (e.g., 33rd percentile) by the end of the school year.

Progress monitoring efforts for students who receive interventions in Tiers 2 and 3 also differ in their testing frequency. For Tier 2 students at risk, progress monitoring may be most time- and cost-effective when conducted monthly (Jenkins, Graff, & Miglioretti, 2009), although more frequent progress monitoring is, of course, acceptable. For students with more severe achievement discrepancies at Tier 3, weekly testing is advisable, although biweekly progress monitoring is acceptable practice.

Compare the goals in Table 9.1 for three students with E/BD by the type of intervention they receive.

CBM Progress Monitoring for All Students as Part of Standard Preventive Practices

Not all students with E/BD have achievement discrepancies, but all students may benefit from frequent progress monitoring of basic skills via CBM. Early, ongoing, and reasonably frequent progress monitoring, especially in grades K–3, is a hallmark of effective schools (Shanahan et al., 2010; Torgesen, 2006). The challenge has been to make this type of progress monitoring feasible. “Benchmarking,” or benchmark assessment using CBM (especially in reading), has been a common practice for more than 20 years. This testing process typically consists

of a fall universal screening and two subsequent progress monitoring assessments. In reading, students read aloud from three grade-level passages on each benchmark; this totals about 5 minutes of individual testing, or approximately 15 minutes per student per year.

A “box-and-whisker” graph like the one used to present SLA results is used to examine the status of all students at a single point in time for screening purposes, and over time to judge student progress. For example, Arianna’s fall benchmark score (see Figure 9.9) showed that in addition to concerns about behavior, her reading was below average. A positive behavioral support plan was developed, and her progress was evaluated at the winter benchmark. On this assessment, her reading performance improved dramatically, and the achievement gap was decreasing. By the end of the school year, her reading skills were commensurate with those of other students in her grade. Data like these for all students ensure that discrepant students with or without behavioral concerns are identified for early intervention, and they enable educators to judge accurately whether students are progressing.

Conclusion

It is clear that many students with E/BD have academic needs as well as behavioral needs. In this regard, these students are not unlike many students who fail to acquire basic skills and who do not benefit from

TABLE 9.1. A Comparison of Reading Goals and Progress Monitoring Frequency for Three Grade 5 Students with E/BD by Type of Intervention

Student	Intervention	PLOP	Goal	Progress monitoring frequency
A	Tier 2	Grade 5	By the end of the school year, Student A will improve from 90 WRC (15th percentile) in grade 5 reading passages to 130 WRC (33rd percentile).	Once per month
B	Tier 3	Grade 5	By the end of the school year, Student B will improve from 40 WRC (5th percentile) in grade 5 reading passages to 90 WRC (15th percentile).	Once per week, or twice per month
C	Special education	Grade 1	In 1 year (IEP expiration), Student B will improve from 15 WRC (2nd percentile) in grade 4 reading passages to 70 WRC (15th percentile).	1–2 times per week

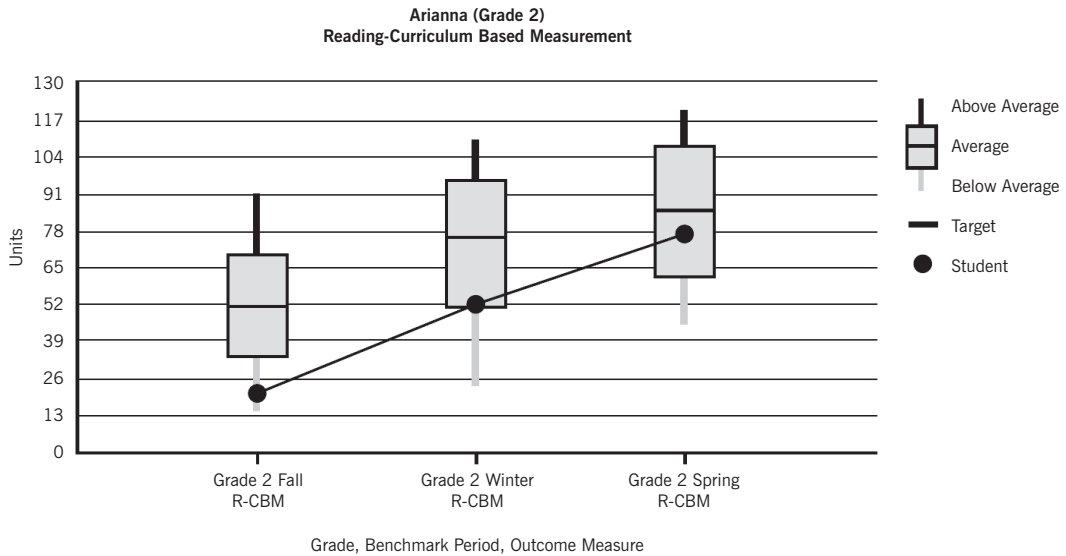


FIGURE 9.9. Reading benchmark assessment using R-CBM for Arianna, a grade 2 student with challenging behavior.

their educational opportunities. Educators typically do not consider assessment to be an intervention, but research evidence suggests otherwise. A powerful solution that is too often overlooked for students with academic needs is frequent progress monitoring in which a GOM approach is used for purposes of formative assessment. Successful instructional interventions can be continued with confidence, and unsuccessful instructional interventions can be modified to increase the likelihood of student learning.

Despite more than 30 years of research and applied practice, CBM and frequent progress monitoring remain underutilized within educational settings, which too frequently use traditional, but questionable measures and practices. One hypothesis for the inability to reduce the research-to-practice gap is that preservice teacher training continues to fail to provide the necessary knowledge and skills to conduct high-quality, scientifically based progress monitoring. This solution lies with our university training programs, and this chapter has been written in part to support this endeavor. The chapter has provided a basic background in the two main types of progress monitoring (MM and GOM), while describing each approach's advantages and disadvantages. MM has the advantage of providing immediate information about stu-

dent performance, but is not the most accurate method of gauging important progress. GOM of basic skills is the more feasible and powerful of the two approaches, allowing key decisions to be made about "important" progress. Of course, the two approaches are not antithetical, and best practices can be achieved by employing both. It is clear that we must be impatient with our inability to build a data system that contributes to all students' success, particularly that of students with E/BD, given the negative social consequences and costs to society of school failure.

Author Note

Mark R. Shinn serves as a paid consultant to Pearson Assessments, which publishes AIMSweb. He was a consultant for the Cambium Learning Group product Vmath, for which he does not receive royalties. He was a consultant for the McGraw-Hill Publishing product Jamestown Reading Navigator, for which he receives royalties.

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Behavioral Universal Screening and Progress Monitoring with Web-Based Technology

Brion Marquez, Pamela Yeaton, and Claudia Vincent

Educators have long hoped for the development of sensitive and reliable behavioral assessments with predictive features similar to those of current literacy and math screening tools (e.g., Dynamic Indicators of Basic Early Literacy Skills [DIBELS], AIMSweb). To deliver benefits similar to those of such academic indicators, behavioral assessment must be accurate, efficient, easy to administer and score, and technologically up to date. In this chapter, we describe the development of a new Web-based tool, the irisPMT™, and consider its potential for evaluating the impact of evidence-based interventions on children's behavior, for performing the functions of universal screening and progress monitoring, and for providing quick and meaningful data for decision making. We first provide an overview of universal screening and progress monitoring, the context in which the irisPMT was developed.

Overview of Universal Screening and Progress Monitoring

Both universal screening and progress monitoring have become standard practices as a consequence of their central role in the implementation of multi-tiered intervention programs based on response-to-intervention (RTI) logic (Brown-Chidsey & Steege, 2010;

Lane, Menzies, Oakes, & Kalberg, 2012; Walker et al., 1996). In these types of programs, interventions of increasing intensity are administered to students, depending on their individual needs. Universal core programs are responsible for delivering primary prevention activities that have an empirical foundation. Universal screening assessments then seek to identify those students who are unlikely to benefit from the primary prevention alone. Students who are facing difficulties or who are at risk for future failure can thus be selected to receive secondary interventions of greater intensity. In turn, the progress of these students is monitored to determine which ones are responding to secondary prevention strategies and which ones remain unresponsive. The latter may benefit from yet more intensive supports, or from supports that are better targeted to their needs. Responsive students can also return to primary prevention, and their progress can continue to be monitored to determine whether secondary prevention will become necessary again in the future.

Universal screening and progress monitoring serve two distinct but closely related functions. "Universal screening" is a whole-group appraisal—a classroom-, school-, or districtwide assessment whose purpose is to identify students' levels of risk for academic or behavioral failure, and thus to determine

who could potentially benefit from more intensive instruction or intervention. Universal screening measures are brief assessments that are designed to be strongly predictive of positive and negative outcomes. "Progress monitoring," by contrast, is an individualized assessment of whether a student who was identified as nonresponsive to universal intervention is responding to more intensive supports, and how benefits of the more intensive support can be maximized. The purpose of progress monitoring is to track the student's progress closely over time to determine whether he or she is responding to the additional supports or intensified instruction.

Lane and colleagues (2012) have identified three main benefits provided by universal screening tools. They give school personnel reliable alerts about which students will fail unless they receive more than universal support. They also make it more likely that students who have behavior problems can be identified at an early enough stage and provided with additional support (Walker, Ramsey, & Gresham, 2004). Finally, they allow the maintenance of historical or archival data on student performance and provide assessments of risk over time.

Although the purpose of universal screening is to identify those students who would benefit from additional supports, assessments that quantify the rate of improvement for the students receiving those additional supports are clearly needed as well (Gresham, 2010). Progress monitoring looks at individual students' performance and gauges the students' academic and behavioral performance in response to instruction or support. The goal of progress monitoring is to determine whether the academic or behavioral interventions being delivered to these students are leading to the desired outcome. Progress monitoring allows educators to identify students who do and do not respond adequately to an intervention, and to use students' responses as a basis for making decisions about continuing, altering, or terminating an intervention.

Like universal screening tools, progress monitoring tools should be brief, reliable, valid, sensitive, and evidence-based. Unlike universal screening, which occurs two to three times during the year, effective progress monitoring takes place at more fre-

quent intervals, depending on the intensity and dosage of the intervention (two or three times a week, weekly, biweekly, or monthly). The assessment frequency depends on how many data are required for making decisions with confidence (Christ & Silberglitt, 2007).

In school settings, universal screening and progress monitoring have typically focused on literacy and math; however, there is a growing interest in applying these types of assessments to student behavior. The primary purpose of universal behavioral screening is to distinguish those students who, without additional support, are likely to develop behavioral problems from those who are not at risk and likely to succeed with universal supports alone.

Heretofore, behavioral assessments have been largely limited to four primary options: (1) permanent products (any behavioral data already existing in schools, such as office referrals, suspensions, and grades); (2) behavior rating scales; (3) systematic direct observation; and (4) behavior report cards (Riley-Tillman, Kalberer, & Chafouleas, 2005). However, these solutions have been criticized for lacking many of the attributes (e.g., value, ease of use, utility, consumer acceptance, and versatility) that are found in current academic performance measures (Gresham et al., 2010).

Walker, Marquez, Yeaton, and Pennefather (2012) argue that a social behavior screening and monitoring system incorporating elements of these four options, but based on teacher appraisal, is needed. Teachers, more than any other professionals in the school system, maintain the closest, most constant interactions with students, and should therefore be the most knowledgeable and effective judges of students' behavioral performance—provided that their appraisals are based on dimensions of skill performance or behavior magnitude, and not on estimates of frequency/rate or duration. Appraisals of frequency (counting how often a behavior occurs in a given time interval) and duration (counting how long a behavior endures) usually fall outside teachers' regular instructional and classroom management focus.

Teachers are accustomed to evaluating students' academic performance, but they currently have no simple, accurate, and efficient alternative for evaluating behavioral

performance; nor do they have the means for conducting comprehensive universal screening and progress monitoring behavioral assessments with a single tool. Given differences in the frequency of administration, the desired outcomes, and the granularity of their focus, behavioral universal screening and progress monitoring functions have not lent themselves to a smooth integration. With its release in 2012, the irisPMT, which is described next, seeks to address these needs in an elegant and efficient manner.

Description of the irisPMT

The irisPMT is a Web-based application (https://irised.com/irispmt_demo) that can be used by teachers to efficiently conduct classroom-based universal screening and progress monitoring activities on a computer, tablet, or smartphone device. This Web-based data management and reporting system tracks student behavior and responses to social-behavioral interventions. It is a norm-based tool designed for teachers to use as a quick assessment three times a year (universal screening) and for progress monitoring more frequently for students in need of Tier 2 and/or Tier 3 supports. The irisPMT has three main functions: (1) universal screening for a whole class; (2) progress monitoring for selected students; and (3) providing easy-to-interpret data on classroom dynamics to facilitate effective and efficient data-driven decision making.

The irisPMT is delivered via a database that allows teachers to input students' names or identifiers quickly and assess their behavioral skills, using a simple rating system (e.g., a 3-point scale for universal screening and a 6-point scale for progress monitoring). This allows teachers to (1) screen the whole class and rank-order students by their overall behavioral support needs (i.e., identify those students in need of Tier 2 and Tier 3 interventions); (2) rank-order skill deficits (i.e., identify specific behavioral skill expectations that appear problematic for the majority of students); (3) monitor the progress of students in Tier 2 and Tier 3 interventions; (4) use all these data to inform decision making, target instruction, and determine the effectiveness of an intervention; (5) view analytic charts that display students' prog-

ress; and (6) share data with students, teachers, parents, behavior teams, and administrators. Designed for ease of use, with a simple graphic user interface and quick uploads of class rosters and streamlined student management, the irisPMT protects individual students' confidentiality, can fit into any school system, and can be employed by multiple users (teachers, administrators, behavior specialists, coaches, etc.).

Architecturally, the irisPMT consists of three components: (1) an electronic *engine* that allows users to collect, display, and analyze universal screening and progress monitoring data; (2) a *scaling* system that adjusts to both universal screening and progress monitoring needs; and (3) *assessment measures* capable of targeting specific domains (social-behavioral skills, academic enablers, etc.). By using Web-enabled database technology, the irisPMT is able to fulfill the three big functions that Merrell and Gueldner (2010) described as essential for moving behavioral assessment forward: (1) universal screening, (2) assessing students' strengths, and (3) linking assessment to effective interventions.

The Engine for the irisPMT

The irisPMT's engine allows users to set up individual accounts. Depending on whether they enroll as teachers (responsible for the classes they teach) or as administrators (responsible for all classes in a school), they are granted a set of distinct capabilities. For example, teachers can screen their own classrooms and monitor the progress of their own individual students, while administrators and behavior specialists can survey all classrooms in the school.

In carrying out the basic functions of universal screening and progress monitoring, teachers input each class roster through manual entry or batch import. Once they have set up a classroom, teachers screen by either evaluating each student against a set of skills or behavioral items (i.e., "screen by student"), or by evaluating how well each skill or behavioral item is performed by each student (i.e., "screen by skill"). Once all the students or skills have been assessed, the irisPMT is able to display and sort the entire class in terms of performance rankings. Sorted by students, the display iden-

tifies which students are performing well, which ones need some support, and which ones will probably fail without assistance. Sorted by skills, the display identifies which skills students are performing fluently, and which skills are problematic for the majority of students.

Following best practice in universal screening (e.g., DIBELS, AIMSweb), the irisPMT supports universal screening assessments at three key junctures in the school year—typically near the beginning, middle, and end of the school year. This recommended practice provides sufficient time to assess students' proficiency before, during, and after an intervention. Once the students with the greatest instructional behavioral needs are identified, the progress monitoring features of the irisPMT can be used to track their improvements in skill acquisition over time. These features include the ability to perform molecular assessments of each student's behavior and to keep detailed notes on current interventions and supports the student is receiving. This allows the teacher to evaluate the efficacy of currently implemented interventions and (1) keep those that are working, (2) eliminate those that are not, and (3) add additional interventions if needed. To assist in this task, the irisPMT can generate graphic displays that chart multiple students' responsiveness to the interventions being used.

The Scaling System for the irisPMT

A distinguishing characteristic of the irisPMT is its scaling system. In the universal screening mode, it allows a user to make simple summative judgments of a student's performance by using a 3-point system to indicate whether the student demonstrates skill mastery (score = 3), the student needs to improve use of the skill (score = 2), or use of this skill is an area of concern (score = 1). In the progress monitoring mode, where fine-grained distinctions about student progress over time are required, this scale expands from 3 to 6 points. At the positive end (score = 6), the student is responding to the intervention being delivered. At the other end of the scale (score = 1), the student is resisting the intervention. Once three or more monitoring sessions have been recorded, the teacher or behavior specialist conducting the

intervention can generate a chart that shows progress for each skill being examined or for an average of all skills being monitored. To facilitate interpretation of the charted data, the scale scores are color-coded, following the commonly used progression from green (skill mastery) to yellow (needs improvement) to red (cause for concern).

The irisPMT uses a method developed by Drummond (1994) that facilitates cost-efficient universal screening of classrooms in which teachers monitor each student's risk status for antisocial behavior. In this method, the social-behavioral characteristics are listed at the top of the rating form, and students' names are displayed along the left side of the form. This allows teachers to form an instant picture of a class, with the relative ratio of green (mastery), yellow (needs improvement), and red (concern) plainly visible. Teachers can then make decisions based on the sorting of students in the classroom by their overall skill levels, or by students' scores on particular skills.

A Behavioral Assessment Measure for the irisPMT

The assessment measure of the irisPMT is another critical feature. At present, the tool administers the Elementary Social Behavior Assessment (ESBA™). The ESBA is a 12-item survey derived from an inventory of teacher behavioral expectations developed by Walker and his colleagues; it represents over 15 years of research and development work on the integration of students with behavioral disabilities into mainstream, general education classrooms (Hersh & Walker, 1983; Walker, 1986; Walker & Rankin, 1983). The 12 items, which cover specific behavioral competencies that promote academic engagement, relationships with teachers, and peer relations, were those rated as most critical for student success by a sample of over 1,000 K–12 general and special education teachers in school districts across the United States.

It is important to note that each item of the ESBA is framed in a positive manner. Thus the assessment allows educators to rate *how well* rather than *how poorly* a child is performing. The social-behavioral domains measured by the ESBA can be characterized as “academic enablers”—behaviors that sup-

port and facilitate academic performance, such as listening to teacher instructions, cooperating with peers on assigned tasks, focusing on assigned tasks, and the like (see Elliott, DiPerna, Mroch, & Lang, 2004). The results of a validation study (Pennefather & Smolkowski, 2012) demonstrate that the EBSA has an acceptable internal reliability, adequate test–retest reliability at 8 weeks, and substantial criterion validity with the Walker–McConnell Scale of Social Competence and School Adjustment—Elementary Version (Walker & McConnell, 1995) and the Brief Behavior Rating Scale (BBRS; Gresham et al., 2010).

Screening and Progress Monitoring Functions of the irisPMT

The irisPMT was developed through two Institute of Education Sciences development grants. The goal of one of the projects, *We Have Skills!*TM (WHS; Grant No. R324A080150), was to target students in grades K–3 with explicit instruction in school-related social skills. The other program, *Classroom Management in Action*TM (CMA; Grant No. R305A090107-01), delivered training in classroom management skills to elementary school teachers. The irisPMT and the ESBA played a role in the intervention design of both these projects. In each case, teachers were asked to universally screen their entire classrooms at key points (e.g., before and after interventions had been implemented) and to select students for Tier 2 instructional supports.

Measuring Students' Behavioral Proficiency

The irisPMT works as a curriculum-based measurement (CBM) system operating within an RTI framework (i.e., students who are identified via the assessment as failing to respond to universal instruction are targeted for more intensive instructional supports). In a small randomized trial of WHS ($N = 70$ teachers) (Marquez et al., in press), the ESBA was used as a CBM tool to determine how well students as a whole responded to the social skills intervention, as well as to identify students who needed additional intensified instruction. CBM pro-

cedures have emerged as useful in determining how students progress in basic academic areas. Research conducted over the past 30 years has shown CBM tools to be reliable and valid measures of general achievement, effective in quantifying student performance, and invaluable in informing instructional decisions (Deno, 1985, 2005; Germann & Tindal, 1985; Marston, 1988; Shinn et al., 1989; Shinn, 2008). When used as a progress monitoring method, CBM has also been shown to be sensitive to change (Shinn, 2008).

After exposure to the WHS intervention, teachers in the intervention group were able to use the ESBA as a universal screener to evaluate the level of behavioral skills mastery attained by their students. Using the ESBA, teachers could also quickly determine whether (1) the class as a whole needed additional exposure to universal instruction, or intensified instruction in specific skills; (2) individual students needed additional instructional supports or assistance; or (3) specific skills needed strengthening.

Assessing Teachers' Classroom Management Effectiveness

In the CMA project, which seeks to change student behavior by altering teacher behavior, the irisPMT and the ESBA are used to assess the impact of the teachers' enhanced training on their students' behavioral performance. The ESBA is used to screen the entire class and note overall behavioral improvement, determine which students need intensified supports, and identify classroom deficiencies in specific skills that might indicate the need for bolstering classroom management strategies in those areas. In a small randomized controlled trial ($N = 100$ teachers) currently underway, outcomes from teachers in an intervention group are being compared to a business-as-usual control group.

How Universal Screening and Progress Monitoring Are Carried Out on the irisPMT

In each of the studies conducted in the context of the WHS and CMA interventions, the irisPMT has been expected to perform adequately in terms of its consequential validity—a critical criterion that Jenkins (2003) proposes screening systems need to

meet. He argues that the value of a screener’s consequential validity rests in its power to drive instruction; students identified by the screener as needing support should be able to receive timely and effective intervention, assisted by a system that provides a seamless transition into progress monitoring. Results from the WHS skills study (Marquez et al., in press) showed that teachers were able to identify the students who needed Tier 2 instruction and provide the needed instructional supports immediately.

Walker and colleagues (2012) have pointed out that teachers, due to their close contact with their students, are uniquely able to form accurate and perceptive judgments about the students’ social and academic competencies. The goal of the irisPMT is to capture those perceptions in an organized and quantifiable manner, so that efficient and reliable universal screening and progress monitoring can be conducted. As such, the irisPMT is designed to have teachers, rather than other outside observers (e.g., school psychologists, behavioral specialists) rate the degree to which students respond to or resist behavioral instruction. The measuring sample used by teachers consists of *all* students in a classroom, as in the case of universal screening, and *individual* students in a classroom, as in the case of progress monitoring. Consequently, when teachers log in to the irisPMT, they arrive at the program dashboard (see

Figure 10.1), which provides them access to all the classes they teach.

The inputting of student data, whether universal screening or progress monitoring, takes place at the classroom level and is handled by teachers. Teachers can easily set up their classrooms in one of two ways: (1) They can import student names or identifiers from an existing roster, typically a comma-separated values (CSV) or an Excel file; or (2) they can enter each student (name, ID, and demographic data) directly into the class list (see Figure 10.2). Setting up a classroom is a one-time operation that allows multiple screening and progress monitoring operations; teachers need only return to this utility to add or drop students.

Although teachers are the logical managers of student data, the irisPMT also provides building-level administrators an overall view of universal screening and progress monitoring results for all classrooms and all students in the school. This enables administrators, as well as teachers, to perform typical database operations (e.g., to sort students by their universal screening outcome scores, sort by performance on specific behavior items, or select students and assign them intensified instructional support accompanied by progress monitoring). Administrators may include principals, behavioral specialists, school psychologists, or other designated staff members.

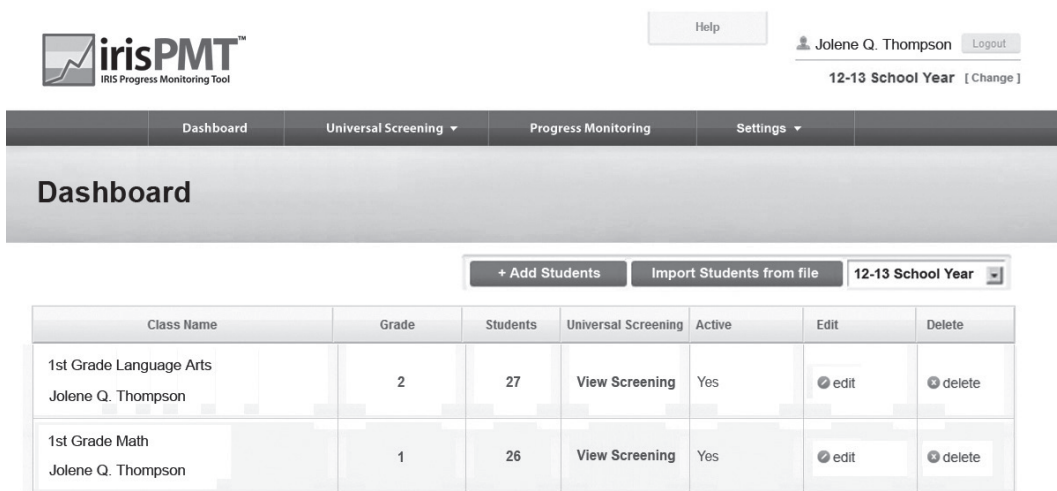


FIGURE 10.1. irisPMT Dashboard. Copyright by IRIS Educational Media. Reprinted with permission.

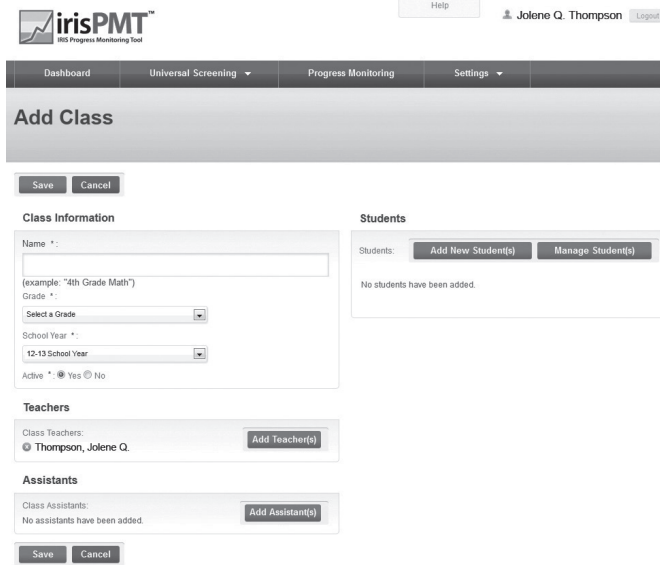


FIGURE 10.2. irisPMT Class Entry. Copyright by IRIS Educational Media. Reprinted with permission.

Procedures for Conducting Universal Screening

Once a teacher has set up the classroom, he or she can universally screen the students in an efficient manner. Teachers can opt to screen by skills or by students. In screening by skills, teachers can screen all students on one skill at a time (see Figure 10.3). In

screening by students, teachers screen one student at a time on all skills (see Figure 10.4). In both cases, the assessment of skill proficiency is performed by checking the appropriate green, yellow, or red circle to indicate whether the student demonstrates mastery, needs improvement, or performs at a level of concern for the given skill.

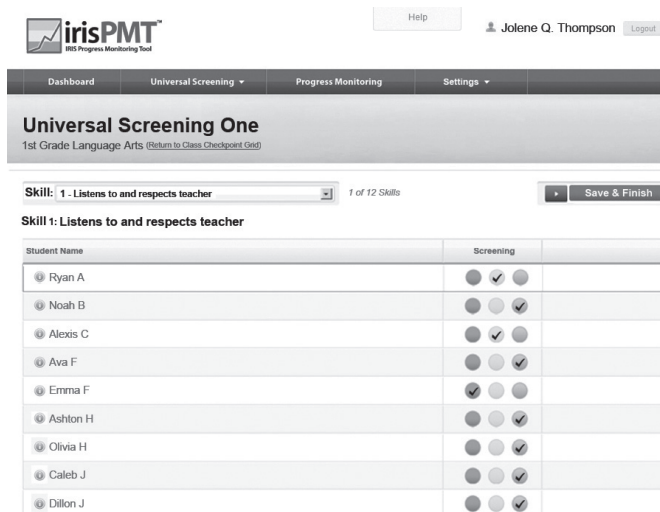


FIGURE 10.3. irisPMT Screen by Skill. Copyright by IRIS Educational Media. Reprinted with permission.

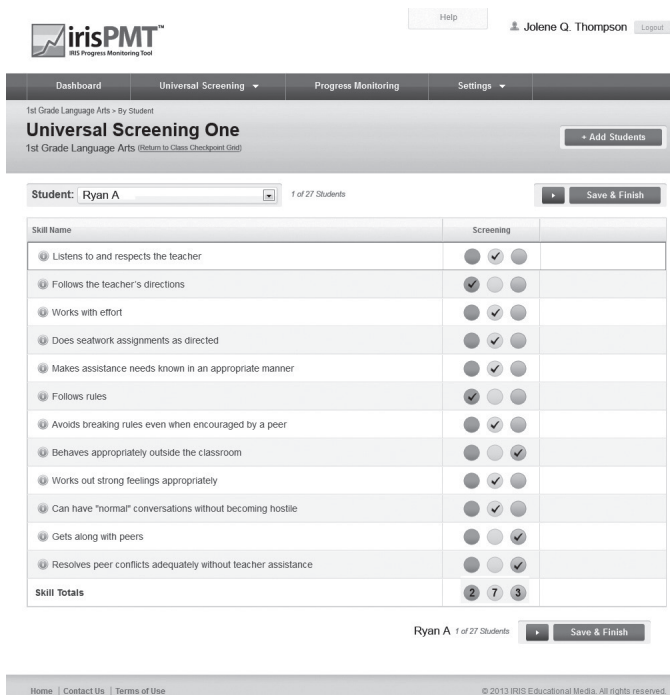


FIGURE 10.4. irisPMT Screen by Student. Copyright by IRIS Educational Media. Reprinted with permission.

Once teachers have entered information for an entire classroom and save and submit the data, they receive a display for all students, their scores on all items, and their relative rankings. This information is organized in a visually coherent way (see Figure 10.5). Using these results, teachers can quickly determine which students are in greatest need of behavioral support and which skills show the greatest deficiency for individual students, clusters of students, or the classroom as a whole. From these data, teachers are able to make data-driven decisions about additional instructional or behavioral supports for students, and to move individual students quickly into Tier 2 designations, where they can receive intensified supports and their progress can be monitored throughout an intervention’s time frame.

Procedures for Conducting Progress Monitoring

In order to meet the separate demands of universal screening (a whole classroom)

and progress monitoring (individual students), the irisPMT uses two distinct modes of data collection and display. In the universal screening application, students are compared to each other at a specific time point. In the progress monitoring application, individual students are compared to themselves in a time series, and their progress (or lack thereof) can be assessed, monitored, and graphically displayed. Instead of the 3-point universal screening scale, the progress monitoring mode uses an expanded 6-point scale as mentioned earlier, allowing for finer distinctions and greater sensitivity. This 6-point scale is designed to measure a student’s responsiveness–resistance to the intervention being used, and ranges from 1 (“most resistant”) to 6 (“most responsive”). In the progress monitoring mode, teachers or behavior specialists working with students at Tier 2 or 3 are able to enter data for each student being monitored. Students can be evaluated for all skills captured in the behavioral measure, for a set of skills, or for an individual skill (see Figure 10.6). Depending on the measurement objectives involved,

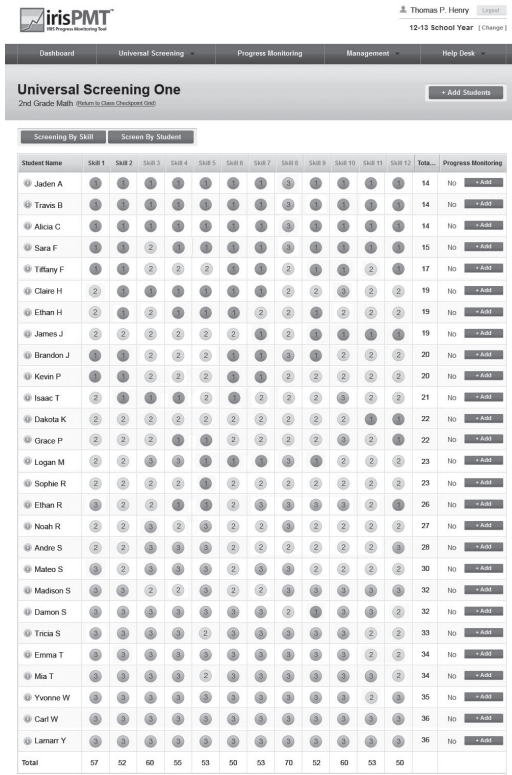


FIGURE 10.5. irisPMT Universal Screening. Copyright by IRIS Educational Media. Reprinted with permission.

progress monitoring can be conducted for as long and as frequently as needed. After each progress monitoring event, teachers are able to save their data and begin their next assessment with a clean slate.

A separate tab on the progress monitoring screen allows teachers to view progress charts that graphically display individual students’ progress (see Figure 10.7). Teachers also can add notes about important events in a student’s school or home life and can designate an event as a milestone. Once an adequate series of data points has been collected through repeated progress monitoring assessments, teachers can then use these charts to measure student progress on all behaviors in the measure, on a set of behaviors, on a single behavior, or on a trend line of behaviors.

The irisPMT maintains historical records of screenings and progress monitoring assessments. For example, the program allows

for universal screening to be conducted at key points in the school year to compare classroom results at different times. Again, teachers have a single repository for all performance data on their students. Progress monitoring can be conducted as frequently as called for in determining a student’s responsiveness to an instructional program or an intervention. Progress monitoring data are available in numerical form that can be downloaded, as well as in analytic charts that display progress in visually appealing formats and can be shared with administrators, specialists, parents, and even students themselves. This progress monitoring capability also allows teachers or specialists to set time-sensitive indicators marking what and when intensified instructional supports were given to each student.

Using the irisPMT to Conduct Classroom Diagnostics

So far, we have discussed how use of the irisPMT, and ESBA as CBM tools allows teachers to conduct efficient analysis of student progress in order to modify instruction and adjust student goals. Another important use of screening data is in conducting classroom diagnostics—that is, in allowing teachers to gain insights into the strengths and weaknesses of their management approach. When classroom screening data are analyzed, one of four patterns will typically emerge: (1) a classroom that is well managed, (2) a classroom with management problems, (3) a classroom with individual student problems, or (4) a classroom with one or more skills problems. In examining each of these four patterns, we rely on graphic illustrations (see Figures 10.8–10.11) of actual classroom screenings conducted in pilot studies on the irisPMT.

Figure 10.8 shows a classroom that is well managed—one in which the clear majority of students are doing well and showing mastery or near mastery on all 12 ESBA items. Most students perform in the green zone, relatively few perform in the yellow zone, and only a few students show red designations on some skills. These data suggest that this teacher’s management procedures are working effectively, and that the teacher is able to deliver instruction without having

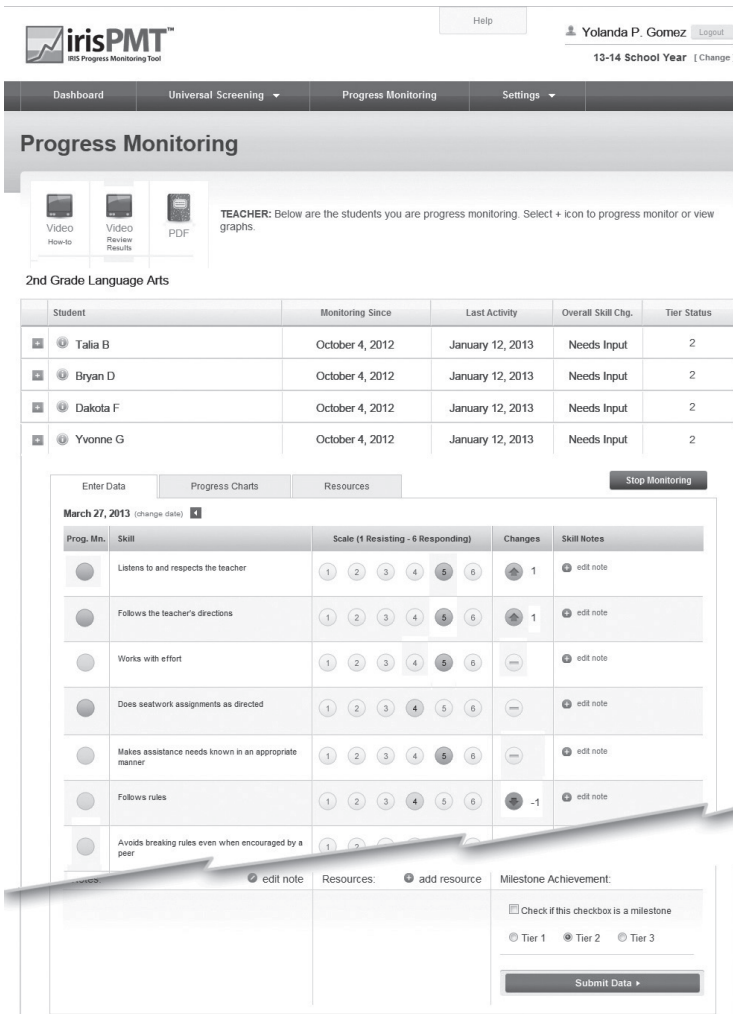


FIGURE 10.6. irisPMT Progress Monitoring. Copyright by IRIS Educational Media. Reprinted with permission.

to allocate excessive time to supporting students who are not performing well.

By contrast, Figure 10.9 shows a classroom with overall management problems—one in which a large number of students receive ratings showing either a cause for concern or a need for improvement. We see not only many students in the red and yellow zones, but a number of skills deficiencies across many students in these zones as well. This even distribution of deficiencies across numerous skills and students indicates a classroom in chaos. This pattern does not clearly identify individual students requiring attention, or particular skills in need of

bolstering. This pattern is typically found in a classroom that needs universal explicit instruction for students in social skills *and* greater classroom management training for the teacher. One would hope that a behavioral specialist could provide coaching and assistance to this classroom, and play a role in selecting an appropriate intervention. Preferably the student and teacher interventions should be ones that have demonstrated efficacy in reducing student classroom behavior problems, or at the very least are grounded in evidence-based practices. Because the number of students showing deficiencies is so great, this classroom would benefit from

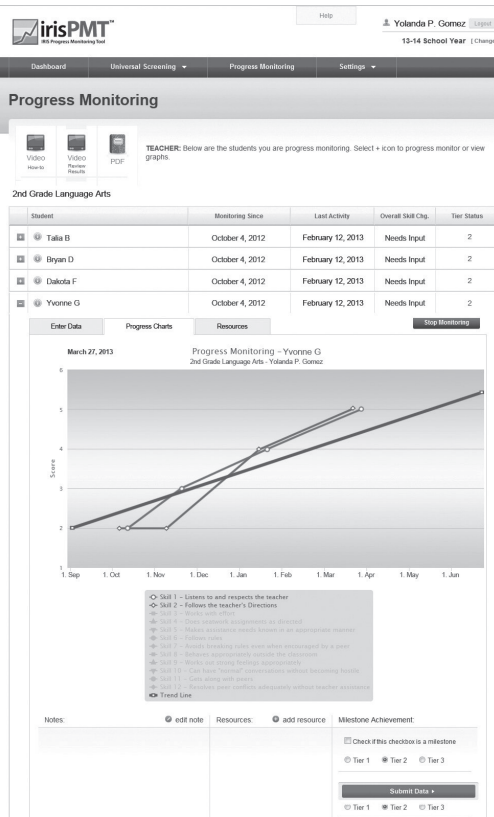


FIGURE 10.7. irisPMT Progress Chart. Copyright by IRIS Educational Media. Reprinted with permission.

periodic screenings, rather than individual progress monitoring, to determine whether the interventions being employed are having an effect.

Figure 10.10 shows a classroom with individual student problems—that is, one in which all but a few students show acceptable levels on the ESBA items. Specific students, rather than the whole class or a majority of the class, demonstrate skills deficiencies. In fact, there is a clear demarcation between the majority of the class who are demonstrating mastery of most skills and the limited number (typically <20%) who need additional supports. There is no reason to believe that this situation has resulted from a lack of classroom management; rather, it should be attributed to student competence due to a lack of social skills instruction, or to the need for specialized interventions because of specific student needs (attention-deficit/

hyperactivity disorder; other emotional or behavioral disorders; or learning, physical, or developmental disabilities). An efficient solution would be to teach or reteach social skills to this group of students (Tier 2) and to use the progress monitoring utility of the irisPMT to track their progress. Students who do not demonstrate progress could receive additional specialized testing to determine which interventions would be most appropriate. Once these interventions have been identified and put in place, progress monitoring can be continued (Tier 3).

Figure 10.11 demonstrates a classroom with one or more skills problems—that is, one in which students do generally well, but a few common skills stand out as challenging for a number of students. Some skills (e.g., following the rules even when being encouraged by peers to break them) can be difficult for students both to learn and to perform. Students need explicit instruction, practice, and reinforcement to learn skills, and some skills require more practice and support than others. Deficits in these skills may not be affecting other students in the class directly, but they might be having a negative impact on the amount of time the teacher in this class spends correcting these misbehaviors, and they might also undermine instruction. An efficient solution for a teacher facing this situation is to spend a little time developing explicit behavior expectations on the skills in question, and perhaps implementing a social skills program such as WHS that has Tier 2 supports.

Additional Considerations for the irisPMT

Because it is available as an online program, the irisPMT is highly accessible and can be quickly deployed by schools and school districts. The application can reside on every teacher's computer, tablet, smartphone, or personal digital assistant device. The irisPMT also facilitates multiple levels of use: Inputting of student data, screening, and progress monitoring occur at the teacher level, and reviewing data across individual classrooms and an entire school occurs at the administrator level. Learning to operate the program is easy and is supported by video tutorials that walk the user through each operation. In addition to the tutorials,

Screening By Skill		Screen By Student												
Student Name	Skill 1	Skill 2	Skill 3	Skill 4	Skill 5	Skill 6	Skill 7	Skill 8	Skill 9	Skill 10	Skill 11	Skill 12	Tota...	Progress Monitoring
① Sarah F	2	2	3	2	3	2	2	2	2	2	2	2	26	No <input type="button" value="+ Add"/>
① Jared J	3	2	3	3	3	3	3	2	3	2	3	2	32	No <input type="button" value="+ Add"/>
① Thor A	3	3	3	3	3	3	2	2	3	3	3	2	33	No <input type="button" value="+ Add"/>
① April R	2	3	3	3	3	3	3	3	3	3	3	3	35	No <input type="button" value="+ Add"/>
① Thomas B	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Sondra C	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Natalie F	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Ethan H	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Celia H	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Kevin J	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① D'Andre J	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Marcus J	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Evan K	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Rhashon M	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Heidi P	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Devon R	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Isiah R	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Jared S	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Malik S	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Nakisha S	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Peyton S	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Tania S	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Alayna T	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Shantel T	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Grace W	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
① Grant W	3	3	3	3	3	3	3	3	3	3	3	3	36	No <input type="button" value="+ Add"/>
Total	76	76	78	77	78	77	76	75	77	76	77	75		

FIGURE 10.8. Example of a well-managed classroom. Copyright by IRIS Educational Media. Reprinted with permission.

print instruction sheets, a HelpDesk, and a Frequently Asked Questions page are part of the application.

Studies involving the irisPMT show that once users are familiar with its format, they can screen an entire classroom far more quickly than with paper-and-pencil alternatives. Using the 12-item ESBA, teachers can universally screen a classroom of 30 students in approximately 20–25 minutes (Marquez et al., in press).

A Note on Data Security and Student Confidentiality

The irisPMT safeguards data security and student confidentiality in four ways. First, the site employs role-based permission settings for every school using the tool. Personnel with Regular User accounts—that is, teachers or staff who work with particular classes or individuals—can only see data for those classes and students in the classes they

are responsible for. Administrator accounts allow authorized personnel to see student data only for their school. Second, each student name is entered with a unique ID, so that thereafter the student's first and last initials, or some other identifier, are all that's necessary to successfully screen and progress monitor. Third, the irisPMT runs on secure private servers that use industry-standard Secure Sockets Layer (SSL) encryption, as

well as best-practice web development techniques to make sure that data are safe and secure. Physical security practices, such as ensuring that all data center personnel go through a rigorous background security check, are also carried out. Access to data centers is restricted by two-factor authentication, including biometric hand scanners and data centers that are physically isolated from everyone but Level 3 technicians. Pub-

Screening By Skill		Screen By Student													
Student Name	Skill 1	Skill 2	Skill 3	Skill 4	Skill 5	Skill 6	Skill 7	Skill 8	Skill 9	Skill 10	Skill 11	Skill 12	Tota...	Progress Monitoring	
Sydney V	1	1	1	1	1	1	1	2	1	1	1	1	13	No + Add	
Jack H	1	1	1	1	1	1	1	2	2	1	2	2	16	No + Add	
Christian B	1	1	1	1	1	1	1	2	2	2	2	1	17	No + Add	
Zoe N	1	1	1	2	2	2	1	1	2	2	1	1	17	No + Add	
Brandon F	1	1	2	2	1	1	2	2	2	2	1	1	18	No + Add	
Kylie H	1	1	2	2	1	1	2	2	2	2	2	2	20	No + Add	
Mia K	1	1	1	1	2	2	2	2	2	2	2	2	20	No + Add	
Gavin B	1	1	2	2	2	2	2	2	2	3	2	2	23	No + Add	
Sophia V	2	2	2	2	2	2	2	2	2	2	2	2	24	No + Add	
Luke Q	2	2	2	3	2	2	2	2	2	2	2	2	25	No + Add	
Justin R	2	2	3	3	3	2	2	2	2	2	2	2	27	No + Add	
Aaron M	2	2	3	3	3	2	2	2	2	2	2	2	27	No + Add	
Trevor S	2	2	3	3	3	2	2	2	2	2	3	2	28	No + Add	
Isaiah A	2	2	2	3	2	2	3	3	2	3	2	2	28	No + Add	
Audrey K	2	2	3	3	3	2	2	2	2	3	2	2	28	No + Add	
Aiden Q	2	2	3	3	2	2	2	2	2	3	3	2	28	No + Add	
Jason O	3	2	2	2	2	2	3	2	2	3	3	3	29	No + Add	
Riley S	2	2	3	3	3	2	3	3	2	3	3	3	32	No + Add	
Drew S	2	2	3	3	3	2	3	3	3	3	2	3	32	No + Add	
Jada S	3	2	3	3	3	3	3	3	3	3	2	3	34	No + Add	
Cooper S	3	2	3	3	3	3	3	3	2	3	3	3	34	No + Add	
Tanya S	2	3	3	3	3	3	3	3	3	3	3	2	34	No + Add	
Gabriella T	3	2	3	3	3	3	3	3	3	3	3	3	35	No + Add	
Jenna T	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Bailey W	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Denzel W	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Total	51	48	61	64	60	54	60	61	58	64	59	57			

FIGURE 10.9. Example of a classroom with management problems. Copyright by IRIS Educational Media. Reprinted with permission.

Screening By Skill		Screen By Student													
Student Name	Skill 1	Skill 2	Skill 3	Skill 4	Skill 5	Skill 6	Skill 7	Skill 8	Skill 9	Skill 10	Skill 11	Skill 12	Tota...	Progress Monitoring	
Anna F	1	1	2	1	2	1	1	1	1	3	1	2	17	No + Add	
John J	1	1	2	2	1	2	1	2	1	2	2	2	19	No + Add	
Thadeus A	2	1	3	2	2	1	1	2	2	3	2	2	23	No + Add	
Arial R	2	2	3	2	2	2	2	1	1	3	2	2	24	No + Add	
Jarret B	2	1	2	2	2	2	1	3	2	3	3	2	25	No + Add	
Sierra C	3	2	3	3	2	2	1	2	2	3	2	2	27	No + Add	
Natasha F	2	2	3	3	3	2	1	2	2	3	2	2	28	No + Add	
Evan H	2	2	3	3	3	3	2	2	2	3	3	2	30	No + Add	
Chelsea H	2	2	3	3	2	3	1	3	2	3	3	3	30	No + Add	
Jacob J	3	3	3	3	3	3	3	3	3	3	2	2	30	No + Add	
Andre J	3	3	3	3	3	3	3	3	2	3	3	2	34	No + Add	
Mark J	3	3	2	3	3	3	3	3	3	3	3	3	34	No + Add	
Liam K	3	3	3	3	3	3	2	3	3	3	3	3	35	No + Add	
Xavier M	3	3	3	3	3	3	3	3	2	3	3	3	35	No + Add	
Isabella P	3	3	3	3	2	3	3	3	3	3	3	3	35	No + Add	
Darian R	3	3	3	3	3	3	2	3	3	3	3	3	35	No + Add	
Isiah S	3	3	3	3	3	3	3	3	3	3	3	2	35	No + Add	
Camden S	3	3	3	3	3	2	3	3	3	3	3	3	35	No + Add	
Dominic S	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Nakisha S	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Hunter S	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Morgan S	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Ella T	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Leah T	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Tristan T	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Isaac W	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Total	68	65	74	72	69	68	60	69	64	77	70	67			

FIGURE 10.10. Example of a classroom with individual student problems. Copyright by IRIS Educational Media. Reprinted with permission.

lic access is strictly forbidden, and access is carefully monitored through advanced controls such as card key protocols, biometric security protocols, and 24/7/365 surveillance to ensure that data systems are protected. Finally, access to the irisPMT database is restricted to IRIS Educational Media research and development personnel who have undergone institutional review board certification for human subjects.

Development of the irisPMT

The integration of the irisPMT engine, scaling methodology, and assessment measure into a functional online software application was a project of considerable scope and complexity. Developers and programmers used an iterative and incremental software development approach known as Agile (Cao & Ramesh, 2008; López-Nores et al., 2006,

Screening By Skill		Screen By Student												Tota...	Progress Monitoring
Student Name	Skill 1	Skill 2	Skill 3	Skill 4	Skill 5	Skill 6	Skill 7	Skill 8	Skill 9	Skill 10	Skill 11	Skill 12	Tota...	Progress Monitoring	
Alisha F	2	2	3	2	1	2	2	2	2	2	2	1	23	No + Add	
Jason J	2	2	2	2	2	2	2	2	2	3	2	2	25	No + Add	
Steven A	2	2	3	3	3	2	2	2	2	3	2	1	27	No + Add	
Molly R	3	2	2	2	3	3	2	3	2	2	2	2	28	No + Add	
Bryce B	2	2	2	2	3	3	2	2	3	3	3	3	29	No + Add	
Shelby C	3	2	2	2	2	3	2	2	2	3	3	3	29	No + Add	
Maggie F	3	2	2	2	2	3	2	3	3	3	3	2	31	No + Add	
Blake H	3	3	3	2	3	3	2	3	3	3	2	3	33	No + Add	
Amanda H	3	2	3	2	3	3	2	3	3	3	3	3	33	No + Add	
Brooker J	3	3	3	3	3	3	2	3	3	3	2	3	34	No + Add	
Jayden J	2	3	3	3	3	3	2	3	3	3	3	3	34	No + Add	
Caleb J	3	3	3	2	3	3	2	3	3	3	3	3	34	No + Add	
Joseph K	3	3	3	3	3	3	2	3	3	3	3	3	35	No + Add	
Rashon M	3	3	3	3	3	3	2	3	3	3	3	3	35	No + Add	
Kaylee P	3	3	3	3	3	3	2	3	3	3	3	3	35	No + Add	
Cory R	3	3	3	3	3	3	2	3	3	3	3	3	35	No + Add	
Damarcus S	3	3	3	3	3	3	3	3	3	3	3	2	35	No + Add	
Ryan S	3	3	3	3	3	3	2	3	3	3	3	3	35	No + Add	
Eduardo S	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Shanelle S	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Logan S	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Abigail S	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Bailey T	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Paige T	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Nicolas T	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Javier W	3	3	3	3	3	3	3	3	3	3	3	3	36	No + Add	
Total	73	70	73	69	73	75	60	73	73	76	72	70			

FIGURE 10.11. Example of a classroom with one or more skills problems. Copyright by IRIS Educational Media. Reprinted with permission.

2009), which lends itself to the exploratory, iterative, and collaborative nature of scientific inquiry. The Agile method breaks software development tasks into small increments with short development time frames (sprints). Each iteration or sprint is designed to provide sufficient adequate functionality to have a testable, though not marketable, release with minimal problems. Each incremental release was tested by panels of teach-

ers. A total of five sprints were undertaken before a study version of the irisPMT was ready for use in experimental trials.

The stakeholders involved in the iterative development and testing of the irisPMT included teachers, behavior specialists, school administrators, and parents. Each group contributed valuable input that helped shape development of the tool. For example, teachers stressed the need for intuitive and

efficient screening procedures and for assessing students in positive terms (i.e., in terms of their behavioral proficiency rather than their maladaptive behaviors). Parents likewise expressed a desire for communication with schools that didn't involve "bad news" about their children. Principals and school administrators requested that they be able to aggregate data from individual classrooms in order to form a whole-school behavioral picture. They also needed assurance that the tool would protect student privacy and confidentiality.

Next Steps in the Development of the irisPMT

With the emerging consensus on the importance of data in guiding instructional decisions for improving student outcomes (Brown-Chidsey & Steege, 2010; Honig & Coburn, 2008; Huffman & Kalnin, 2003; Wayman & Cho, 2008; Wayman, Midgley, & Stringfield, 2005) and holding schools accountable for student achievement (Anderson, 2009; Hanushek & Raymond, 2005; No Child Left Behind Act of 2001, 2002), there is a growing need to gather, compare, and analyze both behavioral and academic student data. Currently, a lack of access to data in an efficient form that supports decision making ultimately results in ad hoc decisions, insufficient administrative support for data use, lack of collaboration among teachers and with instructional or behavioral teams, and concerns about how student data might reflect on teacher effectiveness (Lachat & Smith, 2009; Wayman, 2005). Often the sheer complexity of the process of arriving at decisions that are likely to improve student achievement can easily result in an abundance of data that remain largely unused (Schmoker, 2005; Wayman, 2005).

On the other hand, if relevant academic and behavior data could be efficiently compiled in a single repository, key stakeholders, such as teachers, instructional and behavioral specialists, school psychologists, and administrators, would have immediate access to aggregated data in behavioral and academic domains. They would be able to access that data to observe trends, to note convergences among behavioral and academic data, and to develop data-based inferences for helping students learn.

In order to expand the capability of the irisPMT in gathering and coordinating disparate forms of data, both the tool's *data functionality* (i.e., relevance, access, interpretability, efficiency) and its *technological versatility* (i.e., accommodating collection of data from multiple stakeholders and encouraging communications) need to be extended. In addition, further inquiry into which types of data are most relevant is needed and should focus on a series of key questions: (1) What classroom-level data are relevant for instructional decisions? (2) Who has the necessary knowledge to provide those data? (3) How can those data be collected with a minimum amount of effort? (4) When can the data be made readily accessible to classroom teachers for making decisions? and (5) How can the data assist teachers in making instructional decisions?

In its present state, the irisPMT does more than collect data and inform decision making. As a result of its simple graphic display capabilities, it is also a means for communicating information at a glance on classroom-wide or individual student behaviors. This capability promotes a neutral and objective way of viewing and discussing behavioral performance, which is useful when different stakeholders (including educators, parents, and students) discuss performance. It is also possible that sources of student data might be expanded to include parents and students, as their observations can be included in an organized manner. The irisPMT can thus be presented as a practical tool capable of realizing the diverse recommendations for making instructional decisions that facilitate student success.

The irisPMT's architectural structure and technological versatility, and its capacity to facilitate decisions that will support student success, are virtually limitless. Student success is often a function of multiple causal domains and multiple people. Behavioral problems may be due to academic difficulties and vice versa (Algozzine, Wang, & Violette, 2011); parental expectations may have an impact on students' responsiveness to instruction (Hoover-Dempsey & Whitaker, 2010; Willson & Hughes, 2006); and peer relationships are likely to influence student behavior (Hughes & Kwok, 2006). Current assessment practices often require teachers to use different tools to gather data on

each of these domains, and then somehow to synthesize those data to arrive at maximally beneficial decisions for their students.

The irisPMT's ability to house multiple scales at the same time—for example, behavioral scales (like the ESBA), academic scales, or classroom climate scales—creates the opportunity to produce an assessment portfolio that can give teachers simultaneous access to students' performance in multiple domains. The irisPMT's consistent and intuitively interpretable scaling system allows easy interpretation of screening and progress monitoring of data across multiple domains, and thus facilitates more meaningful decision making regarding the classroom's ecology as well as for individual students. An example involving students illustrates this flexibility. A student whose behavior ratings are primarily "cause for concern" and whose reading scores reflect "mastery" may need greater academic challenges; a student whose reading performance is rated as "needs improvement" and whose behavior reflects primarily "mastery" may need remedial reading instruction. This outcome is only possible if student profiles can be developed and compared across multiple domains.

In addition, the irisPMT's versatile accessibility through computer, tablet, or smartphone devices creates the opportunity to collect data from multiple informants (e.g., teachers, parents, and students). Given that positive school-home communication has been identified as a major predictor of student success (Hoover-Dempsey & Whitaker, 2010) as well as one of the greatest challenges for teachers (Epstein, 2001), the irisPMT's capacity to allow multiple users, including parents, to rate students in critical domains can be leveraged to initiate positive contact between parents and teachers in regard to students' accomplishments and the best ways to meet their needs. Giving students access to the irisPMT to rate themselves could promote students' self-management skills, as well as give them a voice in having their needs met.

Although still in its relative infancy in terms of broad usage, the irisPMT has already shown that it provides an efficient and effective approach to screening and progress monitoring that teachers welcome (Marquez et al., in press). As it is further

adopted and used by multiple stakeholders, it should prove to be a major advance in assessment practice—one that allows teachers to easily synthesize high-quality data and make decisions that address students' needs across multiple domains.

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Systematic Progress Monitoring of Students with Emotional and Behavioral Disorders

The Promise of Change-Sensitive Brief Behavior Rating Scales

Clayton R. Cook, Robert J. Volpe, and John Delpont

Children and youth with or at risk for emotional and behavioral disorders (EBD) experience significant difficulties in establishing and maintaining satisfactory interpersonal relationships, abiding by the rules, regulating their emotions, and performing executive function skills (Maag, 2005, 2006; Walker, Ramsay, & Gresham, 2004). These social and emotional deficits have been shown to lead to negative outcomes in educational, psychosocial, and vocational domains of functioning (Kupersmidt, Coie, & Dodge, 1990; Newcomb, Bukowski, & Pattee, 1993; Newman, Wagner, Cameto, Knokey, & Shaver, 2010; Parker & Asher, 1987). Accordingly, educators of students with EBD need access to effective, evidence-based interventions and programs to remediate these deficits and improve performance inside and outside of school.

Numerous interventions and programs exist to improve the social-emotional functioning of students with EBD, including schoolwide positive behavioral interventions and supports, social-emotional learning curricula, the Good Behavior Game, proactive classroom management strategies, and cognitive-behavioral therapy, to name a few (Cook, Browning Wright, Gresham, & Burns, 2010). In order to implement such interventions successfully and make

data-based decisions about implementation, there must be technically adequate, sensitive, and efficient measurement tools for systematically and continuously monitoring the extent to which students are responding to the interventions. “Progress monitoring” refers to the systematic, repeated collection of data while an intervention or program is being implemented, in order to make ongoing data-based decisions about maintaining the current intervention, modifying the goal, modifying the intervention, intensifying the intervention, or lessening the intervention (Sprague, Cook, Browning Wright, & Sadler, 2008). Research has shown that progress monitoring is fundamentally a problem-solving procedure that produces benefits independent of child outcomes (Fuchs & Fuchs, 1986; Vannest, Davis, Davis, Mason, & Burke, 2010). There is an emerging literature base in the area of progress monitoring of social-emotional functioning, which we describe below, but there is currently no uniform agreement among researchers and practitioners regarding what tools should be used for this purpose (Chafouleas, Christ, Riley-Tillman, Briesch, & Chanese, 2007; Gresham et al., 2010; Hintze, 2005; Merrell, 1999; Renk & Phares, 2004).

More traditional approaches to school assessments have often been dictated by

rules and regulations that interfere with the adoption and use of evaluation tools better suited to problem solving and decision making for individual students. In special education, perhaps the clearest example of this is the use of standardized measures of ability, achievement, and behavior to make eligibility determinations for students who need special education and related services. Despite the popularity of this approach in making special education eligibility decisions, these types of assessments do not inform instruction (i.e., they lack treatment validity); nor can they be used to monitor students' progress and responsiveness to intervention (Fuchs & Fuchs, 1998; Gresham, 2002; Gresham & Witt, 1997). In fact, these types of standardized measures were not designed to evaluate the progress of individual students and historically have not been used to make special education eligibility or exit decisions based on how students respond to interventions (Gresham, 2007; Shinn, 2008).

An alternative to this approach consists of problem solving and continuous progress monitoring of academic behavior via curriculum-based measurement (CBM). CBM has the most well-established empirical history and close connection to problem-solving-based, assessment practices (Deno, 2005; Shinn, 1989). CBM tools are now among the most highly regarded assessment tools for continuous progress monitoring to quantify student performance in reading, mathematics, spelling, and written expression within short-term interventions (Deno, 2005; Shinn, 2008). To be useful in formative evaluation, progress monitoring tools must meet technical adequacy standards (reliability and validity), must be sensitive to short-term changes in academic performance, and must be time-efficient so that teachers can monitor student progress frequently (once or twice per week). In over 25 years of systematic research, CBM has been shown to provide reliable and valid indicators of general achievement (e.g., in reading, mathematics, and written language) that are sensitive to student improvement when used to monitor progress (Shinn, 1989, 2008).

Unfortunately, the same cannot be said for continuous progress monitoring tools for social and emotional performance. There is

currently no CBM equivalent for monitoring students' progress in response to interventions in the area of social and emotional functioning. Although several measurement procedures have been recommended for this purpose, there is generally no consensus among researchers and practitioners regarding the best approach to progress monitoring practices for students with EBD. In the absence of consensus, there is a need to delineate the approaches that are most efficient to implement and offer the greatest benefits for students with EBD.

Review of Current Social-Emotional Progress Monitoring Tools

Progress monitoring has been argued to be the backbone of a problem-solving model, as it provides the data necessary to monitor student progress and make important decisions with regard to intervention implementation, goal setting, and/or placement decisions (Chafouleas, Volpe, Gresham, & Cook, 2010). The field of EBD could benefit greatly from technically adequate progress monitoring measures that could be used to achieve the objectives described above. Several methods have been proposed as continuous progress monitoring tools for students' social behavior. These include (1) systematic direct observations (SDOs), (2) direct behavior ratings (DBRs), (3) office discipline referrals (ODRs), and (4) behavior rating scales. However, there are conceptual, technical, and practical problems associated with each of these methods (Hintze, 2005; Mash & Terdal, 1988; Shapiro & Kratochwill, 2000). These proposed progress monitoring measures are reviewed below, with a specific focus on the advantages and disadvantages of each.

Systematic Direct Observations

SDOs are considered the "gold standard" in behavioral assessment methodology and are among the assessment tools most frequently used by special educators and school psychologists (Hintze, 2005; Merrell, 2003; Shapiro & Clemens, 2005; Wilson & Reschly, 1996). Much like CBM, SDOs are used to collect data in order to identify

social-behavioral targets for intervention, to determine students' baseline levels of performance, and to set goals against which the effects of intervention might be evaluated. A major advantage of SDOs is that they have been shown to be highly sensitive in detecting intervention effects or change (Gresham, 2005; Johnston & Pennypacker, 1993; Miltnerberger, 2003).

SDOs are *direct* measures of behavior because they are measuring behavior at the time and place of its actual occurrence. Typically, an observer using SDOs in a school will observe a student's behavior in a naturalistic setting (classroom or playground), using a preestablished observational code in which each behavior is "operationally defined." An operational definition of a behavior is a definition that allows the behavior to be objectively observed and recorded. SDOs measure various *dimensions* of behavior, such as frequency (using event recording and interval recording methods), temporality (using duration, latency, and interresponse time recording), and intensity/magnitude; they may also involve permanent-product recording of behavior. The choice of which methods are used depends on the nature of the target behavior, its accessibility to observation, and the frequency of target behaviors (Alberto & Troutman, 1999; Johnston & Pennypacker, 1993).

There are several core assumptions upon which the practice and interpretation of SDOs are based. One core assumption is that observed behavior is considered to be a *sample* of behavior in a specific situation (Goldfried & Kent, 1972; Nelson & Hayes, 1979). It implies that behavior is generalizable only to those specific environments in which it was observed. Another core assumption of direct observation is the *repeated measurement of behavior over time*. The repeated measurement associated with SDOs yields "intrasubject variability," which can be used to evaluate a student before, during, and after an intervention (Johnston & Pennypacker, 1993). A third core assumption of SDOs is that they are idiosyncratic because they focus on an individual rather than groups of individuals with a common disability type (e.g., EBD or attention-deficit/hyperactivity disorder [ADHD]). Thus SDOs assume that what is observed is a *sample* of

behavior rather than a *sign* of some underlying hypothetical construct (Gresham, 1985; Gresham & Lambros, 1998).

Disadvantages of SDOs

A simple question to ask about SDOs (or any progress monitoring tool, for that matter) is this: How generalizable are the results of SDOs to actual school practice? The results of a study by Hintze and Matthews (2004) are not encouraging for using SDOs to make important decisions about students in classrooms. This generalizability study revealed that participants would have to be observed four times per day (at 30 minutes per observation) for 4 school weeks (20 days) to obtain acceptable levels of reliability. This means that acceptable reliability can only be obtained by using SDOs for 2,400 minutes or 40 hours of observation time. This is impractical for almost any practitioner in school settings and virtually impossible for classroom teachers. In fact, as suggested by Salvia and Ysseldyke (2004), reliability coefficients of .90 or greater are required to make important programmatic or instructional decisions for students, and coefficients of .70 are recommended for screening decisions.

Educators serving the population with EBD should be aware of other disadvantages of this approach. First, the performance of an SDO in a school is more costly in terms of time, money, and resources than other measurement methods, such as DBRs, ODRs, or brief behavior rating scales. For example, if the progress of 15% of the students in a 500-student school was being monitored, and a 30-minute SDO was performed once a week for each student, it would take a staff person 32.5 hours to collect the progress monitoring data. Obviously, this is likely to exceed the amount of time a school psychologist (or any other educator, for that matter) can devote to progress monitoring. Second, an SDO only captures a limited sample of behavior that may or may not be representative of a student's performance throughout the day or week.

Therefore, although many researchers consider SDOs to be the "gold standard" for progress monitoring of students' behavior, and although federal regulations (most recently the Individuals with Disabilities

Education Improvement Act of 2004) stipulate their use, the reliability and feasibility of these procedures are questionable. Nevertheless, if the necessary personnel are available to conduct SDOs in a school, then they may be a viable option as a progress monitoring tool for social-emotional performance. At times, an SDO may not be the usual progress monitoring tool, but may be used instead to augment another selected progress monitoring tool. This may occur especially when questions of treatment fidelity arise, or when a particular need for additional data arises (such as during parent-district disputes, or when outside physicians require augmented data on performance for medication titration purposes).

Direct Behavior Ratings

DBRs are hybrid assessment tools, combining features of SDOs and behavior rating scales, that have been recommended as more practical alternatives to SDOs for progress monitoring. DBRs (sometimes referred to as “home notes,” “daily report cards,” or “home-school notes”) are observation tools that meet the following criteria: (1) specifying target behavior(s); (2) rating behavior(s) at least once per day; (3) sharing rating information across individuals (e.g., teachers, parents, students); and (4) monitoring the effects of interventions (Chafouleas, McDougal, Riley-Tillman, Panahon, & Hilt, 2005; Chafouleas, Riley-Tillman, & McDougal, 2002; Riley-Tillman, Kalberer, & Chafouleas, 2005). DBRs are increasingly being used as progress monitoring tools because they have the potential to be time- and resource-efficient methods for measuring behavior change over time. DBRs have been shown to be feasible, acceptable, effective in promoting positive student behaviors, and successful in increasing teacher-parent communication (Blechman, Taylor, & Schrader, 1981; McCain & Kelley, 1993; Nolan & Gadow, 1994; Pelham, 1993).

In addition to these advantages, DBRs are flexible because they can be adapted to meet the needs of a given situation. DBRs can vary according to the class of behavior being rated (social or academic), the nature of the behavior (prosocial or problem behavior), type of rating (checklist vs. rating scale), frequency of ratings (daily, weekly), the rater

(teacher, parent, or child), and the frequency with which rating information is shared with others (daily, weekly) (Chafouleas et al., 2002).

With respect to rating formats, DBRs can vary quite widely. For example, in a study by Chafouleas and colleagues (2005), ratings were made on a 6-point scale as follows: 0 = “no off-task behavior,” 1 = “occasional off-task behavior” (20% of time period), 2 = “some off-task behavior” (21–40% of time period), 3 = “approximately half of time period” (41–60%), 4 = “most of time period” (61–80%), 5 = “majority of time period” (81–100%). In another study, DBRs were scaled on a 105-mm line into 15 equal intervals, with anchors representing 0, 50%, and 100% occurrence of the target behavior within a specified observation period (Chafouleas, Christ, Riley-Tillman, Briesch, & Chanese, 2007). This scaling flexibility makes DBRs attractive tools for estimating the frequency of target behaviors, and potentially viable as progress monitoring tools. However, the impact of using different scaling formats on the technical adequacy of DBRs is not well researched or understood.

Evidence for the reliability and validity of DBRs is sparse. Several studies, some of which are over 30 years old, have described the use of DBRs in monitoring behavior, but did not investigate their psychometric adequacy (Blechman et al., 1981; Dougherty & Dougherty, 1977; Nolan, Gadow, & Sverd, 1994; Pelham, 1993). Only one study was found in the literature that directly compared DBRs with SDOs (Chafouleas et al., 2005). Participants in this study were 32 teachers (primarily general education teachers) from six schools. DBRs involved two separate ratings of two target behaviors: “on-task behavior” and “noncompliant/disruptive behavior.” Each behavior was rated on a 6-point Likert scale (range 0–5) by teachers during a time when the target behaviors were most likely to occur over two 15-minute periods. Systematic direct observations were also collected using 20-second momentary time-sampling intervals over two 15-minute observation periods. The correlations between DBRs and direct observations were .48 and .65, respectively, for observation periods 1 and 2, with a mean teacher-observer composite correlation of .67. These data suggest only a moder-

ate degree of correspondence between DBRs and SDOs, indicating the potential limited representativeness of DBR data.

Disadvantages of DBRs

To date, the extant research on DBRs pertains to only a few narrowly defined target behaviors (e.g., academic engagement and noncompliance). Accordingly, there is a need to assess whether DBRs can actually serve as a form of general outcome measurement (i.e., whether they possess strong evidence of criterion-related validity) and therefore can be used to infer changes in overall social-emotional functioning.

In addition, as noted above, evidence for the psychometric adequacy of DBRs is lacking. The limited validity studies that have been conducted show only moderate correlations between DBRs and SDOs, with most of the variance between the measures being unexplained. Only one generalizability study has been conducted, which showed that most of the variance in DBRs were attributed to students (targets of the rating) and to raters (suggesting poor interrater reliability) (Chafouleas et al., 2007). Decision studies indicate that acceptable levels of reliability using DBRs can be obtained after approximately 10 ratings. These findings question the scientific support and viability of DBRs as tools for monitoring students' progress in social-emotional competence and as bases for making important educational decisions.

In response to the shortcomings of single-item DBRs, Volpe and Briesch (2012) conducted a generalizability study to compare the technical adequacy of single-item and multi-item DBRs. The primary purpose of the study was to compare these two types of DBRs to identify the number of times ratings would need to be completed before the obtained score from the different approaches to constructing DBRs would be sufficient. The authors examined the generalizability of single-item and multi-item DBRs across raters and occasions, and demonstrated that multi-item DBRs provided a more dependable foundation for making timely decisions across decision-making contexts. The results of this study highlight the promise of designing and using multi-item DBRs to monitor students' progress in response to an intervention.

Office Discipline Referrals

Although they are not direct measures of behavior, ODRs have been used as progress monitoring tools for social behavior. The School-wide Information System (SWIS™) and similar web-based programs are designed for general monitoring of behavioral functioning at the school and individual levels. At the school level, the number of ODRs per month, the types of problem behaviors leading to the ODRs, the locations of problem behavior events, problem behavior events by time of day, and other variables can be ascertained. At the individual level, SWIS can be used to monitor data such as the number of ODRs for a student each week, the types of problem behaviors leading to this student's ODRs, and the time of day the student is most likely to receive an ODR. Many features of an ODR system such as SWIS make it an appealing approach to collecting progress monitoring data: (1) Data obtained via this method are by-products of a documented referral process in response to problem behavior; (2) additional data-collecting procedures are not required; and (3) the nature of the data is likely to possess high relevancy for teaching staff within a school system (Riley-Tillman, Kalberer, & Chafouleas, 2005).

Disadvantages of ODRs

ODRs possess several limitations for use as a progress monitoring system for social-emotional performance. The first major limitation is that they generally are only good indicators of *externalizing* behaviors; they are poor at measuring *internalizing* behavior patterns and problems (e.g., withdrawn, anxious, and depressed behaviors). ODR data are also of limited use for progress monitoring because minor behavior problems often go undetected, given that ODRs are typically reserved for more intense behavior problems that warrant assistance from someone outside the classroom. Also, whether a student receives an ODR is often dependent on a teacher's tolerance level, which can fluctuate from day to day and differ from teacher to teacher (Langdon, 1997; Skiba, Peterson, & Williams, 1997). Collectively, these limitations combine to limit the utility of ODRs as the most viable approach

to progress monitoring of social-emotional performance.

Behavior Rating Scales

Behavior rating scales are among the most frequently used measures of social behavior in school and clinic settings. Such scales are considered *indirect* forms of behavioral assessment because they rely on retrospective ratings of student behavior; unlike SDOs, behavior ratings are not measuring behavior at the time and place of its actual occurrence. These ratings can perhaps best be conceptualized as measures of students' *typical behavior* in a specific setting (e.g., classroom or home). Behavior ratings have several advantages: (1) The information they provide is quantifiable and is amenable to reliability and validity analyses; (2) they can be used to assess a broad range of behavior (social skills and problem behaviors); (3) multiple raters can be used to assess social behavior from multiple perspectives (teacher, parent, student); and (4) normative data provide a standard for judging the severity of behavior by comparing an individual to representative samples of other individuals (McConaughy & Ritter, 2005; Merrell, 2000).

Disadvantages of Behavior Rating Scales

Behavior rating scales have a number of disadvantages that have been articulated in the literature and that potentially limit their utility in school settings as progress monitoring tools. First, such scales have been criticized because they are not objective, in that they are measuring a rater's *perception* of a behavioral occurrence rather than its actual occurrence. Second, and more importantly for this chapter, many argue that broad-band behavior ratings are not sensitive to change as progress monitoring tools. Despite this criticism of their limited sensitivity to change, behavior rating scales are the most widely used indicators of treatment outcome (for comprehensive reviews, see Kazdin & Weisz, 2003; Weisz, Weiss, Han, Granger, & Morton, 1995). However, few if any studies have used behavior ratings as continuous progress monitoring tools.

It is important to note that these disadvantages are mainly theoretical in nature,

as there is limited empirical research to substantiate them (Merrell, 2000). The following section provides a rationale and description of modified behavior rating scales that are more sensitive to intervention effects and other changes, and thus have greater potential for use as progress monitoring tools.

Change-Sensitive Brief Behavior Rating Scales

In light of the shortcomings of SDOs, DBRs, ODRs, and behavior rating scales as progress monitoring tools for social and emotional performance, brief behavior rating scales (hereafter abbreviated as BBRs) that include change-sensitive rating items have been developed to provide educators with more efficient, technically adequate, and dependable tools to monitor a student's response to an intervention. The notion of change-sensitive rating scales is not a novel concept, considering that researchers have been using them to monitor individuals' progress in response to intervention across many disciplines. To build the case for the use of BBRs, the following is a discussion of how change-sensitive rating scales have been applied to measure and monitor individuals' progress in response to interventions for different disorders.

Change-sensitive rating scales have been developed and used as progress monitoring tools to assess stimulant medication effects in classroom settings for children with ADHD. DuPaul and Stoner (2003) suggest that ratings of ADHD core symptoms (inattention, impulsivity, and hyperactivity) be collected across dosage conditions to assist physicians in evaluating and titrating stimulant medication. Fabiano and colleagues (2007) used brief versions (a five-item Inattention/Overactivity scale and a five-item Oppositional/Defiant scale) of the IOWA Conners Teacher Rating Scales (Milich, Loney, & Landau, 1982), which were completed daily by teachers to evaluate medication dosage effects for children with ADHD. Other focused teacher rating scales have been developed and used in this manner, including the Conners Teacher Rating Scale (Conners, 1997), the ADD-H Comprehensive Teacher Rating Scale (Ullman, Sleanor, & Sprague, 1985), and the ADHD Rating Scale-IV (DuPaul et

al., 1998). These brief rating scales are preferred to more comprehensive, broad-band measures (e.g., the Behavior Assessment System for Children, Second Edition, or the Achenbach System of Empirically Based Assessment) because brief ratings provide more focused information about medication response and are more practical and efficient for teachers to complete.

Parent versions of some of the scales just mentioned have also been developed and used to monitor progress and evaluate medication effects (Barkley, 2006; DuPaul & Stoner, 2003). Kazdin and Whitley (2006) used a Parent Daily Report of oppositional, aggressive, and antisocial behaviors to assess the daily occurrence of 23 behaviors of children involved in a randomized clinical treatment trial for disruptive behavior. Pelham and colleagues (2005) used brief behavior ratings of classroom rule violations, which produced effect sizes four to five times greater than those of non-“blind” teacher ratings of ADHD and oppositional defiant behaviors.

Researchers have developed focused ratings as progress monitoring tools for other disorders and have examined these via change sensitivity analyses. For example, Rief and Hiller (2003) conducted change sensitivity analyses on a 53-item measure of somatoform disorders (the Screening for Somatoform Symptoms-7). Paired-sample *t* tests were used to detect sensitivity to change for participants in the treatment group. Of the 53 symptoms, 42 revealed significant differences between admission and discharge (Time 1 to Time 2). Moderators of change scores were also evaluated in this investigation (e.g., severity of symptoms, depression, and general psychopathology). Similarly, clinical psychologists have developed change-sensitive measures of anxiety and depression to monitor patient progress (e.g., weekly) over the course of treatment and at termination (Lambert, Hansen, & Finch, 2001). Also, changes in depressive symptoms in geriatric populations have been evaluated with the Geriatric Depression Scale, which is a brief measure of core features of major depression (Sheikh & Yesavage, 1986).

In light of the foregoing discussion, it is quite clear that BBRs can be tailored, customized, and used as progress monitoring tools. Several psychometric issues must be

addressed in developing these brief, focused scales. The following sections discuss the advantages of change-sensitive BBRs, as well as specific methods for constructing BBRs and establishing their psychometric properties.

Advantages of Change-Sensitive BBRs

BBRs have been developed and used for monitoring the progress of individuals with specific behaviors that are characteristic of certain psychological disorders, such as ADHD, depression, and somatoform disorders. BBRs are also capable of providing educators and other practitioners with more efficient, technically adequate, and dependable tools to monitor the progress of students' social behavior. A BBR contains a finite number of items that tap various aspects of a student's social-behavioral functioning. These scales can be psychometrically sound (i.e., adequate reliability and validity), highly change-sensitive (which is important for a progress monitoring tool), and brief in nature (e.g., 12 items). The brevity of BBRs makes them feasible for use in everyday school environments.

In addition to these features, BBRs can also serve as general outcome measures (GOMs), which is essential for progress monitoring tools. For a progress monitoring tool to serve as a GOM, the finite measurement of the tool should reflect a student's overall social-emotional functioning, just as blood pressure reflects overall cardiovascular health (see below). Researchers have begun to conduct analyses to demonstrate that BBRs represent GOMs of students' social-emotional functioning (Gresham et al., 2010). That is, changes on these BBRs adequately capture changes in this overall domain—and bringing about such changes is the main purpose of delivering programs and/or supports to students with EBD.

Developing Change-Sensitive BBRs

The main goal of developing a change-sensitive BBR for progress monitoring (like that of developing a CBM tool) should be that it functions as a GOM. A GOM is a tool that provides technically adequate, instructionally relevant data about a person's performance, despite the fact that the

stimulus materials (i.e., behaviors tapped by the items) may be drawn from a source other than the focus of the intervention (Fuchs & Deno, 1994). At this level, one is less interested in a student's behavior in a selected intervention, and more interested in his or her general performance in the domain of social-emotional functioning. In GOM theory, the aim is to develop a measure that transcends the finite measurement process and relates to overall performance in the domain of interest (e.g., externalizing or internalizing behaviors). Therefore, changes on the brief measure correspond to changes in the general domain of interest.

An example from medicine illustrates the point. Medical professionals universally use a blood pressure cuff to measure a person's blood pressure in order to make inferences about overall cardiovascular health. The process takes only a minute or two, but it represents something much larger than the brief assessment needed to derive a ratio of systolic to diastolic. Rather, the brief assessment is used to glean information that goes beyond blood pressure and represents general cardiovascular functioning. Hence, as improvements in blood pressure are detected via the cuff, medical professionals are able to infer that improvements in overall cardiovascular health are also taking place. With measures like blood pressure, professionals have access to tools that are sensitive to a range of interventions targeting improvement in overall health or performance.

A GOM (e.g., a CBM tool) has six characteristics: (1) It is technically adequate in terms of reliability and validity; (2) it is sensitive to short-term changes in behavioral performance; (3) it can be administered repeatedly in a short period of time (e.g., once or twice per week); (4) it reflects general or overall performance; (5) it is easily administered and does not require a great deal of teacher training; and (6) it is not intervention-dependent, so it can be used across a range of interventions targeting the construct of interest. Given the multifaceted nature of a GOM, constructing a change-sensitive BBRs to serve as a GOM is a sequential process and does not involve a single study.

The first phase involves either gaining access to an extant data set or creating one's own data set evaluating the impact of a

known evidence-based program or intervention. This data set should include pre-post behavior rating scales, in order to extract those items that were sensitive to change in response to the intervention. Previous studies have successfully utilized existing data sets to "mine" change-sensitive items from broad-band behavior rating scales, in order to construct briefer versions that detect change in a reliable and valid manner and can be repeatedly administered in short periods of time (Levitt & Merrell, 2009; Stichter, Visovsky, Herzog, Lierheimer, & McGhee, 2010).

The second phase consists of actually identifying the initial pool of change-sensitive rating items to include in an initial version of the BBRs that targets a particular domain of social-emotional functioning. For example, in a previous study, the Teacher form of the Social Skills Rating System (SSRS; Gresham & Elliott, 1990) was used to identify a pool of items that were sensitive to changes in students' social behavior as a function of an intervention (Gresham et al., 2010). The SSRS assesses prosocial behaviors across a variety of domains (e.g., cooperation, assertion, responsibility, empathy, and self-control), as well as items that tap behaviors falling within the dimensions of externalizing and internalizing problems. The inclusion of items assessing social skills, problem behaviors, and academic performance allowed the researchers to capture the construct of social-behavioral performance. The literature spanning the last 20 years supports this assertion, as it has demonstrated that the SSRS does not underrepresent the construct of social behavior, but rather provides adequate coverage of it (Elliott, Gresham, Frank, & Beddow, 2008).

Once the initial pool of change-sensitive items has been captured, the third phase consists of analyzing and comparing the technical adequacy of a series of BBRs containing progressively fewer items. Using the final pool of change-sensitive rating items, the developers can calculate the psychometric properties (i.e., reliability and validity) of BBRs that include fewer and fewer items to determine how few items the final BBRs can possess and yet maintain adequate reliability (i.e., internal consistency and temporal stability) and GOM status (i.e., criterion-related validity).

To perform the sequential studies necessary to construct a change-sensitive BBRS, it is imperative to have access to an extant data set that has certain characteristics. First, the data set must include longitudinal data, in order to assess change in social-emotional functioning from baseline (absence of the intervention) to posttreatment (after the intervention was implemented). Second, the data set must include behavior rating scales that were administered at baseline and posttreatment, to evaluate the efficacy of the intervention. The behavior rating scales provide the content or items to analyze with regard to change sensitivity and technical adequacy. Last, the data set must be collected after the implementation of an evidence-based intervention with integrity.

Change-Sensitive Metrics

Change sensitivity is a quantifiable characteristic of an item. Several statistical metrics can be calculated to quantify, rank, and interpret items according to their change sensitivity. Using prior research as a precedent, we describe five different change-sensitive metrics to identify an initial pool of items for subsequent analyses with regard to psychometric properties of a BBRS (Meier, McDougal, & Bardos, 2008; Volpe, Gadow, Blom-Hoffman, & Feinberg, 2009). These metrics are the odds ratio (OR); the standardized mean difference effect size (SMD ES); dependent and independent t tests; an interaction effect and graph derived from mixed factorial analysis of variance (ANOVA); and the reliable change index (RCI).

When these statistics are calculated, items can be compared within and between the different change-sensitive metrics to discern the items upon which participants are most likely to demonstrate favorable change in response to an intervention. In the absence of clearly delineated methods to detect change-sensitive rating items, prior research has defined such an item as one that is identified as change-sensitive by three out of the five metrics (Gresham et al., 2010). The items that meet this criterion should be included in the final pool for subsequent reliability analyses and validity analyses. Specific guidelines for making decisions regarding an item's change sensitivity, along with a

description and rationale, are provided for each metric below.

Odds Ratio

The percentage of participants in the treatment group who changed in the favorable direction is a simple and potentially useful statistic to represent change sensitivity. However, this statistic does not take into account the percentage of participants in the control group who changed in the favorable direction. If a high proportion of participants in the control group demonstrated change in the favorable direction on a particular item, then the item would be deemed to be poor. To take into account the percentages of participants in both groups who changed in the favorable direction, an OR can be calculated to represent change sensitivity (Mosteller, 1968).

In the context of change sensitivity, an OR represents the odds of changing in the favorable direction for members of the treatment group relative to these odds for members of the control group. The assumption is that if an item is change-sensitive, members of the treatment group should have a significantly greater likelihood of changing in the favorable direction than members of the control group. An OR of 1.0 indicates that members of the control group were just as likely as members of the treatment group to change in the favorable direction. ORs near or below 1.0 are used as indicators of items with poor change sensitivity. On the other hand, ORs greater than 1.0 indicate that the items are change-sensitive, as the odds of changing in the favorable direction for the treatment group are greater than the odds for the control group. This is consistent with the assumption that the control group's behavior should be stable in the absence of intervention.

An item is deemed to be change-sensitive if the corresponding OR is associated with a significant χ^2 statistic. To calculate the OR and χ^2 statistic, a 2×2 contingency table is analyzed, with change status as the columns (change or no change in the favorable direction) and treatment groups as the rows (treatment vs. control). Therefore, the percentages of individuals in the treatment and control groups who demonstrate either favorable change or no/unfavorable change can be compared and analyzed.

Standardized Mean Difference Effect Size

Mean changes in behavior from baseline to posttreatment can also be used as an index of change sensitivity. However, it is useful to divide the difference between the means by the standard deviation, so that the size of the effect will be represented in standard deviation units (Rosnow, Rosenthal, & Rubin, 2000). The resulting metric represents the SMD ES, which is an indicator of the magnitude of change from baseline to posttreatment. Researchers have developed a SMD ES to be used specifically for pre–post control group designs. The following formula can be used to calculate this SMD ES:

$$SMD\ ES = \frac{(M_{post,T} - M_{pre,T}) - (M_{post,C} - M_{pre,C})}{Pooled\ SD_{pre}}$$

As one can see, the difference between the posttreatment item mean and the pretreatment item mean for the control group is subtracted from the difference between the posttreatment item mean and the pretreatment item mean for the treatment group. This value is then divided by the pooled standard deviation of the pretreatment item score. The standard deviation from the baseline scores can be used, since it more accurately captures the true variability in participants' behavioral performance; the variability in posttreatment scores, particularly from the treatment group, is artificially influenced by the presence of the intervention. It is important to take into account the amount of change in the control group because the assumption is that individuals' behavior in the control group should be stable from baseline to posttreatment. Therefore, the magnitude of change for the control group is considered error or noise in the item. Items associated with moderate to large change for the control group are likely to function poorly at detecting real change. To identify an item as change-sensitive according to the SMD ES, one can use Cohen's (1992) conventional guideline for a medium effect size ($d = 0.50$) as a criterion.

Independent and Dependent t Tests

Previous researchers have utilized dependent-samples t tests to identify change-sensitive

scales or items (Meier et al., 2008). However, it is perhaps more defensible to use a multiple-gating process to identify items as change-sensitive according to t tests. The first gate consists of conducting an independent-samples t test between the treatment and control groups' posttreatment mean scores. For an item to be passed on to the next step, it should be associated with a significant independent-samples t test in the favor of the treatment group. A significant t test indicates that at posttreatment the treatment group had a significantly larger mean than the control group. A nonsignificant t test is an indicator that the item functions poorly to detect change, since it fails to differentiate between those who were supposed to change (i.e., treatment group) and those who were not supposed to change (i.e., control group). The second gate entails conducting a dependent-samples t test for only the treatment group. A significant dependent-samples t test indicates that members of the treatment group were likely to change significantly from baseline to postintervention on the item. For items to be judged change-sensitive, they should satisfactorily pass through this multiple-gating process, with both the independent-samples and dependent-samples t statistics significant at $p < .05$.

Interaction Effect and Graph from Mixed Factorial ANOVA

Another useful change-sensitive metric consists of the results from a mixed factorial ANOVA—namely, the interaction effect and graph depicting the means between time and treatment group. The interaction effect between time (baseline vs. postintervention) and treatment group (treatment vs. control) allows one to examine change over time for the treatment group relative to the control group. A significant interaction effect for an item that is also associated with a larger posttreatment mean for the treatment group indicates that members of the treatment group were significantly more likely to change over time than members of the control group. A nonsignificant interaction effect for an item indicates that either group was equally as likely to change on the item or that neither group changed on the item from baseline to posttreatment. The decision criterion that can be employed to classify an

item as change-sensitive or not according to this metric is a significant F statistic ($p < .05$) for the interaction effect (time \times group) from a mixed factorial ANOVA, followed by a graph depicting change in the predicted direction consistent with the intervention.

Reliable Change Index

The RCI is calculated by subtracting an individual's posttest score on an outcome measure from his or her pretest score and dividing this difference by the standard error of difference between post- and pretest scores (Nunnally & Kotsche, 1983). The standard error of difference represents the variability in the distribution of change scores that would be expected if no change had occurred. An RCI of $+1.96$ ($p < .05$) is considered to indicate a reliable change in behavior, and therefore to indicate that an item is sensitive to change in response to an intervention. The RCI metric has the advantage of quantifying reliable changes from baseline to postintervention levels of performance, and confidence intervals can be placed around change scores to avoid over-interpretation of results.

Examining the Technical Adequacy of BBRs

The technical adequacy of a BBR is perhaps best assessed in an iterative process by progressively (one by one) deleting items associated with the weakest change sensitivity metrics, and recalculating the reliability and criterion-related validity estimates for the BBR. The rationale for conducting these analyses is to examine how few items the BBR can possess and still maintain adequate reliability and criterion-related validity (i.e., GOM status). Therefore, the optimal BBR is one that possesses the fewest and most potent change-sensitive items, yet meets requirements for reliability and criterion-related validity. The following is a discussion of the methods one can employ to examine the technical adequacy of a BBR.

Reliability

Reliability is a characteristic of a set of test scores. Specifically, it provides information regarding how consistent the scores are—

that is, how much they may be influenced by error or noise unrelated to the construct or domain of functioning being assessed. In order to examine the reliability of BBRs that possess fewer and fewer items, estimates in the form of internal consistency and temporal stability can be calculated by systematically deleting one item at a time from the pool of change-sensitive items and recalculating the estimates of reliability. Internal consistency estimates in the form of Cronbach's alpha coefficients can be calculated as a method of determining the extent to which items interrelate with one another (Cronbach, 1951). The temporal stability estimate is calculated by correlating pre- and posttreatment scores from the control group, which can be collected at a number of time intervals (1 week, 2 weeks, 1 month, 3 months, etc.). Once reliability estimates for the BBR drop below established guidelines for adequate reliability, reliability estimation procedures can be stopped (Salvia & Ysseldyke, 2004). Nunnally and Bernstein (1994) recommend using the criterion of .70 as a standard to establish the adequacy of an instrument's reliability. These authors advise that in the early stages of validation research, time and energy can be saved by using instruments that have moderate to strong reliability estimates.

Criterion-Related Validity

Messick (1989) defined validity (namely, construct validity) as an overall evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy of inferences and interpretations made on the basis of scores derived from particular measurement tools. Convergent empirical relationships between the target measure and other measures assessing similar constructs (i.e., criterion-related validity) represent a key source of validity evidence that provides support for the underlying construct being assessed by the target measure. When considered in the context of validating a progress monitoring tool, criterion-related validity is paramount in establishing whether the instrument is likely to function as a general outcome measure.

Criterion-related validity estimates can be calculated by correlating a BBR with anchor or "gold standard" measures. Such

measures represent more comprehensive and intensive measurement procedures that capture the construct of interest with proven accuracy. Anchor or “gold standard” measures are often not useful as progress monitoring tools, however, because they are too time-consuming, expensive, or cumbersome to administer. The aim of criterion-related validity analyses is to determine how few items a BBRs can possess and yet maintain strong associations with anchor measures. Once the correlations between the BBRs and anchor measures drop significantly below what would be considered a strong relationship, it is recommended to stop the analyses. The logic behind this decision is that once these correlations drop below the cutoff for a strong relationship, the BBRs begins to lose GOM status. In other words, changes observed on the BBRs are less likely to correspond to changes on the anchor measures.

Research and Practical Applications of Change-Sensitive BBRs

The aim of this section is to put the development and use of BBRs in the context of real-world research and everyday practice related to students with or at risk for EBD. Specifically, this section draws on the outcomes of an Institute of Education Sciences (IES) grant to Drs. Frank Gresham (Louisiana State University) and Clayton Cook (University of Washington). This IES grant represented a 4-year project that was designed with the intent of developing, validating, and disseminating efficient, technically adequate, and change-sensitive BBRs as progress monitoring tools for social-emotional performance. Specifically, the grant sought to adapt and validate existing rating scales of social-emotional and behavioral status so that they could be used as continuous progress monitoring tools in domains of social-emotional functioning. At the outset of the grant, the researchers hypothesized that BBRs would help overcome the disadvantages of other progress monitoring tools and could be used as time-efficient and technically adequate means of monitoring students’ responses to social-emotional interventions. The following description of four primary objectives of the grant provides a guide for researchers and practitioners to the process of constructing, validating, and disseminating BBRs.

Objective 1

The first objective consisted of demonstrating the validity of the above-described approach to constructing a BBRs with change-sensitive rating items (Gresham et al., 2010). The aim of the initial study was to employ quantitative procedures to develop a technically adequate and change-sensitive BBRs as a progress monitoring tool for social behavior. The researchers used an extant data set derived from a randomized controlled trial of the First Step to Success early intervention program, involving 200 student participants enrolled in grades 1 through 3, and conducted from 2004 to 2008 in the Albuquerque (New Mexico) School District (Walker et al., 2009). Four statistical metrics were used to quantify the change sensitivity of items derived from the Teacher form of the SSRS, which was used as a dependent measure in this trial. These metrics were chosen on the basis of their likelihood of detecting changes in individuals’ behavior in response to an evidence-based intervention. Items detected as change-sensitive according to these metrics were then included in the initial version of the BBRs, which was subjected to an iterative analysis process that evaluated the technical adequacy of BBRs with progressively fewer items. The concepts of feasibility, technical adequacy, and GOM status guided these analyses. The overall intent was to develop a BBRs that contained the fewest items (feasibility) possible while preserving reliability (technical adequacy) and criterion-related validity (GOM status).

The results of the investigation revealed that the optimal BBRs was a 12-item scale (see Figure 11.1). This 12-item BBRs contained the most change-sensitive items; maintained reliability estimates greater than .70; and correlated strongly with the SRSS Teacher form’s Total Problems, Social Skills, and Problem Behaviors scales. To consider these results in light of the feasibility or efficiency of use, if it took a rater an average of 15 seconds to complete each item, then it would require approximately 3 minutes to complete the entire scale. If this BBRs was completed twice per week, doing so would take teachers only 6 minutes weekly. This would be feasible for use in real-world educational contexts to track students’ progress, and it is consistent with the use of CBM to monitor students’ academic progress (Shinn,

1. Follows your directions	1 Rarely	2 Sometimes	3 Often	4 Very Often
2. Responds appropriately when hit or pushed	1 Rarely	2 Sometimes	3 Often	4 Very Often
3. Disturbs ongoing activities	1 Rarely	2 Sometimes	3 Often	4 Very Often
4. Ignores peers' distractions	1 Rarely	2 Sometimes	3 Often	4 Very Often
5. Overall classroom behavior	1 Rarely	2 Sometimes	3 Often	4 Very Often
6. Is easily distracted	1 Rarely	2 Sometimes	3 Often	4 Very Often
7. Cooperates with peers	1 Rarely	2 Sometimes	3 Often	4 Very Often
8. Argues with others	1 Rarely	2 Sometimes	3 Often	4 Very Often
9. Gives compliments to peers	1 Rarely	2 Sometimes	3 Often	4 Very Often
10. Joins ongoing activity or group	1 Rarely	2 Sometimes	3 Often	4 Very Often
11. Volunteers to help peers	1 Rarely	2 Sometimes	3 Often	4 Very Often
12. Accepts peer ideas	1 Rarely	2 Sometimes	3 Often	4 Very Often

FIGURE 11.1. The 12-item BBRs derived from the SSRS Teacher form. From Gresham et al. (2010). Copyright 2010 by the National Association of School Psychologists, Bethesda, MD. Reprinted with permission of the publisher, www.nasponline.org.

2008). This first study systematically demonstrated that developing BBRs represents a fruitful avenue to pursue in establishing the CBM analogue of progress monitoring for social-emotional functioning.

Objective 2

Once the viability of this approach to constructing a change-sensitive BBRs was established, the next objective involved gathering additional extant data sets targeting other aspects of children's social-emotional functioning. Such data sets were accessed from studies evaluating the impact of interventions designed to reduce internalizing and externalizing problems, as well as to improve students' strengths or positive attributes. The purpose of obtaining these data sets was

to construct BBRs that would address different established domains of externalizing, internalizing, and prosocial behavior, much as different CBM probes measure different aspects of academic performance (e.g., reading, writing, math, and spelling).

In total, four different data sets were secured that represented the outcomes of large-scale randomized controlled evaluations of evaluated interventions targeting a range of student social-emotional functioning. These four data sets provided the basis for calculating change-sensitive metrics to extract different pools of change-sensitive items tapping various social-emotional domains, such as depressive, anxious, aggressive, inattentive, disruptive, and prosocial behaviors (see Figure 11.2). Specifically, the change-sensitive metrics discussed

above were employed to quantify and identify change-sensitive items that could be included in BBRs measuring specific subdomains of social-emotional performance. Following this step, the technical adequacy of these measures was investigated, to establish the stability, internal consistency, and criterion-related validity of the BBRs. The eventual results of this process were five technically sound BBRs that included change-sensitive items. The next step consisted of validating the extent to which the BBRs were able to successfully detect changes in response to evidence-based interventions implemented under natural educational conditions.

Objective 3

The third objective consisted of conducting a series of studies designed to investigate whether the BBRs were intervention-independent. The importance of establishing intervention independence is twofold. First, it is important for the utility of each measure to transcend the intervention from which the measure’s items were initially derived. Second, the feasibility of a BBR is compromised if there is a need to have a specifically

designed measure for every possible intervention targeting students’ social-emotional performance (i.e., an intervention-dependent BBR). As a result, the project research team conducted a series of multiple-baseline, single-case experiments to evaluate whether the constructed BBRs could be used as progress monitoring instruments across a range of Tier 2 interventions. The multiple-baseline designs included dyads of students who received different interventions that targeted the same domain of social-emotional performance. The preliminary findings from the single-case experiments have demonstrated that the BBRs are sensitive to detecting change across a range of potential interventions. These results provide evidence in support of their status as GOMs, similar to different oral reading fluency probes derived from CBMs.

Objective 4

One of the final objectives of the project was to examine the social validity of the BBRs. “Social validity” refers to the social significance or importance of a procedure’s goals; the social appropriateness or acceptability of the procedures; and the social importance

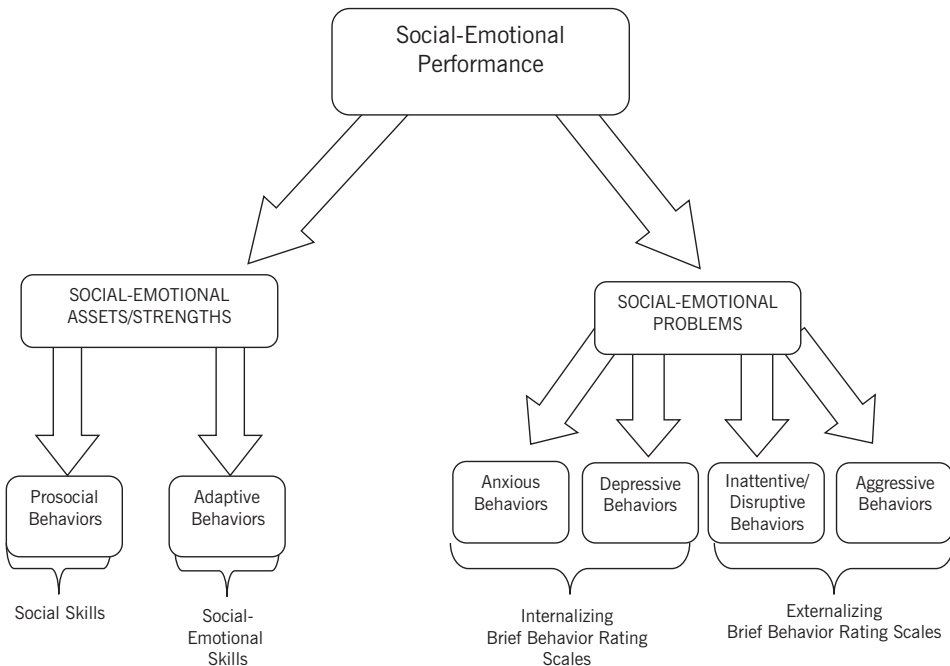


FIGURE 11.2. Subdomains of social-emotional performance, and corresponding BBRs.

of the outcomes that represent by-products of using the procedures (Coddling, Skowron, & Pace, 2005; Wolf, 1978). In order to examine the extent to which teachers found the BBRs to be acceptable, feasible, and useful in everyday practice, teachers across elementary, middle, and high schools were recruited to complete BBRs on identified students in their class twice weekly for one month. The results of the BBR ratings were then graphed and shared with the teachers, so they could examine their students' behavior across time and determine whether classroom practices were effective or not in addressing the students' social-emotional well-being. A total of 120 teachers across 10 schools provided ratings on their students, using BBRs assessing depressive behaviors, anxious behaviors, inattentive/disruptive behaviors, aggressive behaviors, and social skills. The results indicated that teachers across all grade levels found these BBRs to be acceptable, feasible, and effective for use in everyday practice to track students' responses to an intervention.

Conclusion

Progress monitoring tools offer educators who serve students with EBD the means of tracking their progress and making data-based decisions while interventions are being implemented. This problem-solving procedure has been shown to be a critical aspect of effective service delivery and decision making for students with or at risk for developing EBD (Lewis, Hudson, Richter, & Johnson, 2004). In light of the limitations of existing progress monitoring approaches, change-sensitive BBRs represent a promising approach to monitoring students' progress in response to social-emotional interventions. This chapter has demonstrated that (1) quantitative procedures can be utilized to identify change-sensitive items and to construct reliable and valid BBRs; (2) BBRs can be constructed to represent GOMs of particular domains of social-emotional performance; (3) such BBRs are intervention-independent and can be used across a range of interventions targeting particular social-emotional domains; and (4) educators completing BBRs have found them to be both feasible and acceptable for everyday use in schools.

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Strength-Based Assessment Issues, Tools, and Practices in School-Related Contexts and Schools in the United States and Finland

**Regina M. Oliver, Cynthia J. Cress, Hannu Savolainen,
and Michael H. Epstein**

The purpose of this chapter is to provide an overview of strength-based assessment, from the historical movement toward identification of individuals' strengths to current uses of strength-based assessments in schools and school-based contexts. The chapter is organized into five main sections: (1) "Overview of Strength-Based Assessment," (2) "Measures," (3) "Preschool Application of Strength-Based Assessment," (4) "International Application of Strength-Based Assessment," and (5) "Summary." The first section provides an overview of strength-based assessment and current trends in the field, with definitions and purposes of informal and formal strength-based assessments. Examples of formal strength-based assessments are then presented. Strength-based assessment as it applies to preschoolers is described. Next, an international application of strength-based assessment is presented from research in Finland. We end the chapter with a summary and suggestions for future research.

Overview of Strength-Based Assessment

For years children with emotional and behavioral disorders (EBD) have been assessed, categorized, and treated within an approach largely focused on deficits, problems, and

pathologies. A deficit-based approach, while providing useful information regarding skills or competencies these children may be lacking, also focuses parents, teachers, and service providers on the multiple concerns typical of this population. The tendency when such adults are looking for deficits is to find them, which in turn may change the way parents, teachers, or service providers view the children (Kral, 1989); it may even influence the decision to place the children in more restrictive settings (Oswald, Cohen, Best, Jenson, & Lyons, 2001). Researchers, psychologists, and other professionals have called for a more holistic examination of children with EBD—that is, for identifying strengths the children possess, thereby orienting the attention of caregivers and professionals toward more positive aspects of the children (Heubner & Gilman, 2003). The goal of strength-based assessment approaches is to identify children's potential strengths and assets, which can be used to create more positive individualized education programs (IEPs) and to enhance the outcomes of those service plans. Pivotal to achieving these goals are valid and reliable measures of child strengths.

Epstein and Sharma (1998) define strength-based assessment as "the measurement of those emotional and behavioral skills, competencies, and characteristics that

create a sense of personal accomplishment; contribute to satisfying relationships with family members, peers, and adults; enhance one's ability to deal with adversity and stress; and promote one's personal, social, and academic development" (p. 3). Strength-based assessment is based on the following core beliefs:

1. All children have strengths.
2. Assessing a child's or youth's strengths, in addition to his or her deficits, may result in enhanced motivation and improved performance from the child or youth.
3. Deficits should be viewed as opportunities to learn, rather than as fixed or stable traits.
4. Families and children are more likely to engage positively with and maintain in treatment when service plans include a focus on strengths.

When school personnel and other providers focus on a child's strengths and operate within a framework based on these beliefs, it helps identify what is going well with the child and family, and improves the relationship between parents and professionals working with the child. These beliefs also help align strength-based assessments with a common conceptual framework and ties together multiple theories within the field.

Current Trends in the Field

Strength-based approaches are not new to the field, but were given increased focus and attention through the "positive psychology" movement during the late 1990s (Linley, Joseph, Harrington, & Wood, 2006). Positive psychology, credited as originating with the work of Martin Seligman, views psychological well-being not merely as the lack of pathology, but as the presence of such assets as contentment, satisfaction, hope, optimism, and happiness (Seligman & Csikszentmihalyi, 2000). The idea is that if individuals know their strengths, they can apply them in meaningful ways to enhance well-being and build resilience to life's challenges (Norrish & Vella-Brodick, 2004). Similarly, research in the area of risk and resilience posits that when certain factors are present within a child and the child's environ-

ment, these aid in protecting the child from negative outcomes (Doll & Lyons, 1998). By examining strengths and protective factors, researchers aim to determine a child's resilience to negative outcomes, despite a variety of risk factors the child may experience (Lietz, 2013; Vanderbilt-Adriance & Shaw, 2008). Frederickson (2001) offers a "broaden-and-build" theory, which suggests that positive emotions can broaden attention, thereby enabling more creative and flexible thinking and allowing the individual to develop broader goals and positive expectations (see also Beaver, 2008). When applied to a child, this means that increasing the child's positive emotions may allow the child to be more open to achievement and increase expectations and hopes for success. These and other theories from positive psychology have laid the foundation for the movement toward increased strength-based assessment for children with EBD.

Informal Strength-Based Assessment

Informal strength-based assessment methods are commonly used in planning services for individuals within "person-centered" planning or "wraparound" service procedures. The purpose of informal strength-based assessment is to get to know a child and family well enough to develop strength-oriented goals. Informal strength-based assessments typically involve questions posed to the child, family, or other service providers familiar with the child to help identify (1) strengths and resources the child and family possess, (2) the vision and goals the child and/or family has for the future, and (3) what would be needed to achieve those goals (VanDenBerg & Grealish, 1996, 1998). The types of questions asked can vary and should be based on the culture of the child and family. Examples of informal "strength chat" questions for children or parents used in wraparound service planning are provided in Table 12.1. Examples of questions used in person-centered planning are as follows (Wells & Sheehy, 2012):

1. What is the person's history?
2. What is your dream for the individual?
3. What is your nightmare?
4. What are the person's strengths?

5. What are the person's needs?
6. What would the person's ideal day look like?
7. What would it take to make that happen?

Informal strength-based assessments are best suited for use in clinics for service planning or in schools for writing IEPs, to ensure that the individual's and/or family's goals and wishes have been documented and to develop rapport. These informal assessments, however, are not appropriate for monitoring and evaluating outcomes of service plans, IEPs, or other interventions.

Formal Strength-Based Assessment

Although informal strength-based assessments are useful tools to aid in service planning, formal, psychometrically sound instruments are necessary for researchers and practitioners to identify the relative strengths of individuals compared to a normative group and for use as outcome measures for service plans and interventions. Formal strength-based measures should be technically adequate; that is, research should

have demonstrated that they reliably measure the construct (e.g., internal consistency, test-retest reliability, interrater reliability) and are valid for the purposes for which they are used (e.g., content validity, criterion-related validity, construct validity). Several formal strength-based measures have been constructed and continue to be developed; following is a description of several of these formal measures. Since it is beyond the scope of this chapter to list all available measures that are used to assess various strengths, those described below are merely a sample provided to help inform the reader of the variety of strength-based measures that are available and their intended uses.

Measures

Child and Adolescent Needs and Strengths

The Child and Adolescent Needs and Strengths (CANS; Lyons, Weiner, & Lyons, 2004) measures domains of strengths and needs for a child or adolescent and is used for service planning, implementation, and monitoring in the areas of child welfare, mental health, juvenile justice, and early intervention. The CANS is a 57-item instrument in which informants rate the child or adolescent's needs and strengths, using a 4-point scale ranging from 0 to 3 across 6 domains. The anchors for rating each area are based on whether the domain is an area of perceived need or strength. For example, in the Youth Strengths domain, the anchors are as follows: 0 = "centerpiece," 1 = "useful," 2 = "identified," and 3 = "not yet identified." In contrast, the Youth Behavioral/Emotional Needs domain has these anchors: 0 = "no evidence"; 1 = "history or sub-threshold, watch/prevent"; 2 = "causing problems, consistent with diagnosable disorder"; and 3 = "causing severe/dangerous problems." These anchors are intended to provide assistance in determining the level of action required to guide service implementation and monitoring. Items chosen to be rated are selected on the basis of their relevance for service planning and monitoring for the child or adolescent being rated. The CANS assesses a rater's perceptions of the child or adolescent within the last 30 days across six domains:

TABLE 12.1. Examples of "Strength Chat" Questions Used in Wraparound Services

With children

1. If you could say one positive thing about who you are, what would it be?
2. I like what you are wearing. Did you come up with that yourself?
3. What is your favorite song?
4. Who is the most interesting person you know? Why?
5. Who do you spend time with? Who would you like to spend time with?
6. What do you value most in a friend?

With parents

1. What do you do to relax and enjoy yourself? When is the last time you did that?
2. Who do you consider to be close friends, and why are they important to you?
3. What is the area like where you live?
4. What were you like when you were a child?
5. Who has influenced your life the most?
6. What are some positive things about your family?

1. Life Domain Functioning (e.g., family)—13 items.
2. Youth Strengths (e.g., interpersonal)—11 items.
3. Acculturation (e.g., language)—4 items.
4. Caregiver Strengths & Needs (e.g., supervision)—11 items.
5. Youth Behavioral/Emotional Needs (e.g., psychosis)—9 items.
6. Youth Risk Behaviors (e.g., suicide risk)—9 items.

The CANS also has eight separate modules with 75 additional items to rate other areas relevant to a child or adolescent (i.e., Developmental Delay, Trauma, Substance Use, Violence, Sexually Aggressive Behavior, Runaway, Juvenile Justice, Fire Setting). Separate forms of the CANS are available for children or adolescents with a mental health diagnosis (CANS-MH) or Asperger's syndrome (CANS-ASP). The CANS can be completed by parents, teachers, clinicians, or others who are familiar with a child. The psychometric status of the CANS has been examined, and its content and construct validity, internal reliability, and interrater reliability were found to be adequate (Anderson, Lyons, Giles, Price, & Estes, 2002; Lyons et al., 2004).

Strengths and Difficulties Questionnaire

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is a widely used screening instrument for educational and mental health settings that has been translated into over 40 languages. This brief instrument consists of 25 items, which include five strength-related questions and 20 difficulty-related questions. Items are scored as either "not true," "somewhat true," or "certainly true" for the particular child being rated. The SDQ assesses a rater's perceptions of the child or student within the past 6 months (or school year) across five domains:

1. Prosocial Behavior (e.g., generally well behaved, usually does what adults request)—5 items.
2. Conduct Problems (e.g., often fights with other children or bullies them)—5 items.

3. Peer Problems (e.g., has at least one good friend)—5 items.
4. Emotional Symptoms (e.g., often unhappy, depressed, or tearful)—5 items.
5. Inattention/Hyperactivity (e.g., thinks things out before acting)—5 items.

The SDQ can be completed by parents, teachers, or other professionals. In addition, a self-report version is available for youth ages 11–16. The SDQ has been validated in large-scale studies (Goodman, 2001), in clinical and nonclinical settings (Goodman, 1999; Goodman & Scott, 1999), and cross-culturally (Marzocchi et al., 2004; Richter, Sagatun, Heyerdahl, Oppedal, & Røysamb, 2011). The SDQ also possesses adequate concurrent and predictive validity and test-retest reliability (Goodman, 1997; Goodman & Scott, 1999).

Social-Emotional Assets and Resilience Scales

A relatively new strength-based assessment measure is the Social-Emotional Assets and Resilience Scales (SEARS; Merrell, 2011). The SEARS measures the social strengths and resilience of students in grades K–12 for the purposes of universal screening, intervention development, and progress monitoring. The SEARS is a cross-informant system with parent, teacher, child, and adolescent forms. Short forms have 12 items each, and long forms have 41 items. The SEARS uses a 4-point scale ranging from 0 ("never") to 4 ("almost always"). The SEARS assesses a rater's perceptions of a student across four domains:

1. Responsibility: the ability to accept responsibility, behave conscientiously, and think before acting (e.g., makes good decisions)—10 items.
2. Social Competence: the ability to maintain friendships with peers, engage in effective verbal communication, and feel comfortable around groups of peers (e.g., comfortable talking to others)—12 items.
3. Self-Regulation: self-awareness, meta-cognition, intrapersonal insight, self-management, and direction (e.g., identify and change thoughts)—13 items.

4. Empathy: the ability to empathize with others' situations and feelings (e.g., feels sorry when bad things happen to others)—6 items.

Initial evaluations of the SEARS show strong internal consistency and strong convergent and construct validity (Merrell, Cohn, & Tom, 2011; Merrell, Felver-Gant, & Tom, 2010). Studies of reliability show that the SEARS short forms also possess strong test–retest reliability (Doerner, Kaye, Nese, Merrell, & Romer, 2011).

Behavioral and Emotional Rating Scale—Second Edition

The Behavioral and Emotional Rating Scale—Second Edition (BERS-2; Epstein, 2004) is an updated version of the original BERS, which was developed to provide professionals with a standardized, reliable, and valid measure of child strengths (Epstein, Dakan, Oswald, & Yoe, 2001). With the addition of a parent rating scale and youth self-report scale, the BERS-2 provides a comprehensive assessment of child emotional and behavioral strengths. The BERS-2 system includes three forms (Parent Rating Scale, Teacher Rating Scale, and Youth Rating Scale). All versions of the BERS-2 use a 4-point scale ranging from 0 (“not at all like the child”) to 3 (“very much like the child”) with slight wording changes for the youth self-report (e.g., “asks for help” was changed to “I ask for help when I need it”). The youth, parent, and teacher forms also contain eight open-ended questions, based on the risk and resilience literature, to note a child or youth’s specific academic, social, athletic, family, and community strengths. The parent and youth forms include 5 additional items that assess career strengths. The BERS-2 assesses a rater’s perceptions of a child or youth’s emotional and behavioral strengths across five domains:

1. Interpersonal Strengths: control of his or her emotions (e.g., accepts criticism)—15 items.
2. Family Involvement: participation and relationship with his or her family (e.g., interacts positively with parents)—10 items.

3. Intrapersonal Strengths: outlook on his or her competence and accomplishments (e.g., is self-confident)—11 items.
4. School Functioning: competence in school and classroom tasks (e.g., completes school tasks on time)—9 items.
5. Affective Strengths: ability to accept affect from others and express feelings toward others (e.g., acknowledges painful feelings)—7 items.

Studies of the psychometric status of the BERS-2 indicate adequate reliability and validity, with strong internal consistency of the Teacher Rating Scale, Parent Rating Scale, and Youth Rating Scale (Epstein, 2004; Furlong, Sharkey, Boman, & Caldwell, 2007). The BERS-2 also has acceptable levels of long-term test–retest reliability (i.e., 6 months), cross-informant agreement (Synhorst, Buckley, Reid, Epstein, & Ryser, 2005), and convergent validity (Benner, Beaudoin, Mooney, Uhing, & Pierce, 2008). The BERS-2 can be used for (1) documenting children’s emotional and behavioral strengths, (2) identifying children with limited emotional and behavioral strengths, (3) setting goals for an IEP, and (4) documenting progress in strength areas as a result of intervention (Harniss & Epstein, 2005).

Using Strength-Based Assessment Data for IEPs and Intervention Development

A movement that began more than two decades ago is still in its infancy in some ways. The increasing numbers of strength-based assessment measures indicate a continued shift toward incorporating such procedures into treatment and intervention practices; however, less is known about the feasibility of using these measures for treatment planning and intervention development. There is some indication that strength-based assessment is directly associated with significantly better child outcomes than deficit-based assessment, but only if the interventions used with the child also promoted strength-based service delivery (Cox, 2006). Research thus far suggests that how students with EBD are rated on their strengths is predictive of how well they will succeed in less restrictive settings or where they would typically be placed (Cohen, Wiley, Oswald, Eakin, &

Best, 1999; Nickerson, Broscof, & Shapiro, 2004). This information could be valuable for members of teams responsible for service planning, who need to determine which placement is most appropriate for a student. Although this was not the original intent of strength-based assessment, it may eventually be used to determine appropriate interventions that directly target improving student strengths. Psychologists conducting research in the area of strengths and resilience suggest that interventions targeted at improving individual strengths constitute a logical next step to improve the lives of those with a variety of psychological and behavioral difficulties (Tedeschi & Kilmer, 2005). However intuitively appealing as this may seem, more research is needed to determine which interventions would be appropriate for students with EBD, as well as the feasibility of implementing these interventions in the school setting. An examination of strength-based assessment for preschool children is provided in the following section.

Preschool Application of Strength-Based Assessment

Valid assessment of factors that affect early emotional and behavioral health is essential to early identification and treatment of children, in order to reduce the potential for later EBD. The need for strength-based assessment of emotional and behavioral characteristics is significant for preschool children. It is estimated that the prevalence of EBD in preschoolers is similar to that of school-age children—that is, 14–26% of the student population (Egger & Angold, 2006). Behavior problem assessments such as the Child Behavior Checklist/1½–5 (CBCL/1½–5; Achenbach & Rescorla, 2000) have been used to identify emotional and behavioral concerns in preschool children (Kim et al., 2012), as well as in children born prematurely (Loe, Lee, Luna, & Feldman, 2011) and children with autism (Pandolfi, Magyar, & Dill, 2009). Behavior rating scales such as the CBCL/1½–5 or the Conners Rating Scales—Revised (Conners, 1997) classify reported child behavior into profiles of behavior concerns such as inattention, aggression, anxiety, depression, and

hyperactivity. Whereas such behavior problem assessments are useful for verifying a preschool child's need for early intervention services, they only identify pathological patterns of what the child is unable to do, rather than what the child is able to do (Barnard, 1994; Epstein, 1999; Rudolph & Epstein, 2000). This deficit-oriented approach provides insufficient information to identify factors that can be addressed through early intervention to buffer or compensate for a child's emotional and behavioral concerns or risks in preschool years.

Strength-based behavior assessments for preschoolers are designed to identify factors in these children's personality and social context that provide them with resilience to overcome emotional and behavioral challenges that they face. Because preschool children develop EBD in the context of multiple internal and external risk factors, assessment needs to account for multiple types of behavioral and emotional strengths in order to support effective intervention (Serna, Nielsen, Mattern, & Forness, 2002). Specific kinds of strengths that can influence emotional and behavioral outcomes in preschool children can include intrapersonal, interpersonal, preacademic, and family factors. Intrapersonal factors that can influence a child's emotional and behavioral outcomes include emotional regulation, effortful control, and executive function. Interpersonal factors that can moderate the effects of emotional and behavioral concerns, such as peer support and social interaction, are particularly important for early intervention because they have the potential to be supported and expanded in a child's environment. Preacademic factors such as problem-solving strengths should be considered as compensatory factors in affecting functional and preacademic results. Family factors such as parenting strategies are important because they are strong predictors of behavioral outcomes (e.g., internalizing and externalizing problems) later in childhood. However, the impact of parenting behaviors is also mediated by child characteristics, resulting in a bidirectional influence of child and family factors (Brophy-Herb, Stansbury, Bocknek, & Horodyski, 2012). These are all important factors to be considered for measuring strengths in infant and preschool children.

Infant and Preschool Behavioral Strength Assessments

Most infant and preschool strength assessments focus on a child's intrapersonal characteristics, such as temperament or executive control. Temperament measures such as the Toddler Behavior Questionnaire (Goldsmith, 1996) or the Revised Infant Behavior Questionnaire (Gartstein & Rothbart, 2003) use parental input to identify broad dimensions of infant temperament, such as extraversion, negative affectivity, and self-regulation. The Behavior Rating Inventory of Executive Function for Preschool Children (Gioia, Espy, & Isquith, 2000) probes for 63 aspects of child executive functioning, with scales for inhibition, shift, emotional control, working memory, planning, and organizing. A few assessments are available for interpersonal factors as young as preschool, such as the Social Skills Improvement System (Gresham & Elliott, 2008). Many different cognitive or language assessments, such as the Woodcock–Johnson III Tests of Achievement (Woodcock, McGrew, & Mather, 2001) or the Preschool Language Scales, Fifth Edition (Zimmerman, Steiner, & Pond, 2011) can determine academic strengths for a preschool child, but they are not well integrated with other measures of emotional or behavioral strength. Many different standardized and customized research measures of family warmth and cohesiveness have been developed, such as the Home Observation for Measurement of the Environment Scale (Caldwell & Bradley, 1984), but these tend to account for family cohesion as an independent influence on child outcomes. Given the considerable research supporting the bidirectional influence of child and family factors, there is a need for an integrated measure that accounts for multiple aspects of child, social, family, and academic functioning to characterize the emotional and behavioral strengths of preschool children.

Preschool Behavioral and Emotional Rating Scale

One available preschool assessment addresses all four target areas of preschool behavioral strengths: intrapersonal, intra-

personal, preacademic, and family. The Preschool Behavioral and Emotional Rating Scale (PreBERS; Epstein & Synhorst, 2009) is a norm-referenced standardized test designed to assess the emotional and behavioral strengths of preschool children. The assessment has a logical four-factor structure with national norms for children with disabilities and Head Start children, and contains nationally representative norms for typically developing children (Epstein & Synhorst, 2009). Familiar informants rate 42 items that represent four dimensions of emotional and behavioral strengths:

1. Emotional Regulation: a child's ability to appropriately manage emotions in challenging situations (e.g., "accepts 'no' for an answer")—13 items.
2. School Readiness: key preschool learning and language skills associated with later school success (e.g., "follows multi-step directions")—13 items.
3. Social Confidence: appropriate initiations and responses in social situations (e.g., "asks others to play")—9 items.
4. Family Involvement: key environmental and family characteristics that support preschool children's behavioral and emotional development (e.g., "maintains positive relations with family")—7 items.

The reliability and validity of the PreBERS have been established for preschool children with and without disabilities. Internal reliability was established during the norming process for the PreBERS (Epstein, Synhorst, Cress, & Allen, 2009), and interrater and short-term test–retest reliability scores exceeded .80 for parents and professional judges for typically developing children (Epstein & Synhorst, 2009). Similarly high levels of test–retest reliability and interrater reliability for the PreBERS have been demonstrated for teachers and paraprofessionals judging the behavior of children with disabilities (Cress, Epstein, & Synhorst, 2010). The PreBERS four-factor structure for behavior strengths in preschoolers (i.e., emotional regulation, school readiness, social confidence, and family involvement) was replicated with early childhood special education teachers for a large sample of preschool children with disabilities (Cress,

Synhorst, Epstein, & Allen, 2012). The PreBERS is effective at discriminating children with disabilities from typically developing children (Epstein & Synhorst, 2009); it can also characterize children's behavioral and emotional strengths, both for children with identified disabilities and for those with suspected risk for language and/or emotional disabilities.

The representations of intrapersonal strength factors (emotional regulation) and the interaction between a child and preacademic tasks (school readiness), as well as of relationships between the child and family (family involvement) and the child and interaction partners (social competence), distinguish the PreBERS from other strength-based assessments for preschool children. This integrated approach to preschool behavioral strength assessment provides a broad-based representation of behavioral and emotional skills that can be addressed in intervention and educational planning for children with or without diagnosed EBD.

Implications of Strength-Based Assessment for Preschool Intervention

Strength-based assessment provides a tremendous opportunity for supporting and expanding behavior strengths in preschool children through early intervention, and thus for ameliorating or preventing further emotional and behavioral consequences in later childhood. Multifaceted information on preschool behavior strengths (such as that obtained from the PreBERS) can provide broad information on child strengths for practitioners, and clarify the expected relationship of those strengths to child outcomes. Combined external (parenting stress) and internal (child internalizing) behavior problems at ages 4–5 years were among the strongest predictors of child internalizing problems at the age of 11 (Ashford, Smit, van Lier, Cuijpers, & Koot, 2008). If these early risk factors in preschoolers were effectively treated through preventive interventions, Ashford and colleagues estimate that there would be as many as 57% fewer internalizing cases at age 11 years.

Multiple interventions have been developed to target specific internal and/or external behavior strengths in preschool children. A series of reviews highlight strat-

egies for specific preschool interventions addressing self-regulation (Ursache, Blair, & Raver, 2012), effortful control and executive function (Zhou, Chen, & Main, 2012), and mindfulness training (Zelazo & Lyons, 2012) to promote behavioral strength and enhance school readiness in preschool children. Other intervention programs target family strengths to build prosocial behaviors in preschool children, particularly those from high-risk family contexts (e.g., Braet et al., 2009; Dishion et al., 2008). Existing strength-based assessments may be used to track long-term outcomes of these interventions, and additional assessments have been developed to track short-term treatment efficacy changes. For instance, the Eyberg Child Behavior Inventory, for ages 2–17 (Eyberg & Pincus, 1999), is sensitive to change in children's behavior during treatment and can be used to evaluate efficacy of treatment. Similarly, the Therapy Behavior Scale (Rahlin, McCloy, Henderson, Long, & Rheault, 2012) is intended to measure behaviors of infants and toddlers (ages 0–3 years) during behavioral interventions in home or clinic settings, and to track therapy progress regardless of developmental or disability level. Strength-based assessments thus have the benefit of not only verifying the need for behavior intervention, but also targeting and tracking a child's improvements in emotional and behavioral strengths through educational and/or therapeutic services.

International Application of Strength-Based Assessment

Recently Finland has been acknowledged as having one of the top-performing educational systems in the world. The Organisation for Economic Co-operation and Development (OECD, 2010), in reporting its most recent Programme for International Student Assessment (PISA) results, indicated that Finland ranked in the top three OECD countries in reading, science, and mathematics. Moreover, the achievement of Finnish students did not vary significantly by economic status or geographical region, indicating that the Finnish student body is a relatively homogeneous group.

Despite the documented success of the Finnish educational system, there are some

notable challenges. First, the achievement gap between boys and girls is among the highest in OECD countries. Specifically, girls consistently outperform boys across academic areas, and the achievement gap is growing. Second, referral of students to receive full- and part-time special education services has increased over the past decade, which suggests that general education teachers are struggling to include all students in the mainstream. Third, the prevalence of identified behavior problems in special education and general education settings has increased and has been noted in the PISA results.

Government Mandates for Three-Tiered Models of Support

In light of the increase in student referrals for special education services and in the prevalence of behavior problems, the Finnish Ministry of Education has implemented a special education strategy, which provides guidelines for the development and implementation of special education supports. Interestingly, the strategy is similar to recent innovations that have become widely implemented services in the United States—namely, three-tiered behavior prevention models and response to intervention models. The most salient elements of the strategy are as follows: (1) All educational support must be based on the learning and behavioral strengths of students; (2) the intensity of learning support varies and can be organized into three levels (universal, intensified, and special support); (3) special education supports are temporary and must be monitored annually and reviewed at least twice, at the end of second and sixth grades; and (4) support can be enhanced from one level to another level only after there is evidence that despite high-quality instruction and comprehensive support, a student has not reached his or her learning goals. With respect to the value of assessing student strengths, the Finnish Ministry of Education (2007), the Finnish Law of Basic Education (Perusopetuslaki, 2010), and National Curriculum Guidelines (Finnish National Board of Education, 2010) all have emphasized that decisions on students' special education programs must take into account the strengths of individual students in addition

to their difficulties. Given the adoption of this approach in Finland, the need to evaluate and use strength-based measures such as the BERS-2 became obvious.

Research Validating the BERS-2 in Finland

Well-articulated test guidelines offered by numerous professional organizations emphasize that when a test is modified for use in another culture or society, its psychometric qualities—particularly its structure, reliability, and validity—need to be assessed and reestablished (American Educational Research Association, American Psychological Association, National Council on Measurement in Education, 1999). In particular, two modifications in a test demand the additional study of its psychometric properties (Geisinger, 1994): (1) when tests are significantly changed, such as when they are translated from one language to another language; and (2) when tests are used with a population of individuals not included in the original development and standardization samples. For this reason, Savolainen and her colleagues at the University of Eastern Finland began to evaluate the psychometric properties of the BERS-2 with a Finnish population.

The Finnish researchers first translated the BERS-2 into Finnish (Lappalainen, Savolainen, Kuorelahti, & Epstein, 2009). Next, an experienced translator, who had been trained on the content, purpose and use of the BERS-2 and was familiar with Finnish school and community customs and culture, translated the Finnish BERS-2 back into English. Then, to maintain language and content equivalence, the back-translation version was compared with the original English version; differences between the versions were identified and discussed; and the researchers and the translator reached agreement on the needed modifications. For two of the original BERS-2 items, the wording was changed to make them compatible with Finnish culture and values.

A first evaluation of the Finnish BERS-2 was then conducted, to determine whether its original factor structure would be replicated with a Finnish sample (Lappalainen et al., 2009). In this study, ninth-grade students ($N = 608$) completed the Youth Rating Scale form of the BERS-2. The results dem-

onstrated that the original BERS-2 factor structure was replicated in a Finnish sample. Also, the BERS-2 strength index and subscales showed high internal consistency (.71 to .93); this was the case for the total sample, for males and females, and for students with and without special education services.

A second evaluation area involved assessing the cross-informant agreement of the Finnish BERS-2. In order to develop a comprehensive understanding of a student's emotional and behavioral functioning, professionals often call for information across individuals (e.g., teachers, parents, the student, and peers) and across settings (e.g., school, community, and home). Cross-informant agreement is a well-studied area in test development, and previous research on the BERS-2 with U.S. samples have indicated moderate to large correlations. Two studies were conducted with Finnish samples of fifth-grade students, their teachers, and their parents (Sointu, Savolainen, Lappalainen, & Epstein, 2012a, 2012b). In both studies, the results showed that the Finnish BERS-2 possessed moderate to large cross-informant agreement, with coefficients ranging from .35 to .78. Separate cross-informant correlations were conducted for students with and without special education needs; these showed that the agreement of behavioral and emotional strengths across informants was higher for students with special education support (.29 to .78) than for students without such support (.18 to .45).

The next area to evaluate was the convergent validity of the Finnish BERS-2 (Savolainen, Nordness, Sointu, Lappalainen, & Epstein, in press). In this study, teachers and parents rated students on the Finnish versions of the BERS-2 and the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997), a widely used measure to assess emotional and behavioral problems and strengths of children. As would be expected, the strength-oriented subscale (Prosocial Behavior) of the SDQ was positively correlated with the BERS-2 subscales, whereas all of the deficit-oriented subscales of the SDQ were negatively correlated with the BERS-2 subscales. The overwhelming majority of the teacher (96%) and parent (60%) correlations were of moderate to large magnitude, demonstrating the convergent validity of the BERS-2.

A final area that Savolainen and colleagues investigated was the cross-cultural relevance of BERS-2 items in a Finnish school population. In this study, the scale's validity at the individual item level across three informant groups was investigated (Sointu, Savolainen, Lambert, Lappalainen, & Epstein, in press). In a Rasch measurement analysis, the Finnish BERS-2 items and scales were acceptable across all three informant groups, except for four items that demonstrated problematic Rasch properties. Confirmatory factor analysis (CFA) models were fitted to data for the different respondent groups to assess the hypothesized factor structure of the Finnish BERS-2. The factor structure fit the data acceptably; however, a few items in each informant group demonstrated low factor loadings. Moreover, the CFA of the Finnish BERS-2 replicated the original factors found in the U.S. standardization study.

Implications for Finnish Practice

The net result of the initial psychometric studies of the Finnish BERS-2 is that the instrument is a reliable and valid measure of emotional and behavioral strengths among Finnish students. Several implications emerge from this research. First, the psychometric status of the instrument was studied across three informant groups and found to be acceptable across these groups. Specifically, in assessing student strengths, the parents, teachers, and students were in relative agreement. Thus information from each of these groups should be sought when a student is referred for specialized services. Second, the Finnish BERS-2 can be useful in writing education plans for students with special education needs. As stated in the Finnish National Curriculum Guidelines, all educational support must be based on the learning and behavioral strengths of students. Information from the BERS-2 on a student's strengths can become a foundation for writing student goals and objectives. Third, because the BERS-2 is based on a child's strengths, it affords a positive starting point for parents and teachers to plan interventions aimed to improve behavior. One of the most significant obstacles for educators is engaging parents of students with or at risk of having disabilities. A discussion that begins with a review of a student's strengths

is a good first step in engaging parents in the education of their child.

Summary

Strength-based approaches have gained increased attention, due in part to advances in the positive psychology movement and in part to research in the area of risk and resilience. The shift toward identifying strengths is in contrast to typical deficit-based approaches, which have been predominant in the field of EBD for so long. In addition, a focus on strengths provides opportunities to improve parent–professional relationships and to highlight the positives among students who typically have multiple and complex needs. Both informal and formal strength-based assessments have been developed to help identify student strengths and to aid in service planning and intervention development for both preschool and school-age populations. Moreover, strength-based approaches have broader implications worldwide and have emerged in other countries, such as Finland. As research and practice continue to evolve in the area of strength-based approaches and assessment, our ability to identify strategies for increasing student assets and strengths is likely to improve. This, in turn, will allow us to counteract the negative outcomes associated with the deficits and weaknesses found in many students with EBD. Future research should examine ways in which strength-based assessments can aid in treatment planning and intervention development.

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Conducting Functional Behavior Assessments for Students with Emotional/Behavioral Disorders

Brian K. Martens and Tonya L. Lambert

Early research by Carr, Newsom, and Binkoff (1976) and Lovaas and his colleagues (e.g., Lovaas & Simmons, 1969) suggested that even severe problem behavior can be learned and maintained through children's interactions with adults. In their seminal study, Carr and colleagues exposed an 8-year-old boy with what was then called "childhood schizophrenia" and mental retardation to three conditions designed to mimic those in his classroom and therapy settings. Rates of self-injurious behavior (hits per minute) were near zero during unstructured free time and when adults spoke to the child but issued no demands. In contrast, rates of self-injury increased dramatically (over 60 hits per minute) when demands were issued every 30 seconds but withdrawn when the child failed to comply and/or engaged in problem behavior. When demands were embedded in a cheerful storytelling context, rates of self-injury again decreased to near-zero levels. From these results, the authors concluded that the child's self-injurious behavior may have been learned—specifically, that it was negatively reinforced by escape from demands.

Skinner (1987, 1989) described the process through which certain behaviors come to occur more frequently than others in a given situation as "operant selection." Simi-

lar to natural selection, in which certain genetic variations become more prevalent in a species because they are adaptive for survival, in operant selection certain "operant behaviors" (i.e., behaviors that operate on the environment) become more prevalent in given situations because they are reinforced. These behaviors are wittingly (or unwittingly) "selected out" by the reinforcing consequences they produce. In operant selection, the form or topography of behavior is unimportant (e.g., aggressing toward peers vs. quietly completing schoolwork). Rather, the function of behavior or the responses it evokes in others (e.g., attention from the teacher) is vitally important. The principles of reinforcement treat all behavior equally, meaning that all forms of behavior are likely to become more frequent, stereotyped, and efficient with reinforcement (Pierce & Epling, 1999). Because many of the reinforcing consequences for children's classroom behavior are socially mediated, an important implication of operant selection is that teachers and other direct care staff may often play a role in maintaining (i.e., reinforcing) the very problem behaviors they seek help with to address. This also means that once the reinforcing consequences for problem behavior have been identified, steps can be taken to eliminate, reverse, or weaken these

consequences to help children learn more appropriate desired behavior (Daly, Martens, Skinner, & Noell, 2009).

Reinforcement of Problem Behavior

How might a child's situation improve when the child engages in disruptive classroom behavior (e.g., throwing objects, swearing at the teacher, distracting peers)? In general, the different ways the child's situation might improve correspond to the basic forms of reinforcement categorized as "positive" or "negative" and as "socially mediated" or "automatic" (Cataldo et al., 2012). All categories of reinforcement lead to increases in behavior as a result of the (presumably desired) stimulus change that such behavior produces. Whether reinforcement is positive or negative depends on whether a stimulus is presented (e.g., obtaining a desired tangible item) or removed (e.g., escaping aversive task demands). When individuals other than the child are responsible for delivering the reinforcing consequence (e.g., teachers allow escape, peers provide attention), reinforcement is said to be "socially mediated." Automatic reinforcement results from the internal consequences that a behavior produces (e.g., sensory induction or reduction) and occurs independently of others' responses (Cataldo et al., 2012; Derby et al., 1994).

Crossing these different categories of reinforcing stimuli produces a typology of the various sources of reinforcement that can be responsible for maintaining children's problem behavior: (1) "social-positive" reinforcement (attention, tangibles, resuming a desired activity); (2) "social-negative" reinforcement (escape from demands, undesired activities, or attention); (3) "automatic-positive" reinforcement (sensory stimulation); and (4) "automatic-negative" reinforcement (sensory reduction) (Derby et al., 1994; Hanley, Iwata, & McCord, 2003; McCord, Thomson, & Iwata, 2001). Applying this typology, Hanley and colleagues (2003) reviewed 277 articles published through the year 2000 in which the reinforcing consequences for problem behavior were identified via functional analyses. Of the studies reviewed, 70% involved children as participants; 91% involved individuals with developmental disabilities; and about a

third (31.4%) were conducted in school settings. Of the 536 different individual data sets reviewed, the vast majority (over 95%) found clear increases in problem behavior following a specific type of reinforcement, suggesting a learned component. In terms of function, 34.2% of all problem behaviors were identified as being maintained by social-negative reinforcement, 35.4% by social-positive reinforcement, and 15.8% by automatic reinforcement.

Mueller, Nkosi, and Hine (2011) conducted a similar study but focused on the results of functional analyses conducted in public school settings. Participants included all children who had been referred for intensive behavioral services in the Atlanta public schools between 2006 and 2009 ($N = 69$ students, with a mean age of 11.6 years). All of the children in the sample had been diagnosed with a disability (e.g., autism spectrum disorder [ASD], emotional/behavioral disorder [EBD], attention-deficit/hyperactivity disorder [ADHD], bipolar disorder). Aggression was the most commonly targeted problem behavior, followed by self-injury, tantrums, property destruction, and classroom disruption. Much as in the Hanley and colleagues (2003) study, 81 of the 90 different analyses (90%) produced differentiated responding, suggesting a learned component for the problem behaviors. Escape from academic demands was identified as the maintaining reinforcer for 26% of all targeted behaviors, followed by 16% for attention, 13% for access to preferred activities, 11% for access to tangible items, and 4% for automatic reinforcement. It is interesting to note that the most frequently identified reinforcer for aggression (the most commonly targeted problem behavior) was negative reinforcement in the form of escape from academic demands (37%).

Findings from the Hanley and colleagues (2003) and Mueller and colleagues (2011) reviews suggest that many forms of challenging behavior in children with or at risk for EBD are likely to be maintained in part by socially mediated reinforcement from teachers and other direct care staff in school settings. In addition to the *type* of reinforcement potentially maintaining problem behavior (i.e., social-positive, social-negative), research has also suggested that behavior in children with EBD may be par-

ticularly sensitive to certain *dimensions* of reinforcement, further increasing their risk for academic failure. Dimensions of reinforcement that have been shown to influence children's responding include "rate," or the schedule on which reinforcers are delivered; "quality," or children's relative preferences for reinforcing stimuli; "delay," or the time between occurrence of behavior and reinforcer delivery; and "effort," or the relative difficulty of the response required to obtain reinforcement (Berkowitz & Martens, 2001; Falcomata, Cooper-Brown, Wacker, Gardner, & Boelter, 2010; Neef & Noone Lutz, 2001; Neef, Shade, & Miller, 1994).

For example, Berkowitz and Martens (2001) assessed the relative preferences of five students (two with EBD and three at risk for academic difficulties) for reinforcers commonly used in classroom settings (e.g., computer time, parent note home, free time with the teacher). When the number of math problems required to earn each child's more preferred reinforcers was increased, four of the five students chose to complete fewer problems, even though they earned less preferred items. Using a task in which students could choose between two sets of math problems on a computer, Neef and Noone Lutz (2001) examined the reinforcer dimensions influencing the choice of two children with ADHD. As might be expected, one student consistently chose tasks associated with the more immediate reinforcer (i.e., the more impulsive choice), and the other student chose tasks that were either lower in effort or associated with more preferred (i.e., higher-quality) reinforcers.

Challenges for School Support Personnel and Overview of the Chapter

The facts that problem behavior in children with EBD often leads to reinforcement, and that such behavior is sensitive to various reinforcer dimensions (both programmed and naturally occurring), pose a number of challenges for support personnel in their efforts to design effective school-based interventions. First, it is widely acknowledged that reinforcement-based programs are likely to be more effective if they are individualized to the needs of each child. This means making use of highly preferred rein-

forcers following an assessment of a child's reinforce preferences, taking into account the dimensions of reinforcement likely to influence its effectiveness in each case (e.g., allowing a child to exchange points earned immediately following the targeted activity), and matching intervention to the reinforcing function of problem behavior. Taking a function-based approach to planning behavioral supports is critical to interventions at Tier 3 of a schoolwide positive behavioral interventions and supports (SWPBIS) model, but may be difficult or impractical for universal interventions at Tier 1 or standard protocol interventions at Tier 2 (Simonsen & Sugai, 2009).

Second, the prevalence of escape-maintained problem behavior and the influence of task effort on children's choices argue for the manipulation of instructional antecedents as part of some students' behavior plans. In cases of escape-maintained problem behavior, poor instructional match serves as a *motivating operation* for problem behavior by increasing the value of escape as a reinforcer (Laraway, Snyderski, Michael, & Poling, 2003; Martens & Witt, 2004).

Third, if the sources of reinforcement for problem behavior are ignored during intervention design, interventions may compete with or even contribute to the variables maintaining problem behavior at baseline. Critical to the effectiveness of any positive behavioral support program designed to teach and reinforce appropriate replacement behaviors is the prevention of reinforcement for undesired behavior (Simonsen & Sugai, 2009). If sources of reinforcement for problem behavior are not identified and reduced, they are likely to compete for children's choices in behavior alongside programmed reinforcement (Martens, 1992). In such cases, children may choose to continue engaging in lower-effort problem behavior to earn what may be more highly preferred social reinforcers, thereby mitigating the effects of intervention. Under certain circumstances, intervention plans may actually contribute to the reinforcement of problem behavior and produce effects opposite from those intended. For example, because instructional materials are typically removed when a child is placed in time out, doing so may inadvertently reinforce escape-

maintained problem behavior unless the initial command is re-presented and compliance enforced (Everett et al., 2007).

Recognizing that information about behavioral function can aid in the design of effective school-based interventions raises the question of how best to identify the sources of reinforcement maintaining problem behavior in school settings. In this chapter we attempt to answer this question by first describing the logic underlying “functional behavior assessment” (FBA) and showing how patterns in the resulting data can be used to make hypotheses about potential maintaining variables. We then contrast descriptive approaches to functional assessment with experimental approaches to functional analysis, and identify behavioral treatment options that are conceptually relevant for different types of reinforcement maintaining problem behavior. Legal mandates concerning FBAs in the schools are discussed next, and both indirect and direct assessment strategies for conducting school-based FBAs are described. The chapter concludes with directions for future research concerning the use of school-based FBA procedures.

FBA Logic and Designing Function-Based Interventions

FBA refers to a collection of procedures for identifying the types of reinforcement potentially maintaining problem behavior in the natural environment, motivating operations that may be contributing to problem behavior, the presence of suitable replacement behaviors in a child’s repertoire, and the child’s preferences for reinforcers that may be used to increase those replacement behaviors (Gresham, Watson, & Skinner, 2001; Miltenberger, 2012; Witt, Daly, & Noell, 2000). FBA makes use of both indirect and direct behavioral assessment methods to identify antecedents (e.g., time of day, instructional arrangement, diverted adult attention) and consequences (e.g., reprimands, removal of demands, being allowed to resume a preferred activity) that are correlated with occurrences of problem behavior. When used correctly, FBA is an inductive process in which “antecedent–behavior–consequence” (ABC) data are collected via

multiple methods at varying levels of specificity; patterns in the data are identified by corroborating evidence across methods; and those patterns are used to infer possible functions of problem behavior.

Although considerable research exists supporting the value of FBA in designing effective school-based interventions, questions remain as to (1) what constitute best practices in FBA for students with or at risk for EBD and (2) whether FBAs actually lead to more effective interventions for this population (Ervin et al., 2001; Gresham et al., 2004; Sasso, Conroy, Stichter, & Fox, 2001; Wood, Blair, & Ferro, 2009). First, the majority of research involving functional assessments and analyses of problem behavior has been conducted with individuals with severe or profound mental retardation who exhibit self-injurious, aggressive, or stereotypical behavior; its validity for students with EBD is therefore limited (Drasgow & Yell, 2001; Gresham, 2003; Sasso et al., 2001). Second, in a review of studies in which FBAs were conducted for students with EBD, Sasso and colleagues (2001) found that direct observation methods were used most often, followed by teacher and/or student interviews, analogue functional analysis test conditions, and finally informant report scales. None of the studies investigated the reliability or validity of the indirect assessment methods used, and the contribution of various sources of data to treatment development was often unclear. Third, the majority of research involving FBAs for students with EBD has focused on externalizing behavior problems, and thus additional research is needed on students with internalizing problems.

Despite these limitations, several authors have outlined what they consider to be a comprehensive FBA sequence. Steps commonly involved in this sequence include (1) an operational definition of the problem behavior; (2) indirect assessment methods, including record reviews, teacher or student interviews, and informant report scales; (3) direct observation of antecedents that either occasion problem behavior or serve as motivating operations for its reinforcement; (4) direct observation involving the sequential recording of consequences for problem behavior that represent social-positive, social-negative, and automatic sources of

reinforcement; (5) generation of hypotheses regarding behavioral function(s), based on corroborating evidence across methods; and (6) hypothesis testing through experimental analysis (Drasgow & Yell, 2001; Erchul & Martens, 2010; Ervin et al., 2001; Gresham et al., 2001; Miltenberger, 2012; Sterling-Turner, Robinson, & Wilczynski, 2001; Witt et al., 2000).

Functional Analyses of Problem Behavior

The last step in the sequence described above involves the manipulation of antecedents and consequences to confirm their functional relationship to the behavior in question. Because reinforcing consequences are manipulated as independent variables while problem behavior is observed as a dependent variable under controlled conditions, this phase constitutes an experimental analysis and is commonly referred to as a “functional analysis of behavior” (Miltenberger, 2012). Since Iwata, Dorsey, Slifer, Bauman, and Richman (1982/1994) first described a set of procedures for conducting a functional analysis of behavior, literally hundreds of such analyses have been conducted in a multitude of settings, and the resulting data have been used for intervention designs (Hanley et al., 2003; Mueller et al., 2011). In general, a functional analysis of behavior involves exposing children to a series of brief (e.g., 5-minute) test and control conditions in a multi-element format until clear differences in problem behavior are observed. Each test condition is associated with a unique motivating operation to increase the value of reinforcement (e.g., frequent task demands for social-negative reinforcement, diverted attention for social-positive reinforcement); discriminative stimuli to signal which test condition is in effect (e.g., different therapists, rooms, or task materials); and a continuous schedule of reinforcement for problem behavior (Martens, Gertz, Werder, & Rymanowski, 2010). As such, each test condition evaluates a different type of reinforcement potentially maintaining problem behavior in the natural environment, as discussed earlier (i.e., social-positive, social-negative, automatic).

Because many functional analyses of behavior have been conducted in school set-

tings, researchers have developed test conditions unique to this setting. In addition to standard test conditions for attention, tangible, and escape functions, functional analysis conditions in school settings have also tested for peer attention, escape from academic tasks of varying difficulty, access to classroom media (e.g., television/DVDs), and even the language used by teachers (e.g., Spanish vs. English) as potential maintaining variables (Broussard & Northup, 1995, 1997; Lang et al., 2010; Rispoli et al., 2011). For example, Broussard and Northup (1997) evaluated teacher attention, peer attention, and escape from academic tasks as potential reinforcers for disruptive classroom behavior by four children (two with ADHD). During the teacher attention condition, students were given easy work to complete, and the teacher reminded them to work quietly and stay seated contingent on disruptive behavior. Students were also given easy work to complete during the peer attention condition, but a student confederate was instructed to attend to the target student contingent on disruptive behavior. During the escape condition, students were given difficult work to complete and were placed in a 30-second time out contingent on disruptive behavior. Higher levels of disruptive classroom behavior were observed during the peer attention condition for all four students. Allowing students to earn time with a peer contingent on the absence of disruptive behavior (i.e., a “differential reinforcement of other behavior” [DRO] procedure) reduced it to near-zero levels.

Rispoli and colleagues (2011) compared the results of school-based functional analysis test conditions that were implemented in Spanish or English with a young girl who exhibited problem behavior at school but came from a Spanish-speaking family. In an ABAB reversal design, higher levels of problem behavior were observed in all test conditions when English was the language of implementation. The authors hypothesized that English might have been a discriminative stimulus for the reinforcement of problem behavior at school, and/or that demands issued in English might have been more aversive than those issued in Spanish (i.e., language functioned as a motivating operation), given the child’s deficits in receptive language.

Interpreting Results from Functional Assessments versus Functional Analyses

What do the results of an FBA mean, and how are these data different from those gathered during a functional analysis? As noted above, comprehensive FBAs make use of both indirect (i.e., teacher report) and direct (i.e., systematic observations) assessment methods to identify potential sources of reinforcement for children's problem behavior. Indirect methods such as teacher interviews and informant report scales are designed to (1) help teachers identify and operationally define problem behavior; (2) prompt a teacher's recall of potentially important events surrounding its occurrence in the classroom (e.g., *when* and *where* problem behavior occurs, *how* it is responded to by peers and the teacher); and (3) solicit a teacher's opinion about *what* the child gains from engaging in problem behavior and therefore *why* it is occurring. Indirect methods are practical and efficient, and the resulting data are often readily interpretable with respect to behavioral function (e.g., higher ratings on the Attention scale of the QABF [see below] suggest an attention function). Despite these benefits, the accuracy of the information collected via interviews and rating scales will be a function of several variables, including a teacher's opportunities to observe a child's problem behavior, limitations of recall, and potential biases stemming from the intensity of problem behavior and/or the behavior of comparison peers.

Direct observational methods, on the other hand, are likely to be more accurate but are not as practical or time-efficient (Chafouleas, Hagermoser Sanetti, Jaffery, & Fallon, 2012), and the resulting data may be more difficult to interpret. Whether the observational data relate problem behavior to key antecedents or consequences, inferences must be made about the principle reflected in the pattern that is observed, and additional data must be collected to support the interpretation. For example, scatterplot observations may indicate that a student engages in higher rates of disruptive behavior during classwide instruction than in small-group reading. Although informative, this pattern may reflect the operation of very different principles maintaining problem behavior (e.g., teacher attention,

peer attention, or escape from academic demands). Conducting follow-up sequential observations of problem behavior and its consequences may reveal that teachers and peers rarely attend to the child's disruptive behavior, but that acting out allows the child to avoid answering questions when called upon, thereby supporting an escape hypothesis.

Because FBA data describe ABC patterns that are observed in a child's natural environment, these data can be used to generate hypotheses about the function(s) of problem behavior. However, FBA data are inherently limited by their descriptive nature, meaning that potential reinforcers can only be identified from those consequences that are observed to follow problem behavior and that do so frequently. For example, Martens and colleagues (2010) conducted a series of sequential observations of problem behavior and teachers' responses to problem behavior exhibited by three children attending an inclusive preschool setting. Teachers delivered attention at high rates and more often following problem behavior for two of the three children, and never or rarely (2% of intervals) allowed escape, suggesting an attention function. Exposing the children to functional analysis test conditions conducted by their teachers confirmed an attention function for one child but revealed an escape function for the other. Although teachers rarely allowed this child to escape task demands in the classroom, escape functioned as a potent reinforcer when it was delivered on a rich schedule during the functional analysis.

The descriptive nature of FBA data also means that one cannot be certain whether consequences that are observed to follow problem behavior are actually functioning as reinforcers until they are manipulated in a functional analysis (Martens, DiGennaro, Reed, Szczech, & Rosenthal, 2008; St. Peter et al., 2005). Herein lie both the benefits and limitations of functional analysis procedures. Because reinforcing consequences are actually manipulated, exposing children to functional analysis test conditions can indeed reveal one or more *functions* of problem behavior (i.e., test conditions can reveal that behavior is responsive to one or more reinforcement contingencies). Whether the same type of contingency identified in a

functional analysis is maintaining problem behavior in the natural environment, however, is a more complicated issue. The extent to which the results of analogue functional analysis test conditions can be generalized to children's actual classroom behavior will be a function of several variables, including (1) the type of reinforcement a child has previously received for engaging in problem behavior; (2) similarities between stimuli in the natural environment and those present during the test conditions; (3) children's reinforcer preferences and their stability across time and settings; and (4) new learning that may occur as a result of prolonged exposure to analogue test conditions and/or novel reinforcing stimuli (Hanley et al., 2003; Lang et al., 2008; Martens et al., 2010; Ringdahl & Sellers, 2000).

Once the types of reinforcement potentially maintaining problem behavior have been identified through an FBA, function-based interventions can be designed to eliminate, reverse, or weaken these sources of reinforcement (Daly et al., 2009). The simplest way to eliminate reinforcement for problem behavior is through "extinction" (Cataldo et al., 2012). Extinction of problem behavior maintained by social-positive reinforcement involves not providing attention or allowing access to desired tangibles and activities when problem behavior occurs. When applied to social-negative reinforcement, extinction involves preventing escape by re-presenting task demands and guiding compliance (Everett et al., 2007). Extinction is also an important component of attempts to reverse the contingency maintaining the problem behavior, known as "differential reinforcement." Differential reinforcement involves arranging the same type of reinforcement believed to maintain problem behavior but for more appropriate replacement behaviors, and typically involves procedures for differential reinforcement of alternative behavior (DRA) or DRO (see above). Functional communication training involves teaching and then reinforcing use of a lower-effort response for accessing the same type of reinforcement as part of a DRA program (Padilla Dalmau et al., 2011). Finally, the link between reinforcement and problem behavior can be weakened by (1) removing the motivating operations that increase the value of reinforcement (e.g.,

assigning easier schoolwork, offering within- or across-activity choices); (2) providing the same reinforcer on a rich fixed-time schedule, independently of behavior (i.e., noncontingent reinforcement); or (3) simultaneously punishing occurrences of problem behavior with a mild aversive stimulus (Hanley, Piazza, Fisher, & Maglieri, 2005; Rispoli et al., 2013; Tomlin & Reed, 2012).

Conducting FBAs in School Settings

Legal Mandates Concerning FBA

On June 4, 1997, President Bill Clinton signed into effect the Individuals with Disabilities Education Act (IDEA). This act reauthorized IDEA 1990, and was amended to fundamentally change the way teachers and administrators addressed problem behavior in school settings. Specifically, IDEA 1997 required school support personnel to conduct an FBA and to put in place a behavioral intervention plan (BIP) involving positive behavioral strategies and supports for students with disabilities who displayed problem behaviors that interfered with their own learning or that of others (IDEA Amendments, 20 U.S.C. § 1414 (d)(3)(B)(I)). Although these amendments did not specify what problem behaviors were covered in the statute, case law and teacher reports of the most common behaviors targeted in school-based FBAs have included disruption, noncompliance, property destruction, verbal abuse, and aggression toward other students or staff (*Clyde K. and Sheila K. v. Puyallup School District*, 1994; Couvillon, Bullock, & Gable, 2009; *Hartmann v. Loudoun County*, 1997). IDEA 1997 required that an FBA be conducted when students receiving special education services were (1) removed from school for over 10 days in a school year, (2) removed to an interim alternative educational setting for up to 45 calendar days due to weapons or drug charges, or (3) granted an alternative placement by a hearing officer as a result of engaging in behavior deemed dangerous to themselves or others (Drasgow & Yell, 2001). Moreover, the language in IDEA 1997 seemed to assume that any student with behavior problems would have an FBA and BIP in his or her educational program before any such

disciplinary action was taken (Yell & Shriener, 1997).

President George W. Bush signed the Individuals with Disabilities Education Improvement Act (known as IDEA 2004) into effect December 3, 2004. This version of the legislation has extended IDEA 1997 by simplifying the manifestation determination clause. Specifically, if a disciplinary action for a child with a disability involves change of placement for violation of a student conduct code, a meeting must be held within 10 days of that decision to determine whether the behavior was caused directly by or in relation to the child's disability and/or failure to implement the child's individualized education program (IEP). If it is determined that the behavior was a manifestation of the child's disability, and an FBA and BIP were not conducted before the behavior occurred, they must be completed at that time. If a BIP was in place, IDEA 2004 requires that it be reviewed and modified as necessary, and that the child be returned to the placement from which he or she was removed in the interim (IDEA 2004, 20 U.S.C. § 1415(k)(1)).

An additional amendment to IDEA 2004 addresses how students are evaluated and deemed eligible for special education services. Students can now be identified as having a learning disability by using a process based on their response to scientific, research-based interventions, in addition to an IQ-achievement discrepancy (IDEA 2004, 20 U.S.C. § 1414(b)(6)). These regulations, in conjunction with those from the No Child Left Behind Act of 2001, have led to significant research on and development of tiered approaches to school-based service delivery, which are generally known as response-to-intervention (RTI) models (see Fuchs & Fuchs, 2006). RTI models are early intervention approaches that involve evaluating children's responsiveness to evidence-based interventions implemented at three levels of increasing intensity as a basis for individualizing instruction and making eligibility decisions (Daly, Martens, Barnett, Witt, & Olson, 2007). Although IDEA 2004 does not require use of such models, several states have adopted some version of RTI as the required approach for identifying students with learning disabilities (Zirkel & Thomas, 2010).

Beginning with IDEA 1997, and parallel to research on the development of RTI models, SWPBIS was developed as a tiered approach to service delivery for students who were at risk for EBD and/or who exhibited problem behavior but were otherwise underserved in school settings (Gresham, 2005; Simonsen & Sugai, 2009). Typical SWPBIS models also involve three tiers of services, beginning with a universal (Tier 1) intervention consisting of posted expectations for behavior and a schoolwide reinforcement program. For children who do not respond to this universal Tier 1 intervention (i.e., those who continue to display significant problem behavior), more focused small-group or standard protocol interventions are implemented at Tier 2 (e.g., the Good Behavior Game; Donaldson, Vollmer, Krous, Downs, & Berard, 2011). If a child does not respond satisfactorily with this level of intervention in place, an FBA is conducted, and an individualized intervention tailored to the function of problem behavior is put in place as a Tier 3 support.

Indirect FBA Methods

A variety of indirect and direct assessment methods have been used in FBAs for children with EBD, and these have varying levels of reliability and validity evidence supporting their use (Sasso et al., 2001). The most commonly used indirect assessment methods are checklists and questionnaires, such as the Motivation Assessment Scale (MAS; Durand & Crimmins, 1988), Questions About Behavioral Function (QABF; Matson & Vollmer, 1995), and the Problem Behavior Questionnaire (PBQ; Lewis, Scott, & Sugai, 1994), as well as semistructured interviews such as the Functional Assessment Interview Form (FAI; O'Neill et al., 1997). Other measures include the Functional Assessment Checklist: Teachers and Staff (FACTS; March et al., 2000), the Student-Directed Functional Assessment Interview Form (SDFAI; O'Neill et al., 1997), and the Student-Assisted Functional Assessment Interview (SAFAI; Kern, Dunlap, Clarke, & Childs, 1994).

The MAS is a 16-item checklist that can be used to identify the potential function(s) of problem behaviors. Informants are asked to rate how often an individual engages in

problem behavior for each situation listed, using a 7-point Likert-type scale ranging from 0 (“never”) to 6 (“always”). Item ratings are summed in four areas corresponding to Sensory, Escape, Attention, and Tangible functions of problem behavior. Although subsequent research into the psychometric properties of the MAS has been mixed (Sigafoos, Ker, & Roberts, 1994; Zarcone, Rodger, Iwata, Rourke, & Dorsey, 1991), Durand and Crimmins (1988) reported evidence of good test–retest reliability over a 30-day period ($r = .89-.98$), adequate interrater reliability ($r = .66-.92$), and good predictive validity between ranked scores on the MAS and levels of behavior during functional analysis test conditions.

The QABF is perhaps the most researched informant report scale and also has evidence supporting its psychometric properties (Paclawskyj, Matson, Rush, Smalls, & Vollmer, 2000). The QABF consists of 25 items addressing five potential functions of problem behavior: Attention, Escape, Non-social (automatic-positive), Physical (automatic-negative), and Tangible. As in the MAS, items are scored on how often the behavior occurs during the situations or for the reasons listed, although in this case a 4-point Likert-type scale is used (0 = “never,” 3 = “often”). The QABF has been shown to have good test–retest reliability, acceptable to good interrater reliability, and good internal consistency (see Matson, Tureck, & Rieske, 2012, for a review). In validity studies, the QABF has been compared with experimental functional analyses, the MAS, and observational data, in addition to its use in selecting interventions and comparing function-based to standard interventions. In each of these studies, the QABF has been successful at identifying the function of problem behavior and useful in identifying function-based interventions. Moreover, conclusions drawn from the QABF were similar to those from functional analysis test conditions, generally considered the most rigorous approach to functional behavior assessment.

The FAI is a semistructured interview that includes 11 sections. These sections are designed to address problem behaviors, antecedents, setting events, communication skills, previous interventions, medical issues, and hypotheses regarding behavioral

function(s). To date there are no published studies on the psychometric properties of the FAI, although it is the most widely cited interview for teachers. The SDFAI is commonly used along with the FAI and is similar in structure to the FAI. One study found good agreement between the FAI and SDFAI (Kinch, Lewis-Palmer, Hagan-Burke, & Sugai, 2001), although another study found low concurrent validity between both of these interview methods and the Functional Observation Assessment Form (O’Neill et al., 1997), a direct assessment instrument.

The PBQ is a 15-item questionnaire developed for use with students in general education settings. Teachers are asked to rate the items on a 7-point Likert scale, and items indicate two main functions for the behavior: peer or teacher attention, and escape from peer or teacher attention. This measure, however, has been criticized for lacking coverage of other motivating operations or setting events as antecedents for problem behavior (Stage, 2000).

Another semistructured interview for teachers and staff is the FACTS. This interview was developed by adapting the FAI and can be completed in about 10–25 minutes. On Part A of the FACTS, respondents provide information regarding the student’s problem behaviors and daily routine, specifically focusing on when the problem behaviors occur. Part B narrows the concerns to one specific problem behavior in the context of the student’s routine and addresses its antecedents and consequences. If the respondent chooses to focus on multiple problem behaviors, Part B must be completed for each one. McIntosh and colleagues (2008) cite an unpublished dissertation in which the FACTS was found to have good test–retest reliability and moderate interrater reliability. In addition, good convergent validity based on direct observation was found (90% full agreement), and moderate agreement with functional analysis test conditions was reported (53% full agreement).

In developing interventions for older students, some researchers have utilized a student interview such as the SAFAI (Kern, Childs, Dunlap, Clarke, & Falk, 1994). This measure can be completed independently by the student or through an interview and takes approximately 20–30 minutes to complete. The SAFAI is divided into

four sections and assesses the function of the behavior (attention, escape, tangibles), the context of the behavior (when and why), the student's preference for school subjects, and changes that could be made in a subject to decrease problem behavior. Although the SAFAI may be a useful means of obtaining student input, some children for whom an FBA is indicated may be unwilling to assist in the process or may be unreliable in their reporting.

Direct FBA Methods

Direct observation of student behavior is the most commonly used assessment method in FBAs for students with EBD (Sasso et al., 2001) and involves recording occurrences of problem behavior in the classroom setting(s) in which it occurs, antecedents associated with its occurrence, and consequences that typically follow its occurrence. Volpe, DiPerna, Hintze, and Shapiro (2005) reviewed seven observation codes that have been reported in the literature for assessing problem classroom behavior. The codes were similar in that each allowed for the recording of multiple behavior categories (e.g., off-task behavior, noncompliance) by using time sampling or interval recording during brief observation periods (e.g., 15–20 minutes). With one exception, all of the codes had evidence of interobserver agreement, and all were reportedly able to discriminate between children with or at risk for EBD and their nondisabled peers.

When systematic observations are conducted during an FBA, problem behavior is typically sampled across different antecedent conditions (i.e., a scatterplot recording). Scatterplot recording sheets were originally designed to sample problem behavior during different times of the day (Axelrod, 1987; Touchette, MacDonald, & Langer, 1985). In school settings, scatterplot recordings are also likely to involve brief samples (e.g., 15 minutes) of behavior in different content areas (e.g., reading, writing, math) or different instructional arrangements (e.g., group instruction, transitions, independent seatwork) (Kern, Childs, et al., 1994; Repp & Karsh, 1994). These data can help confirm when problem behavior is most likely to occur, can lead to the development of hypotheses concerning potential motivating

operations, and can indicate the most efficient times to observe behavior and its consequences (Eckert, Martens, & DiGennaro, 2005).

Other direct assessment methods involve the sequential recording of behavior and its consequences during brief (e.g., 15-second) intervals (Martens et al., 2008). Typically, these consequences are defined prior to the observations and in such a way as to represent the broad categories of reinforcement that can be responsible for maintaining problem behavior (i.e., social-positive, social-negative, automatic). Once the data are collected, potential maintaining variables are identified from those consequences that are observed to follow problem behavior most frequently, based on calculation of their conditional probabilities (Doggett, Edwards, Moore, Tingstrom, & Wilczynski, 2001; McKerchar & Thompson, 2004). For example, Lalli, Browder, Mace, and Brown (1993) found that the conditional probability of teacher attention given problem behavior in three students ranged from .20 to .52, whereas discontinuing a task and allowing access to preferred tangibles never followed problem behavior for two of the students. Repp and Karsh (1994) found that tantrums during classroom instruction by two students were followed by teacher attention 40% of the time and escape 0% of the time. The higher conditional probabilities of attention versus escape led the authors of both studies to hypothesize an attention function for problem behavior.

Results have been mixed concerning agreement between potential reinforcers identified through sequential observations and standard functional analysis test conditions (Martens et al., 2010). For example, Lerman and Iwata (1993) calculated the conditional probabilities of staff responses, given the occurrence of self-injurious behavior by six adults with mental retardation. Comparing these to the results of functional analysis test conditions showed that the descriptive data often failed to differentiate between attention and escape functions. In a similar study, Thompson and Iwata (2007) observed staff responses (attention, escape, and tangibles) to self-injury or aggression in 12 adults with mental retardation. Reinforcers identified via the highest conditional probability from the descriptive observational data corre-

sponded with those identified via standard functional analysis test conditions for only 3 of the 12 participants.

Also using conditional probabilities calculated from sequential observation data, researchers have developed methods for examining the extent to which various consequences are delivered *contingent* on problem behavior (Martens et al., 2008; McComas et al., 2009; Vollmer, Borrero, Wright, Van Camp, & Lalli, 2001). Consequences are contingent on problem behavior if they occur more often following its presence than its absence (Gibbon, Berryman, & Thompson, 1974). Two approaches that have been reported in the literature for examining degree of contingency are to compare the conditional probability of a consequence, given the presence of problem behavior, to (1) its base rate probability of occurring independently of behavior or (2) its conditional probability in the absence of behavior. Using both hypothetical and actual data sets, contingency analyses have been shown to lead to very different conclusions than if the conditional probability of a consequence is considered alone (Martens et al., 2008; McComas et al., 2009; Vollmer et al., 2001). Although the findings were preliminary, Martens and colleagues (2010) found that results of a contingency analysis corresponded with those of functional analysis test conditions conducted by teachers for two of the three students examined.

Training Teachers to Conduct FBAs

Since the requirement for conducting FBAs was added to IDEA 1997, questions have been raised regarding how best to train teachers and support staff to complete FBAs. This matter is further complicated by the lack of consensus on which methods to use in the schools. Couvillon and colleagues (2009) invited 2,000 K–12 school-based service providers across the country to complete an online survey. Of the 134 who completed the survey, 74% were special education service providers with 10 years or more experience. Although the number of first-year service providers and those with up to 5 years of service were limited (28), it was of interest that only 8% of these had received any training in FBA. Sixty-two percent of those with 10 or more years of experience,

however, had participated in FBA training. Of all of those who had received training, 21% had completed formal coursework, 10% had received inservice training sessions, and 54% had participated in both forms of training. The remaining 15% had no training in conducting FBAs. Although those who had served for 10 or more years made up a significantly larger group of those surveyed, these data may be important to how we view consultation and inservice training for new or less experienced teachers and staff.

Traditionally, teacher training is done through workshops or inservice training. Crone, Hawken, and Bergstrom (2007) completed a series of workshops with teachers in two different school districts, covering topics ranging from ABCs to designing and evaluating behavior plans. Each school had a project facilitator (either a graduate student or faculty member) to aid the team in meeting the team objectives and applying what was taught in the workshops. Pre- and posttraining FBA knowledge tests were completed, and all but two team members improved their scores. The median score increased by 40 points from pre- to posttest, and teachers reported the trainings to be highly acceptable. Although these training methods were based on the work of Sugai as part of an approach called “effective behavior support” (Lewis & Sugai, 1999), research is still needed regarding how much training is necessary and which methods are most efficient for use with teachers.

Conclusions and Directions for Future Research

Considerable research supports the value of FBA and functional analysis in the design of effective interventions. To date, most of this research has targeted severe problem behavior in individuals with developmental disabilities, and exposure to functional analysis test conditions remains the “gold standard” for identifying behavioral function for this population. Relatively fewer studies have involved functional analyses or FBAs for children with or at risk for EBD. Although FBA as a general approach has been shown to lead to effective school-based interventions, characteristics of existing studies sug-

gest several directions for future research. First, most research involving students with EBD has targeted high-frequency externalizing behavior problems (Ervin et al., 2001; Sasso et al., 2001). Additional research is needed in how to tailor both descriptive and experimental methods for high-intensity, low-frequency behaviors, as well as for internalizing problems. Second, FBA procedures have varied widely across studies, and the relative contribution of different assessment methods to the design of function-based interventions is unclear. Systematic observation of behavioral antecedents and consequences (e.g., sequential recording) is widely used, but research is needed concerning how to analyze the data in order to identify potential reinforcers. Although informant report scales are used less often, the QABF appears particularly promising, and its use as part of a comprehensive school-based FBA should be investigated further. Of similar interest would be the development of standard test conditions and even motivating operations (e.g., type and difficulty of work assigned) for use in school settings. Efforts along these lines are likely to increase both the frequency and fidelity with which school personnel implement FBA procedures. Finally, research in the areas noted above is likely to inform efforts to train school personnel in how to conduct FBAs and interpret the resulting data. In this era of evidence-based practice and RTI models, helping school personnel make the best use of the data they collect will be critical to the continued use of FBA methods in school settings.

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**INTERVENTIONS TARGETING
SPECIFIC DISORDERS AND SETTINGS**

Applying Positive Behavioral Interventions and Supports in Alternative Education Programs and Secure Juvenile Facilities

Jeffrey R. Sprague, Kristine Jolivette, and C. Michael Nelson

This chapter describes the recommended adaptation and implementation of the positive behavioral interventions and supports (PBIS) framework and practices to support students and staff persons in alternative education programs and secure juvenile facilities (hereafter referred to collectively as AE programs). Our position is that AE programs can and should adopt and implement the three-tiered PBIS approach, to prevent and minimize challenging behaviors in those settings. Over the past two decades, PBIS has been broadly implemented in general education school settings (Goldweber, Bradshaw, Goodman, Monahan, & Cooley-Strickland, 2011). AE settings and the programs implemented within them are distinct from general education settings and programming; as such, they offer a number of unique challenges to the implementation of systems change efforts, including PBIS. However, in our experience, the overall logic and systems approach that characterize PBIS are feasible and hold the promise of efficacy in AE settings.

This chapter contains seven sections, as follows:

1. We begin with an overview of the “school-to-prison pipeline” (S2PP), which is a metaphor for the path that many students who are marginalized in general education settings follow into the juvenile justice system. This unintended artifact of our school and juvenile justice systems is delivered at a high cost to society and to the youth and families involved in it.
2. Next, we briefly describe PBIS and suggest its potential applicability to AE settings.
3. We then discuss research on the range of AE programs currently available, including the characteristics and needs of the youth served within them.
4. After this, we describe in more detail the three-tiered public health framework on which PBIS is based, and we recommend the application of this framework to AE programs.
5. Background and research are next provided on current AE practices, along with a discussion of factors associated with AE settings that account for why typical practices often do not work as

expected, including the effects of deviant peer influence due to congregating large numbers of high-risk youth in the same context.

6. We outline needed changes and improvements for implementation in these settings, including an adapted PBIS implementation model for AE settings that includes the option of adopting the full PBIS framework or incorporating PBIS features into an ongoing program (Nelson, Sprague, Jolivette, Smith, & Tobin, 2009). These strategies include procedures for helping students negotiate the transition out of AE settings and reintegration into normative school and community settings.
7. Finally, we present an agenda for future research and professional practice with this population of high-risk students.

The School-to-Prison Pipeline

Out-of-school suspension and expulsion, as well as removal from the classroom, can exacerbate academic failure (Fabelo et al., 2011; Gregory, Skiba, & Noguera, 2010). When students are provided with no immediate educational alternative, alienation, distrust of teachers, delinquency, crime, school failure, and substance abuse may ensue (Christle, Jolivette, & Nelson, 2005; Skiba & Rausch, 2006). Students who are excluded from typical school settings have a higher likelihood of dropping out and/or entering the juvenile justice system (Fabelo et al., 2011), or of moving through restrictive educational settings such as AE schools or continuation schools (described in more detail later). As noted above, this phenomenon has been called the S2PP (see *www.schooltoprison.org*); it reflects the revolving-door pattern in which exclusionary discipline and school failure lead to delinquency and ultimate incarceration (Archwamety & Katsiyannis, 2000; Reid, Patterson, & Snyder, 2002; Walker & Sylwester, 1991). In recent years, the S2PP has been linked to reactionary, punitive, and unequal school disciplinary practices disproportionately applied to students on the basis of gender, race/ethnicity, and region (Applesseed, 2010) (Aron, 2006; Ciolfi, Shin, & Harris, 2011). Due to these practices, exclusionary school

discipline is now considered a major contributor as an entry point to AE programs (McDaniel, Jolivette, & Ennis, in press).

For the benefit of youth served in AE programs, as well as for the larger society, educators and juvenile corrections professionals have a duty to make the AE system as effective and humane as it can be. In our view, a promising path in this regard is to adopt, adapt, and implement the logic and procedures of PBIS within AE settings (Farkas et al., 2012; Myers & Farrell, 2008; Nelson et al., 2009; Nelson, Jolivette, Leone, & Mathur, 2010; Simonsen, Jeffrey-Pearsall, Sugai, & McCurdy, 2011), in order to halt students' movement along the S2PP or at least to prevent further movement once it has begun (McDaniel et al., in 2012). Failure to achieve rehabilitation while individuals are incarcerated results in high rates of recidivism and a host of negative outcomes over their life course (Eddy, Reid, & Curry, 2002; Figlio, 2006). Preventing entry into this pipeline is and should remain one of our highest priorities, with the recognition that even as schools invest more systematically in preventing delinquency and school failure, the need for AE systems will remain.

Positive Behavioral Interventions and Supports

Currently, PBIS practices are implemented in more than 19,000 typical public elementary, middle and high schools across the United States (see *www.pbis.org*). Positive outcomes of PBIS reported in the research literature include reductions in office discipline referral rates (Bradshaw, Koth, Thornton, & Leaf, 2009), increased instructional time for students frequently removed for disciplinary reasons (Scott & Barrett, 2004), improved academic performance for some at-risk students (Horner et al., 2009; Maulik, Eaton, & Bradshaw, 2011), improved organizational health (Bradshaw et al., 2009), and reduced perceptions of school safety risk factors by adults within PBIS schools (Horner et al., 2009). The success of PBIS adoption and implementation in general education schools has led to efforts to bring this approach to AE programs (Coles, Lamb, Fernandes, & Merrell-James, 2009; Nelson et al., 2009).

The positive outcomes associated with PBIS implementation and its widespread adoption by general education schools suggest that students who might otherwise manifest social and academic problems are achieving improved behavioral, mental health, and academic outcomes. However, despite this broad adoption of PBIS, thousands of our most vulnerable children and youth receive educational, behavioral, mental health, and other support services in AE programs and settings that have not yet adopted or implemented these types of systems and practices (Nelson et al., 2009). In the next section, we describe the types of AE facilities and services commonly in place, and the characteristics of students served in these settings.

AE Programs: The Current Context

Types of Settings

Although there is no generally agreed-upon definition, “alternative education” can refer to any nontraditional educational program, and is often used to designate a program provided for at-risk children or youth who have experienced academic and/or behavioral failure in their neighborhood schools (Aron, 2006). Typically, this term is applied to programs for students who are at risk of educational failure in public schools. In 2007–2008, an estimated 646,500 students attended AE programs (Carver, Lewis, & Tice, 2010). The full continuum of AE programs serving youth who have been excluded from general education settings includes schools within schools (Gottfredson, Gottfredson, & Hybil, 1993; Tobin & Sprague, 2003); separate, stand-alone AE programs (Quinn & Poirier, 2006; Quinn, Rutherford, Leone, Osher, & Poirier, 2005); day treatment and school programs within residential mental health treatment programs; and secure juvenile detention or correctional facilities (Carver et al., 2010; Tobin & Sprague, 2003). We have observed considerable overlap with respect to the types of services and supports provided in AE settings (Quinn & Poirier, 2006), although there is very little documentation of the quality or efficacy of the services provided in these programs (Carver et al., 2010).

As the name implies, “schools within schools” operate as separate programs within a general education building or on the same campus. They may be administratively separate or administered by the building principal, but for the most part they operate under the aegis of the local school district. “Stand-alone AE programs” may be administered by a local school district, mental health agency, or juvenile justice jurisdiction (e.g., a juvenile court school), and are administratively separate from local public schools. “Day treatment programs” may be housed within a local school building or operate as stand-alone facilities. These programs offer a variety of mental health and specialized services, such as substance abuse counseling, in addition to education and mental health treatment. “Residential treatment facilities” provide more intensive round-the-clock services for youth. These facilities are staffed by mental health and other specialized treatment personnel, in addition to educators. Educational programming occupies a substantial part of the daily routine, and teachers are employed by local school districts or the agencies that operate these facilities. Youth may be detained in “juvenile detention facilities” while they await a court hearing, or they may be placed in these for relatively brief periods of time following adjudication. Youth in “juvenile correctional facilities” are serving sentences following adjudication. Both types of secure care may provide comprehensive education programs in addition to various other support programs and services, including vocational training, counseling, mental health services, and specialized treatment (Quinn & Poirier, 2006).

Students with disabilities who engage in serious misconduct (e.g., carrying a weapon, possessing drugs, or threatening injury to others) may be placed in an “interim alternative educational setting” (IAES) for up to 45 days (Nelson et al., 2010). The nature of the IAES may vary, but the most common types include home instruction, an alternative school or program, or in-school suspension. The services included in a student’s individualized education program (IEP) must be provided during this period. After 45 days, the student’s IEP team must convene and make appropriate changes in this program.

Student Characteristics

Significantly higher rates of educational disabilities, antisocial behavior patterns, and mental health adjustment disorders are reported in AE settings. An estimated 33–75% of students in alternative and residential programs are identified as having emotional and behavioral disorders (EBD). The National Longitudinal Transition Study–2 (Wagner & Davis, 2006) reported that more students with EBD are educated in AE settings than students in any other disability group, and that many of these students are reported as needing additional mental health services. Wagner and Davis (2006) also found that 7.6% of all students identified as having EBD attended “an alternative school for students who struggle in general education high schools” (p. 89), while 14.3% attended schools for special education students and 74% were in general education schools. In comparison, 1.3% of students with other disabilities attended alternative schools; 2.2% were in schools for special education students; and 94.2% were educated in general education settings. In addition, there is currently a high prevalence of ethnic minority students served in AE settings (Aron, 2006; Quinn & Poirier, 2006; Wagner & Davis, 2006).

Students from ethnic minority groups tend to be overrepresented in AE programs involving involuntary placement due to disciplinary problems, whereas they are more likely to be underrepresented in voluntary charter or magnet schools that focus on specialized themes or content areas, such as foreign language immersion schools. Foley and Pang (2006) found that in the 50 AE programs that responded to their survey and reported students’ ethnic backgrounds, the average percentages were as follows: 63% European American, 31% African American, 15% Hispanic, 4% Native American, and 2% Asian. Denny, Clark, and Watson (2003) studied the ethnic and racial backgrounds of ninth-grade students in 115 AE schools in the United States. The AE schools in this study served students at risk for dropout and students who had been excluded from traditional schools for disciplinary or behavioral reasons. These researchers found that 37% were European American, 25% African American, 30% Hispanic, 2%

Asian, 2% Native American, and 4% other. Thus minority students tend to be overrepresented in these AE settings and programs.

In 2010, a total of 59,212 youth were reported to be in secure residential placement (Sickmund, Sladky, Kang, & Puzanchera, 2011; Snyder & Sickmund, 2006). Although this number represents a substantial reduction from earlier census data, it reflects a significant failure of schools and community-based programs to address the need for safety and support for these youth in less restrictive settings. Available data on the characteristics and needs of incarcerated youth strongly indicate that race, disability, and educational failure are hallmarks of their trajectory into secure care (Gagnon & Barber, 2010; Nelson, Leone, & Rutherford, 2004). The prevalence of mental illness among incarcerated youth is so great that some have suggested that juvenile justice facilities have become de facto children’s psychiatric hospitals (Grisso, 2007). The existence of such extreme needs suggests that most, or perhaps all, incarcerated youth require intensive, individualized supports (i.e., Tier 3) to address their challenging behavior. Nonetheless, we submit that even programs serving high-risk youth need to adopt and implement a full range of PBIS practices (Jolivet, McDaniel, Sprague, Swain-Bradway, & Ennis, 2012; Scheuermann, Nelson, Wang, & Turner, 2012).

Deviant Peer Contagion

In our view, AE programs are particularly at risk from the negative impact of deviant peer influence or contagion (Dodge, Dishion, & Lansford, 2006). In particular, programs that “select” adolescents for aggregated preventive interventions are particularly vulnerable to these peer contagion effects (Biglan, Sprague, & Moore, 2006). Deviancy training is one mechanism that accounts for peer contagion effects on the display of problem behaviors from age 5 through adolescence (Dishion, Spracklen, Andrews, & Patterson, 1996). Greenwood (2006) concludes that deviant peer contagion effects are greatest for younger, less serious offenders in AE programs, and that many current programs actually facilitate deviant peer contagion. He also notes that most successful delinquency prevention programs take steps to address

deviant peer contagion in specific, multiple ways. Unfortunately, most of these effective strategies are not designed for implementation in typical AE programs (Mihalic & Irwin, 2003). Greenwood's analysis suggests that two appropriate goals for changing the juvenile justice system would be not aggregating younger, less serious offenders and implementing empirically supported delinquency interventions.

These peer contagion effects can undermine and impair the goals of AE programs and systems. Reinke and Walker (2006) identify two practices seeming to foster peer contagion. These are the tendency to track students according to academic skills or emotional difficulties, and the absence of schoolwide systems for supporting positive behavior that could prevent peer harassment and aggressive behavior, thereby reducing the likelihood of deviant peer group formation (Metzler, Biglan, Rusby, & Sprague, 2001; Rusby, Forrester, Biglan, & Metzler, 2005). It appears that a history of rejection by typically developing peers is a vulnerability factor for being negatively influenced by deviant peers. Evidence suggests that children's interactions with deviant peers are tied to increases in aggression in early and middle childhood, as well as to amplification of serious problem behaviors (such as drug use, delinquency, and violence) in early to late adolescence.

Although research has identified the practices within human service, juvenile justice, and school organizations that influence peer contagion, research on efforts at positive change in the practices of these organizations is largely lacking. Adult monitoring, supervision, positive parenting, structure, and instruction in self-regulation serve as protective factors for these children and youth. Applying the three-tiered logic of the PBIS approach also offers a promising method for addressing the problems of deviant peer contagion within AE settings.

Applying the Three-Tiered PBIS Framework to AE Programs

The defining features of the PBIS framework are rooted within the U.S. Public Health Service's multi-tiered classification system. It organizes and delivers most of its

key features through evidence-based practices within public schools (Walker et al., 1996). The multi-tiered structure of this public health model provides a means to select, coordinate, and integrate evidence-based interventions and practices to address the wide-ranging needs of those who present with (in different proportions) various risk factors, health problems, and problem social behaviors (Eddy et al., 2002; Stewart, Benner, Martella, & Marchand-Martella, 2007).

An integrated range of interventions and practices that includes primary, secondary, and tertiary supports is based on needs assessment information and on a knowledge of how these interventions and practices "fit" the context of schooling (Mihalic & Irwin, 2003; Rogers, 2002). "Primary" or "universal" support refers to the use of universal approaches that prevent problems from emerging, or delay their onset (Tier 1—prevent harm). "Secondary" or "selected" support addresses problems that already exist but that are not yet chronic or severe (Tier 2—reverse harm). "Tertiary" or "intensive/targeted" support uses the most powerful and expensive individualized intervention approaches available within K–12 settings to address the problems presented by those most at risk (Tier 3—reduce harm).

The public health model encourages adoption and implementation of universal interventions before secondary and tertiary interventions are implemented, in order to use these limited resources as efficiently and effectively as possible. Screening and assessment processes are built into the PBIS model to better match individual needs with resources and interventions. High-quality implementation of, and exposure to, Tier 1 interventions serve as a test of the need for secondary supports (Sprague, Cook, Wright, & Sadler, 2008). By definition, exposure to a high-quality secondary intervention should specify the criteria for adding tertiary intervention support. This multi-tiered approach has been broadly adopted for organizing academic as well as behavioral support systems in general education schools across the United States (Algozzine, Putnam, & Horner, 2010; Gresham, 2004; Shinn & Walker, 2010).

The marriage of the U.S. Public Health Service's prevention model with the three

tiers of the PBIS framework is recommended for AE programs, so that they can comprehensively address the needs of their students. However, PBIS as typically implemented in general elementary, middle, and high school settings clearly needs to be adapted to meet the unique features, requirements, and challenges of AE settings. These adjustments involve the four major elements of the PBIS framework: systems, outcomes, practices, and data.

Implementation of PBIS in AE Settings: What Is Currently Known

Relatively little systematic research on the effectiveness of AE programs in any form has been conducted (see Quinn & Poirer, 2006, and, more recently, Farkas et al., 2012). Results of the few studies that have been completed are difficult to generalize beyond the settings in which they were conducted (Raywid, 1997). There is some evidence, however, that students served in comprehensive, well-designed programs do better than comparable students who do not attend them (Gottfredson, 2001; Raywid, 1997). In this context, and given the diverse and nonstandardized implementation of AE practices in such programs across the country, it is not surprising that only a few evaluations of PBIS implementation in AE settings have appeared in the professional literature (Farkas et al., 2012; Gottfredson, 2001; Quinn & Poirer, 2006; Tobin & Sprague, 2003).

Descriptive case studies and evaluations of PBIS implementation in AE settings have documented the following outcomes: (1) decreases in the use of crisis interventions (e.g., restraints), (2) reduced aggressive student behavior, (3) increases in student academic achievement, and (4) acceptable intervention fidelity and social validity (D. N. Miller, George, & Fogt, 2005; Simonsen, Britton, & Young, 2010). We review the few systematic investigations of AE PBIS effects next.

Sprague and Nishioka (2003) combined schoolwide PBIS (SWPBIS) with a selected “school within a school” AE intervention for high-risk youth in a suburban middle school. One intervention and one comparison middle school (grades 6–8) from the same suburban school district in the north-

west region of the United States participated in this 2-year study. The treatment school implemented a “school within a school” AE services program called Skills for Success (SFS), which included a universal screening system to identify students at risk for school failure, plus an array of individualized student and family intervention services (Sprague & Nishioka, 2003). AE supports included assigning school-based mentors; academic tutoring and inclusion support strategies; service coordination with community agencies (e.g., youth services, mental health); social skills teaching; and alternatives to out-of-school suspension. The treatment school showed a higher percentage of reduction (–35%) in overt aggression than the comparison school (–26%). Moreover, the juvenile arrest rate for students served in the SFS program was dramatically lower and the severity of juvenile crimes was less than for the control school group.

D. N. Miller and colleagues (2005) examined the effects of a positive schoolwide organizational development approach at the Centennial School of Lehigh University. The authors described the implementation of “effective behavior supports,” an early descriptor for PBIS (Safran, 2006). Dramatic reductions in the use of physical restraints were reported. Similar results were also reported when the authors used a team-based and data-driven approach in two schools with residential settings (J. A. Miller, Hunt, & Georges, 2006).

In other studies, Simonsen and colleagues (2010) and Jolivette and colleagues (2012) both implemented SWPBIS practices in AE programs with existing secondary- and tertiary-tier practices and demonstrated decreases in problem behaviors. Simonsen and colleagues also reported improved staff-to-student communication. Jolivette and colleagues conducted focus groups with PBIS leadership team members from two AE programs that had adopted SWPBIS within their existing behavior management systems. They found that both teams reported similar challenges (e.g., lack of staff buy-in, disjointed universal models, inadequate data usage and sharing, inconsistent practices, and confusing reinforcement systems) to adopting SWPBIS. Each team took a different approach to addressing these challenges,

with one team adapting SWPBIS and the other ceasing to implement the program.

Farkas and colleagues (2012) described a schoolwide Tier 1 intervention at an alternative school serving students with emotional disturbance or other health impairments in grades 5–12. The intervention included establishing a building-level PBIS team, implementing classwide and student-level incentive systems, teaching schoolwide behavior expectations, and establishing consistent responses to problem behavior. Discipline referral rates were measured via the School-wide Information System (May et al., 2000). Other measures included the School-wide Evaluation Tool (Horner et al., 2004), direct observation of teacher–student interactions, and social validity checklists. As in the earlier studies, reductions in discipline referral rates were reported. The authors also reported acceptable levels of intervention fidelity and social validity.

Implementation of PBIS in AE Settings: What Is Needed to Improve Current Practice

Our primary assertion is that all forms of intervention and support in AE schools and facilities will, as a general rule, be more effectively implemented and result in better student outcomes when PBIS systems, practices, and data-based decision making are adopted. That said, the results of the studies described above are somewhat mixed. Nevertheless, several do demonstrate that promising outcomes can be achieved in AE settings with careful implementation of PBIS approaches. In order to move this agenda forward, however, substantial additional research needs to be carried out to address many of the common barriers to achieving AE program efficacy for students at severe risk. For example, we have found that PBIS content and implementation processes require specialized professional development adaptations relating to language use; demonstration of PBIS implementation with high integrity; promotion of decision-making rules and other promising practices; and careful consideration of unique AE contextual/setting variables, such as an increased emphasis on sustaining security

and safety. There is also a need to address the common problems and lack of monitoring associated with the “points and levels” systems often used in AE settings (Dunlap & Childen, 1996). We provide details below on some of these essential adaptations.

Adapting the Three-Tiered PBIS Approach

As noted earlier, SWPBIS as implemented in general education elementary, middle, and high school settings must be adapted to the idiosyncratic features of AE settings. We have learned from experience that adjustments in key features of the AE implementation and staff support systems, student outcomes, student support practices, and data decisions are necessary because all these are qualitatively different from those in general education. Required adaptations must include (1) establishing a leadership team to actively coordinate implementation efforts; (2) securing adequate funding, visibility, and consistent political support for implementation; (3) training and supporting a cadre of individuals who can provide ongoing training and coaching support for local implementation; (4) developing an ongoing system for evaluation and provision of performance-based feedback to implementers; and (5) creating a screening and progress monitoring system relative to individual student supports and progress.

Figure 14.1 compares the implementation of PBIS in general education schools with its extension to AE programs. The important observation here is that programs serving at-risk students will still need to organize systems and services according to the three-tiered public health logic and approach (Jolivette et al., 2012). Although individual student needs may be more intensive across the AE population, the need remains for carefully selected and consistently implemented universal interventions (see Farkas et al., 2012), as well as for identification and application of more intensive supports in these settings. For example, in a general education PBIS program, a “check-in/check-out” (CICO) intervention would typically be reserved for those students requiring Tier 2 supports (Crone, Hawken, & Horner, 2010). In contrast, a CICO system would

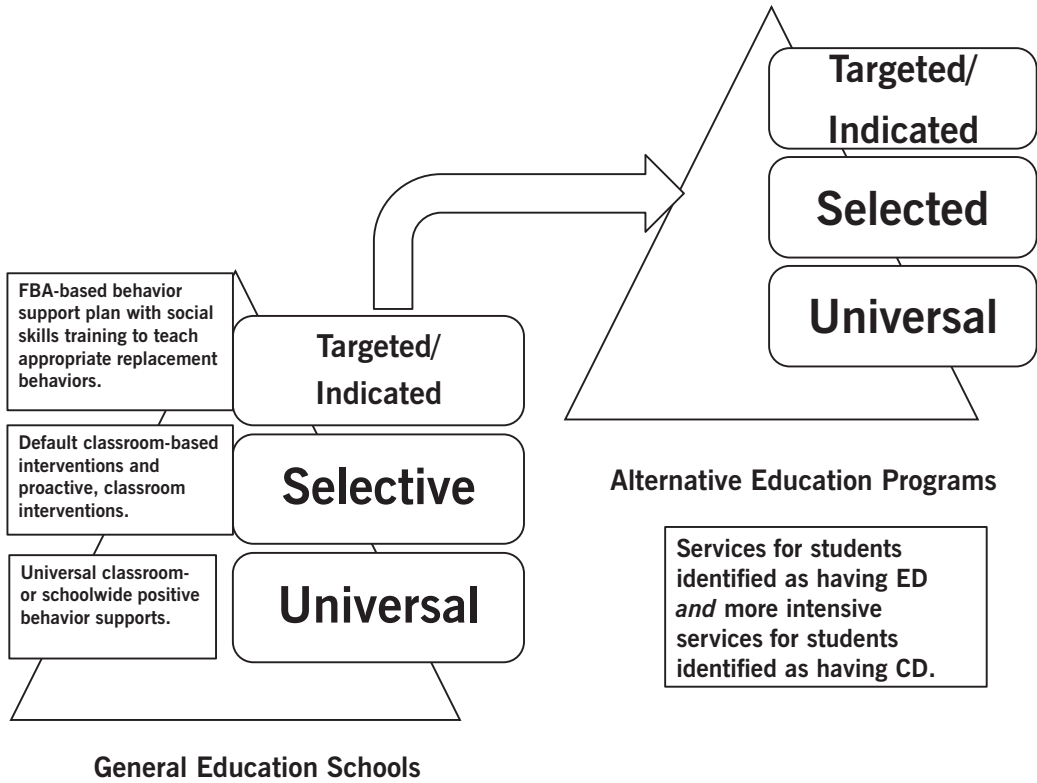


FIGURE 14.1. Comparison of PBIS applications in general education schools and AE programs. FBA, functional behavioral assessment; ED, emotional disturbance; CD, conduct disorder.

commonly be applied to *all* children and youth in an AE program.

Adapting Formats for Delivery of Professional Development

Many AE facilities involve staffing patterns covering 24 hours and 7 days per week. This presents major challenges to delivering staff development and coaching support (Nelson et al., 2009). Some programs have requested professional development to occur in short snapshots across time, while others prefer all-day events with follow-up support. Juvenile corrections systems typically require approximately 30 hours of training per year, and most teachers and other professionals need continuing education credits. To address this requirement, we are creating syllabi and staff development formats for use in these systems. Embedding PBIS staff development in this way also supports program maintenance and reduces costs.

Intervention and Staff Development Practices

We describe here the recommended content for AE-PBIS interventions and staff development. Table 14.1 outlines our recommendations: We address professional development practices (including teacher/staff member proximal outcomes), implementation (intervention practices and implementation fidelity), and intended student outcomes (both proximal and distal). Below, we focus on selected practices in terms of the three-tiered model.

AE-PBIS Implementation Protocol (Universal Tier)

The programwide AE-PBIS system must address the adoption, implementation, and maintenance of efficacious intervention systems (Glasgow, Vogt, & Boles, 1999). Universal (program- or facilitywide) inter-

TABLE 14.1. Recommended Content for AE-PBIS Staff Development and Implementation

AE-PBIS professional development	AE-PBIS implementation practices	Student outcomes
<p>Resources</p> <ul style="list-style-type: none"> • AE-PBIS staff development guide • Archival data entry and reporting system • Behavioral progress monitoring system • Intervention fidelity measures <p>Teacher and staff member proximal outcomes</p> <ul style="list-style-type: none"> • Attendance at staff development events • On-site and in-class implementation logs or observation checklists • Survey data <ul style="list-style-type: none"> ◦ PBIS knowledge ◦ Intent to use ◦ Social validity ◦ Self-efficacy ◦ Organizational health 	<p>Intervention practices</p> <ul style="list-style-type: none"> • Communicating and teaching behavior expectations • Positive reinforcement systems • Teaching-focused responses to noncompliance and minor problem behavior • Check-in, check-out (CICO) • Function-based behavioral support • Data-based decision making • Transition and aftercare <p>Implementation fidelity</p> <ul style="list-style-type: none"> • Pedagogy • Supervision • PBIS implementation 	<p>Proximal outcomes</p> <ul style="list-style-type: none"> • Reduced behavioral incidents • Increased time on task • Improved attendance in school and program <p>Distal outcomes</p> <ul style="list-style-type: none"> • Reduced referral to special education • Higher academic achievement • High school completion • Reduced juvenile crime and recidivism

vention systems include establishing and communicating universal behavioral expectations; systematic teaching of expected behavioral skills; positive reinforcement systems; systematic supervision in classrooms and common school areas; instructional and function-based responses to mild problem behavior; and defusing aggressive or escalating behavior. Importantly, given the complex array of existing practices offered to youth in AE settings, this system must also include a data-based decision-making process to categorize existing practices across the tiers of support (Jolivet et al., 2012), and align them with all written procedures and progress monitoring protocols.

CICO, Self-Management, and Positive Reinforcement System Protocol (Universal, Selected, and Indicated Tiers)

A critical intervention component of PBIS involves using school- or facility-based adult “mentors” to promote and reinforce student behavior and academic goal achievement as well as student self-monitoring/management (Due et al., 2005; Sinclair, Christenson, & Thurlow, 2005). Typical CICO practices are as follows: (1) A student checks in with his or her mentor at the beginning of the day to set behavioral and academic

goals for that day; (2) the student takes the point sheet from class to class and also to residential areas for both oral and written feedback from teachers or staff members in these settings; (3) the student checks out with the CICO mentor at the end of the day to review progress, problem-solve issues, set goals for the next day, and receive reinforcement/feedback; (4) the point sheet is taken home or to the residence staff to be shared with the student’s guardian or supervisor for praise/feedback; and (5) the student returns the signed point sheet to the mentor the next morning (Hawken, MacLeod, & Rawlings, 2007).

Functional Behavioral Assessment and Individualized Behavioral Support Plan Protocols (Intensive Tier)

The functional behavioral assessment (FBA) steps suggested by O’Neill and colleagues (1997) should be used for all students within the AE-PBIS setting, but particularly for students within the tertiary (intensive) tier. These FBA procedures should include (1) describing/defining the problem behaviors via interviews and record reviews; (2) identifying the antecedents/consequences of both the problem behavior and nonproblem behavior through direct observations,

interviews, and record reviews; (3) developing hypothesis statements based on the data from the first two steps, with possible function(s) noted that may maintain the problem behavior; and (4) collecting additional direct observational data to verify the hypothesis statement (this also may include functional analysis of the hypothesis statement). Behavioral support plans should include function-based interventions that teach the student an appropriate, alternative replacement behavior that is more relevant, efficient, and effective than the initial problem behavior.

Aftercare/Transition Protocol (All Three Tiers)

Development and implementation of aftercare/transition protocols are commonly recommended for AE programs (Houchins, Puckett-Patterson, Crosby, Shippen, & Jolivet, 2009), and yet our experience is that most AE systems do not systematically implement them. With regard to youth in the juvenile justice system in particular, Baltodano, Mathur, and Rutherford (2005) observed that “transition is a complex and uncoordinated process that often leads to further failure and recidivism” (p. 104). Although it is widely agreed that transition planning should begin when youth first enter secure care and that it should drive educational programming (Nelson et al., 2004), researchers have found that such is seldom the case (Hosp, Griller-Clark, & Rutherford, 2001; Johnston, 2003; McGlynn, 2003). AE-PBIS leadership teams require data-based decision-making processes for identifying which tier-specific supports may be necessary to facilitate a successful transition back to public school settings or other community living, working, or educational placements.

Transition practices identified by researchers as “promising” include (1) interagency collaboration; (2) the presence of a strong transition coordinator; (3) comprehensive educational programming that includes academic, vocational, and social skills as well as self-awareness training; (4) identifying school and community resources and matching these to individual needs; (5) parental involvement; and (6) supported employment as appropriate (Maag & Katsiyannis, 1998;

Sitlington & Neubert, 2004). The website of the National Technical Assistance Center for Neglected, Delinquent, and At-Risk Youth includes a page that provides recommendations regarding transition needs and issues (www.neglected-delinquent.org/nd/resources/library/transition.asp).

Anderson-Inman, Walker, and Purcell (1984) developed a process for facilitating the successful transition of students with disabilities into less restrictive educational settings. Their model of “transenvironmental programming” consists of procedures for preassessing the characteristics, behavioral expectations, tolerance levels, and skill requirements of the future target setting or settings; preparing each student by providing direct instruction to develop the required skills for meeting environmental expectations; implementing specific strategies during transition; and conducting monitoring and follow-up assessment. As part of a long-term program of research on mainstreaming and social integration, Walker and his colleagues have developed a reintegration protocol that includes ecological instruments, placement selection processes, transition strategies, and postplacement follow-up and technical assistance. The Assessment for Integration into Mainstream Settings reintegration procedures and outcomes are described in Walker (1986).

Obviously, effective transition of youth from AE into less restrictive school and community settings would be greatly enhanced if PBIS systems were put in place in both the sending and receiving target settings. However, this is not likely to be the case in the near future, for three reasons. First, PBIS is not implemented in many AE settings. Second, many (perhaps the majority) of youth leaving AE settings do not return to public schools (Aron, 2006). And, third, the probability that the PBIS framework and practices are in place in receiving settings is low. Nevertheless, we maintain that the benefits for youth who are exposed to PBIS in AE settings (e.g., greater academic engagement, improved social skills, and success in completing treatment programming) are likely to lead to more successful transition outcomes in the long run. We recommend that future research address this important question.

Intervention Fidelity/Treatment Adherence Measures/Instruments for AE-PBIS (All Three Tiers)

To date, there is no common agreement regarding best practices in assessment of intervention fidelity and treatment adherence in AE (Coles et al., 2009; Quinn & Poirier, 2006), which constrains systematic research on and dissemination of such practices. We are in the process of adapting existing PBIS measures and instruments (Sugai, Lewis-Palmer, Todd, & Horner, 2001) to better fit the contextual features of AE settings. We are also testing and implementing various other instruments, such as AE-PBIS team member self-ratings and direct observation protocols for effective use in these settings (Quinn & Poirier, 2006; Sprague, Nishioka, Yeaton, & Utz, 2005).

Student Outcomes

An essential feature of PBIS implementation in general education schools is the collection and reporting of outcome data such as office discipline referrals (Irvin et al., 2006). Schools are also increasingly adopting and implementing behavioral progress monitoring systems (Chafouleas, Riley-Tillman, Sassu, LaFrance, & Patwa, 2007). In AE programs there are often two separate data systems, which may or may not span school- or facilitywide contexts. We have also observed that there is little to no reporting on student outcomes to teachers or corrections staff members within these programs. Establishing a comprehensive and systematic approach to collecting, summarizing, and reporting behavioral incidents and monitoring behavioral progress will be essential for improving and maintaining PBIS implementation in AE settings (Sprague et al., 2008).

Future Directions for Research and Practice

As noted earlier in this chapter, there has been virtually no carefully controlled research on the efficacy of AE programs, and yet hundreds of thousands of our most vulnerable children and youth are served by them (Quinn & Poirier, 2006). This should

be viewed as a disturbing finding for the field of EBD and for education in general. In this section, we suggest a program of empirical research in AE, discuss the need to define evidence-based practices in AE, and make recommendations for designing and delivering staff development and personnel preparation to AE staff.

The Need for Empirical Research

Further empirical study of AE-PBIS implementation in AE settings is clearly needed. There is a pressing need to move beyond quasi-experimental evaluations of AE-PBIS implementations, as well as the continuing production of conceptual papers on AE-PBIS. In our view, there is sufficient empirical evidence from studies of individual intervention components such as CICO systems (Crone et al., 2010) and many other AE program features (Nelson et al., 2009; Tobin & Sprague, 2003) to make the case for a large-scale, randomized controlled trial of PBIS implementation in AE contexts. Given the huge diversity of program types and sizes, selection and assignment to conditions will be major challenges, but these will not be insurmountable. We believe that this is a critical need and worth the required effort and fiscal investment.

Jolivet and colleagues (2012) proposed seven specific research questions that should be addressed regarding the extension of PBIS into AE settings:

1. Can PBIS be implemented in AE settings as effectively as in typical elementary, middle, and high school settings?
2. What are the essential features of PBIS implementation in AE settings?
3. Will the specific interventions and strategies that are successful across the three PBIS tiers be similar to or different from those in typical school settings?
4. Will the relative proportions of behavior referrals across the three PBIS tiers and various grade levels hold true for alternative settings and across diverse youth populations?
5. Will more positive youth outcomes be achieved if PBIS is implemented across an entire facility, compared with implementation in the education unit alone?

6. Will the outcomes of PBIS implementation vary according to AE settings?
7. Will the implementation of PBIS affect both academic and social youth outcomes?

In addition, it is of critical importance to conduct follow-up studies of students served in AE programs to assess the longer-term impact of AE programs, and particularly the transition and aftercare protocols.

Defining Evidence-Based Practices in AE

As noted earlier, the absence of clear research evidence regarding promising AE practices impedes the identification of optimal program characteristics and assessment of intervention fidelity (Quinn & Poirier, 2006; Tobin & Sprague, 2003). Also, this lack of empirical evidence makes it difficult to justify scaling up PBIS initiatives in AE settings. Many states prescribe administrative compliance standards for AE, and some fidelity assessments have been used in studies of these programs (Quinn & Poirier, 2006). Given the relatively higher cost of providing AE services as compared to regular public school supports, the relative impact of individual program characteristics on overall student outcomes should be examined, especially in AE schools using PBIS.

Staff Development and Personnel Preparation

As more and more students with behavioral challenges and related needs are placed into AE settings, the dissemination of information about evidence-based best practices within them and the provision of scientifically based professional development and preservice preparation for AE personnel must be accelerated. The National Alternative Education Association (<http://the-naea.org>) holds an annual conference to bring together researchers, practitioners, families, and youth to discuss effective practices in serving students with disabilities and other at-risk students in AE settings, but this effort is not formally linked to the PBIS research and practice community (e.g., the Association for Positive Behavior Support, www.apbs.org). In addition, we are not aware of any formal preservice training or licensing/

certification requirements for AE personnel. As such, recruitment and retention strategies for qualified AE staff are extremely limited. Given the intense needs and behavioral characteristics of the AE population, it appears that such training and skill development are urgently needed.

Conclusion

The stage has been set for defining and testing applications of AE-PBIS in a variety of AE settings serving students with EBD. Such students in these settings are at elevated risk for school failure, due to their often weak academic skills and disruptive behaviors. The National Association of State Directors of Special Education and the National Disability Rights Network have created an initiative to promote the prevention of delinquency and a reduction in the number of youth with disabilities entering the AE system through ramped-up prevention efforts in schools. The shared agenda produced by this initiative, *Tools for Promoting Educational Success and Reducing Delinquency*, is outlined on the website of the National Center on Education, Disability and Juvenile Justice (www.edjj.org) as a recommended resource.

As noted several times herein, our view is that *any* program serving children and youth will benefit from adopting, implementing, and maintaining evidence-based PBIS practices, but especially programs for students with behavioral problems. A focus on students' outcomes in the realms of social and academic competence; the ongoing use of data to support implementation decision making; systematic methods of coaching and training to support AE staff behavior; and use of evidence-based practices to support student behavior certainly are all indicated for AE settings. The available evidence suggests that there is a small but growing trend for PBIS practices to be adopted in some programs (Quinn & Poirier, 2006). Regarding the value and utility of AE programs and settings, the question remains whether they can implement PBIS practices to reconnect children and youth more effectively to regular public schools, or whether they will instead function to keep students disconnected and out of the educational mainstream with its normalizing and socialization advantages.

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Bullying and Aggression in School Settings

**Stephen S. Leff, Christine Waanders, Tracy Evian Waasdorp,
and Brooke S. Paskewich**

Occasional aggression between peers at school is a common phenomenon in childhood and adolescence. However, it becomes a significant problem when it occurs frequently or when specific children are repeatedly targeted (Finkelhor, Turner, & Hamby, 2012). It has been shown to have a significant negative impact on children's short- and long-term psychosocial and academic outcomes (e.g., Card, Stucky, Sawalani, & Little, 2008). As such, it is important to understand the factors that may cause some children to be more likely than others to be involved in aggression and bullying. In research considering individual and classroom factors, it has been found that children receiving special education services, such as those with emotional and behavioral disorders (EBD), are at higher risk for both victimization and perpetration of aggression (Rose, Espelage, & Monda-Amaya, 2009; Swearer, Wang, Maag, Siebecker, & Frerichs, 2012). Because school professionals today are charged with creating a school climate that is supportive of children's intellectual and emotional growth, reducing aggression of all forms, and particularly bullying, has become a key focus for educators. This chapter provides an overview of various types of aggression in schools, and explores how these issues affect children classified with EBD.

Forms of Aggression

“Physical aggression” (PA) is the intentional use of physical force (e.g., kicking, hitting, pushing, and biting) to cause harm or injury to another person. In the past several decades, researchers have identified and extensively studied another form of aggression called “relational aggression” (RA). RA consists of behaviors that harm another person psychologically or emotionally, or that harm that person's social standing; such behaviors include social exclusion, the spreading of rumors, or the threat of withdrawing friendship (Crick & Grotpeter, 1995). Over the past 10 years, youth have increasingly been using electronic media (e.g., cell phones, the Internet) to aggress against peers, spawning a newer form of aggression called “cyberaggression.” “Bullying” is a subset of aggressive behavior. Namely, it is aggression that is carried out *repeatedly* and in the context of a *power imbalance* between two or more individuals. This power imbalance can be in terms of physical dominance or social status, and the bullying behavior can be demonstrated via a range of different methods—physical or relational. For example, bullying may consist of the repeated spreading of rumors about a peer, either in person or via social media; it can involve loud verbal insults delivered in front of a group of

peers on multiple occasions; or it may occur through repeated instances of kicking, tripping, or hitting a targeted individual.

Prevalence and Characteristics of Aggression Subtypes in Childhood and Adolescence

PA is the first form of aggression to appear in childhood. It often begins in toddlerhood, peaks in frequency during the preschool years, and gradually decreases through the elementary school years (Coie & Dodge, 1998; Underwood, Beron, & Rosen, 2009). As children learn to express themselves better, they are better able to achieve their social goals and handle their frustration without using PA. Developmental research has identified different trajectories for children's use of PA in the United States. While the majority of children (70%) engage in low rates of PA, there are a significant number of children who engage in moderate rates of PA that decline with age (12%) or that remain relatively stable with age (15%), and a small group of children that engage in a high rate of aggression that remains stable (4%) (NICHD Early Child Care Research Network, 2004). Overall, physical aggression decreases in frequency as children enter adolescence (Orpinas & Horne, 2006).

RA emerges slightly later than PA. It first appears in the preschool years, when, for example, young children threaten to exclude other children from birthday parties or other activities unless the others conform to their wishes, or they hold their hands over their ears to ignore others (Crick, Casas, & Ku, 1999; Ostrov, Woods, Jansen, Casas, & Crick, 2004). The frequency of RA increases over the course of elementary school; it peaks in middle school, but continues through high school (Orpinas & Horne, 2006). Researchers theorize that children's aggression becomes more subtle or covert over time as their social skills become more refined, explaining the decrease in PA over the course of elementary and middle school, and the simultaneous increase in RA (e.g., Card et al., 2008; Smith, Rose, & Schwartz-Mette, 2010). A classic study on the prevalence of RA found that about 11% of boys and 21% of girls in third through sixth

grades engaged in it (Crick & Grotpeter, 1995).

As noted above, cyberaggression involves the use of electronic/social media to perpetrate relational aggression or make threats of physical violence (Hinduja & Patchin, 2009). Although there is a growing literature on electronic forms of aggression, several conceptual and methodological limitations suggest that we should use caution when interpreting the conclusions from these studies. For instance, there does not appear to be a standard definition or assessment method for cyberaggression. Furthermore, different studies have used different time frames in asking youth about their experiences with forms of cyberaggression (e.g., within the past month, during the past school term, etc.). These methodological inconsistencies are likely to explain the varied findings about the frequency of cyberaggression, and they make it difficult to draw definitive conclusions about its prevalence, so these limitations must be kept in mind. The majority of studies to date have suggested that girls are more likely to be both victims and perpetrators of cyberaggression than boys (Robers, Zhang, & Truman, 2010; Underwood & Rosen, 2011), and that cyberaggression occurs at similar rates in middle school and high school (Wang, Iannotti, & Nansel, 2009).

Bullying generally begins in elementary school and peaks in frequency in middle school (Nansel et al., 2001; Smith & Brain, 2000; Swearer et al., 2012). In large samples of elementary-age children, approximately 14–16% have been found to be perpetrators of bullying, 4–6% are victims of bullying, and 2–13% are “bully-victims” (children who have experienced both roles) (Glew, Fan, Katon, Rivara, & Kernic, 2005; Jansen et al., 2012). Large-scale national studies indicate that about one-third of adolescents have been involved in bullying on a regular basis, as bullies, victims, or bully-victims (Nansel et al., 2001; Robers et al., 2010). Specifically, between 13 and 20% of adolescents have been perpetrators of bullying (Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007; Nansel et al., 2001), 11% have been victimized, and 6% have experienced both roles at different times (Nansel et al., 2001).

Gender Differences in Aggression

Over the past several decades, researchers have realized that children often express their aggression and anger toward their peers in several different ways. For instance, boys have traditionally been thought to be considerably more aggressive than girls, as PA has been the primary form of aggression studied. Pioneering research by Nicki Crick and colleagues in the 1990s suggested that girls can be quite aggressive as well, but that their expression of these behaviors often occurs in a more subtle manner, entailing the manipulation of peer status and reputations through gossip and social exclusion (i.e., RA; Crick & Grotpeter, 1995). Subsequent research has found that girls and boys express both forms of aggression, but that boys tend to use physical means more often than relational means, while girls display their aggression primarily through relational manipulations (Card et al., 2008; Leff, Waasdorp, Paskewich, et al., 2010; Swearer, 2008; Waasdorp, Bagdi, & Bradshaw, 2010). Finally, research has demonstrated that girls are more distressed by RA than are boys, possibly because their peer relationships often occur within the context of closer-knit peer groups and dyadic social interactions, which are the very means used to cause harm to others in RA (Crick & Grotpeter, 1995; Murray-Close, Ostrov, & Crick, 2007; Waasdorp et al., 2010).

Demographic Differences in Aggression

PA, RA, and bullying are manifested somewhat differently in different groups of students. In addition to the previously mentioned gender differences in aggression, some studies have found differences by ethnicity and socioeconomic status (SES). Two large national studies have shown that African American adolescents are more likely to act as bullies and less likely to be victimized than European American or Hispanic adolescents in the United States (Nansel et al., 2001; Wolke, Woods, & Samara, 2009). Nansel and colleagues (2001) found that Hispanic adolescents are more likely to be perpetrators of bullying than European American adolescents. A smaller study with

a predominantly African American, urban middle school sample found a higher prevalence of both perpetration and victimization via relational aggression than has been found in European American samples (Williams, Fredland, Han, Campbell, & Kub, 2009). Furthermore, a comparative study using peer nominations and teacher ratings found that African American children were perceived as higher in both overt aggression (e.g., physical, direct verbal) and RA than European American students (Putallaz et al., 2007). In contrast, a study using self-report measures with adolescents found no differences by ethnicity in either overt aggression or RA (Prinstein, Boergers, & Vernberg, 2001). Findings in this area are preliminary and highlight the need for further exploration of ethnic differences in aggression.

There is considerable evidence that children with lower SES are more likely than their higher-SES peers to engage in physical aggression (see Coie & Dodge, 1998). Less is known about differences in relational aggression and bullying among youth of different SES. In two recent European studies, children's lower SES was linked with a higher likelihood of bully or bully-victim status (Jansen, Veenstra, Ormel, Verhulst, & Reijneveld, 2011; Jansen et al., 2012). Large-scale research with American adolescents has shown that those from affluent families were less likely to engage in physical bullying, but more likely to engage in electronic forms of bullying, than youth from lower-SES backgrounds (Wang, Iannotti, & Luk, 2012). Much more information is needed regarding differences in aggression by SES, in order for prevention scientists to determine the need for and/or to tailor interventions to meet the needs of students in different communities.

Psychosocial Implications of Aggression

Perpetrators

Children who engage in frequent PA beyond the preschool years tend to have underlying social problem-solving deficits and difficulties with emotion regulation (Vasey, Dalglish, & Silverman, 2003), which may lead to psychosocial and relationship-oriented adjustment issues as they reach adolescence

and young adulthood (Dodge, Coie, & Lynam, 2006). There have been numerous studies linking children's perpetration of PA and bullying with concurrent and later development of externalizing behavior problems (Crick, Ostrov, & Werner, 2006) and delinquency (Broidy et al., 2003; Olweus, Limber, & Mihalic, 1999; White & Loeber, 2008). Furthermore, being a perpetrator of bullying is associated with higher rates of delinquent behavior, weapon carrying, and alcohol use (Nansel et al., 2001; Olweus, 2011; Shepherd, Sutherland, & Newcombe, 2006; Wang et al., 2012). Some studies have shown that perpetrators of RA are also prone to externalizing behaviors (Williams et al., 2009); other research has found that RA perpetrators exhibit significant levels of internalizing behaviors, including higher levels of loneliness, social isolation, and depression (Card et al., 2008; Crick & Grotpeter, 1995). Given the high correlation between the perpetration of RA and that of PA (Card et al., 2008), youth who are perpetrators of both PA and RA are at risk for significant internalizing and externalizing difficulties. Despite these associations, recent research has also documented that a subgroup of perpetrators of aggression and bullying are quite influential within their peer group (e.g., showing leadership and popularity), while at the same time not being well liked by peers (Hoff, Reese-Weber, Schneider, & Stagg, 2009; Neal, 2010; Waasdorp, Baker, Paskewich, & Leff, 2013). This dynamic adds to the complexity and challenge of decreasing aggression in schools.

Recent research also suggests that involvement in cyberbullying (CB) is associated with an increased risk for maladaptive outcomes. For example, as compared with bullies who do not use electronic means of aggression, those who engage in CB are at higher risk for externalizing behaviors (see Suzuki, Asaga, Sourander, Hoven, & Mandell, 2012, for a review; see also Wang et al., 2012). Furthermore, perpetrators of CB are also more likely to be victims of traditional aggression and bullying (Mishna, Khoury-Kassabri, Gadalla, & Daciuk, 2012), which exacerbates their risk for both internalizing and externalizing difficulties (O'Brennan, Bradshaw, & Sawyer, 2009).

Victims

Not surprisingly, victims of both PA and RA experience psychosocial adjustment problems and negative developmental outcomes as well. These children are more likely to experience feelings of loneliness, poor self-esteem, anxiety, and depression (Graham, Bellmore, & Mize, 2006; Polanin, Espelage, & Pigott, 2012), as well as higher rates of school avoidance and lower academic achievement, than those who are not victims of aggression (Graham et al., 2006; Waasdorp, Pas, O'Brennan, & Bradshaw, 2011; Williams et al., 2009). Being victims of bullying also leads to significant issues with psychosocial adjustment—ranging from symptoms of anxiety and depression in children, to serious depression and suicidal ideation in adolescents (Hepburn, Azrael, Molnar, & Miller, 2012; Rigby & Slee, 1999; Smith & Brain, 2000; Williams et al., 2009).

Many of the same adjustment difficulties that are seen among victims of traditional aggression and bullying are found in victims of CB (see Suzuki et al., 2012). A study by Smith and colleagues (2008) revealed that when compared to more traditional forms of victimization, bullying by electronic means has a stronger negative impact; this is due to the possibility of widespread dissemination of the harmful emails, posts, or pictures, combined with the difficulty of completely deleting them (Smith et al., 2008; Suzuki et al., 2012). Furthermore, being a victim of CB is associated with low self-esteem and higher rates of stress, anxiety, and depression (Beran & Li, 2005; Mishna, Cook, Gadalla, Daciuk, & Solomon, 2010), and this association remains strong even after researchers control for school-based traditional victimization (Fredstrom, Adams, & Gilman, 2011). Victims of CB have also been found to be eight times more likely than other adolescents to carry a weapon to school over a 30-day period (Fredstrom et al., 2011; Ybarra & Mitchell, 2007), and they are extremely unlikely to tell others about their cybervictimization.

Bully-Victims

Researchers have also examined the experiences of bully-victims—those youth who

engage in bullying and find themselves the victims of bullying as well. Boys are more likely than girls to be bully-victims. For example, one large European study found that 25% of elementary-age boys were bully-victims, as opposed to 9% of elementary-age girls (Kumpulainen, Räsänen, & Puura, 2001). A large U.S. study found that bully-victims showed higher levels of school adjustment difficulties (including internalizing and externalizing behaviors) than those who were solely victims or solely bullies (Farmer et al., 2012). Compared to their peers, bully-victims have significantly higher rates of mental health disorders, including oppositional defiant disorder, depression, and attention-deficit/hyperactivity disorder (ADHD) (Kumpulainen et al., 2001).

Bystanders

In addition to being the victims and/or perpetrators of bullying, children may play another important role in bullying scenarios: that of “bystanders.” Bystanders are those children present when bullying occurs, though not in the role of either bully or victim. Bystanders may respond either actively or passively to the aggression they witness (Polanin et al., 2012). For example, they may encourage or “egg on” a bully, either directly by verbally encouraging the bullying or indirectly through watching the bullying and not intervening. Conversely, they may seek adult assistance for the victim or directly intervene on the victim’s behalf. The majority of children and adolescents have been the bystanders of bullying (Polanin et al., 2012; Rivers, Poteat, Noret, & Ashurst, 2009). Though the body of research on youth bystanders is still developing, it shows that witnessing bullying has a negative effect on psychosocial well-being (Waasdorp et al., 2011) and has been associated with elevated symptoms of depression, anxiety, and substance use (Rivers et al., 2009). The ways in which youth and adult bystanders address bullying episodes they witness can have a large impact on school climate, specifically affecting students’ feelings of safety and sense of belonging within the school (Waasdorp et al., 2011).

Bullying as It affects Youth in Special Education

Considering the overall size of the bullying literature, there is relatively little research on bullying among children receiving special education, and even less on those children classified with EBD (Estell et al., 2009). A review of the existing literature in this area suggests that late elementary school and middle school students receiving special education services are disproportionately more often the victims and/or perpetrators of physical and relational bullying (Carter & Spencer, 2006; Rose et al., 2009). Much of the research on bullying among students in special education focuses on children with learning disorders or intellectual deficits, or the samples include children with a range of physical and academic disabilities. These studies show that children with learning disabilities are significantly more likely to be both the victims and perpetrators of bullying than their mainstream peers (Kaukiainen et al., 2002; Nabuzoka, 2003; Norwich & Kelly, 2004). A large study of rural fifth graders in the United States found that students receiving special education (disability type was not specified) were more likely to be victims of bullying or bully-victims than their nondisabled peers (Farmer et al., 2012). Research from the 1990s has shown that among students receiving special education, type of educational placement/setting is associated with differences in the prevalence of victimization. For example, students with disabilities who are educated in segregated settings have been shown to be bullied more often than those in mainstream placements (see Rose, Monda-Amaya, & Espelage, 2011, for a review).

The few recent studies examining bullying among children with EBD show a similar pattern. For example, a study by Swearer and colleagues (2012) showed that 9- to 16-year-old students classified for special education in the “behavioral disability” category were significantly more often bullies or victims than their peers in general education. Two other U.S. studies found that children with a range of special health care needs (including physical and psychosocial disabilities) were about twice as likely to be the victims of

bullying as their typically developing peers (Twyman et al., 2010; Van Cleave & Davis, 2006). A closer examination showed that children with a behavioral, developmental, or emotional problem were more than three times as likely as other children to act as bullies, or to be bully-victims. This is consistent with previous research showing that children with disruptive behavior disorders (DBDs) are more likely to be both perpetrators and victims of bullying than their peers (Kokkinos & Panayiotou, 2004; Kumpulainen et al., 2001; Unnever & Cornell, 2003).

The link between bullying and DBDs (i.e., ADHD, oppositional defiant disorder, or conduct disorder) is relevant because a substantial number of children receiving special education for EBD have been diagnosed with these disorders (Jull, 2008). Children with DBDs are known to have poorer social awareness, as well as lower levels of self-control, both of which make them vulnerable to involvement in bullying (Unnever & Cornell, 2003). Other students classified with EBD have significant internalizing disorders (e.g., generalized anxiety disorder), which can be associated with misinterpreting social cues in a negative direction, leading to subsequent reactive or aggressive behavior (Swearer, Siebecker, Johnsen-Frericichs, & Wang, 2010). In sum, children classified with EBD may be targeted for bullying because of their being less integrated into the school environment than mainstream peers, or because of noticeable differences in the ways that they react to social situations with peers. Some researchers theorize that the long-term repeated experience of victimization, combined with social skills deficits, serves as the catalyst for these students' involvement as perpetrators of bullying later on (Rose, Espelage, Aragon, & Elliott, 2011). Much more research is needed to understand what the psychosocial needs of children classified with EBD are, and whether these children are helped by existing aggression prevention programs.

Using Different Levels of Intervention to Address RA, PA, and Victimization

Several different prevention programs have been developed to address the issues of ongoing aggression and bullying among school-

age youth (Leff, Waasdorp, & Crick, 2010; Polanin et al., 2012; Tofi & Farrington, 2011). These preventive interventions have been designed for delivery at different levels within the school, corresponding to the three-tiered model for intervention recommended within the response-to-intervention framework (Bradshaw, Pas, Goldweber, Rosenberg, & Leaf, 2012; Fox, Carta, Strain, Dunlap, & Hemmeter, 2009). Tier 1 (i.e., universal) interventions are delivered to all students, and a number of bullying prevention researchers have advocated for interventions that address peer aggression and bullying at the whole-school level. These include programs that teach strategies for conflict management and social skills promotion to all students through classroom-based formats. Other interventions have utilized a pullout, small-group format with at-risk aggressive youth, which represents a Tier 2 (secondary prevention) approach. At Tier 3 (i.e., tertiary prevention) the interventions developed are for individual children who are perpetrating or experiencing bullying. There are advantages as well as challenges with each of these approaches to preventing and/or lessening the impact of aggressive interactions among students. Educators targeting issues of bullying and aggression among students classified with EBD may find implementing programs at multiple levels to be most beneficial. That is, students with EBD receive individualized skill-building interventions, in addition to the broader school-based programming that targets a more positive, supportive school climate and discourages bullying among all students (Rose, Espelage, et al., 2011).

Individual-Level Interventions

For children who are known to perpetrate bullying, and/or those who are vulnerable to victimization due to their mental health diagnosis or special education status, an individual-level intervention can be helpful for building their resilience and skills for handling social situations in a positive manner. The Bullying Intervention Program (Espelage & Swearer, 2011) allows school counselors or psychologists to provide one-on-one cognitive-behavioral psychoeducation and feedback to youth who have been identified as bullies. Other researchers

recommend social skills training for children who bully, in order to build empathy and foster self-regulation skills (Heinrichs, 2003). For children with EBD who are involved in bullying, it can be beneficial to include specific prosocial skills or emotion identification and coping skills goals in their individualized education programs (IEPs), to ensure that these deficits are recognized and targeted by their parents, teachers and interventionists (Heinrichs, 2003).

For victims of bullying, experts have recommended individual-level interventions such as assertiveness training, or cognitive-behavioral therapy (e.g., Kendall's Coping Cat program) and relaxation training, to address symptoms of anxiety (Nation, 2007; Swearer & Espelage, 2011). Another important goal in working with the victims of bullying is to reduce their sense of isolation or alienation, which can be even greater among children receiving special education services than among mainstream students. The Lunch Buddy Program (Elledge, Cavell, Ogle, & Newgent, 2010) is a school-based mentoring approach that addresses this need. In this program, bullied youth are paired with college-age mentors who spend time with them during their lunch period in the cafeteria. This program was effective in changing peers' perceptions of the bullied children and reducing bullied children's externalizing behavior. However, further study is needed to determine whether the victims themselves report experiencing less bullying over time. In general, the main limitation of individual-level interventions is that unless work is also done with a broader array of students and/or teachers, they have little chance of affecting the climate or context of bullying within a school, or of changing the way the child with EBD is viewed. For this, a multiple-level intervention may be needed.

Group Interventions

A number of aggression prevention programs have been designed for group format implementation (Leff, Power, Manz, Costigan, & Nabors, 2001; Lochman & Dunn, 1993), and these are clearly consistent with school procedures for identifying at-risk youth and providing remedial social skills and anger management training to

small groups of students. The advantages of using group interventions include that they provide additional attention and support to struggling youth; allow youth to learn, practice, and role-play new social skills and strategies within a safe environment; and can often be conducted at nonacademic times (e.g., during the lunch period) so that participating youth do not miss important classroom instruction. At the same time, there are several challenges to consider with the pullout group format. One challenge is the concern that negative behaviors may be reinforced by other aggressive group members (Dishion, McCord, & Poulin, 1999; Reinke & Walker, 2006), thereby undermining the potential impact of the program and potentially increasing participants' levels of aggression instead of lessening it. Although this is an important concern, especially for groups of physically aggressive adolescent males, it can be addressed through the use of skilled, experienced group facilitators with strong behavioral management skills. Such facilitators can prevent any aggression that occurs within the group setting from being reinforced, and instead can have it serve as a valuable "teachable moment." Another way in which group interventionists have protected against the spread of aggression is by including a mix of youth in their groups, such as those exhibiting aggressive behaviors and nonaggressive youth who can serve as positive role models (Leff, Gullan, et al., 2009). While this latter strategy has been employed in a number of well-known programs, it is important that facilitators also monitor the positive role models, to help ensure that their behavior is not adversely affected through the programming.

Classroom-Based Interventions

RA and PA have a negative impact not only on individual youth development, but on the classroom teaching environment as well (Goldstein, Young, & Boyd, 2008; Thomas & Bierman, 2006). For this reason, a number of classroom-based aggression and bullying prevention programs have been developed and implemented that have a concerted focus on both relationally and physically aggressive behaviors (Leff, Waasdorp, & Crick, 2010). Classroom-based programs have several advantages. First, they can sup-

port teachers in learning strategies to prevent aggression and bullying within their own classroom settings. Second, they should have broader application and generalizability than pullout group interventions, which are conducted with relatively small numbers of high-risk students. Finally, they more easily allow for common strategies to be learned and reinforced across an entire class of students. Disadvantages include the need to integrate classroom-based programs carefully with ongoing curricula (e.g., health, social studies), so that valuable academic time is not lost when a class participates in the program. Also, the effects of the intervention need to be assessed to determine whether or not the program was successful for all youth, including high-risk children. It is unclear whether most classroom-based programs are intensive enough to have as much of an impact on high-risk youth's behaviors and attitudes as similar programs within smaller-group settings; this will be an important question for future research.

Schoolwide Interventions

A number of leading researchers have voiced the opinion that the most influential programs for preventing aggression and bullying are those that are ecological and systemic in nature (Bronfenbrenner, 1979) and that address problems at multiple levels (Espelage & Swearer, 2010). Such schoolwide approaches decrease behavior problems by establishing clear rules about aggression and bullying, by implementing systematic approaches for positively rewarding youth who exhibit prosocial behavior, and by targeting unstructured school settings such as the lunchroom and playground (Leff, Costigan, & Power, 2004). These programs are likely to be quite successful *when fully implemented*. Furthermore, school psychologists, counselors, and nurses can play a vital role in serving as the key staff members coordinating comprehensive, schoolwide aggression and bullying interventions. Despite these strengths, there are substantial challenges to these more intensive whole-school approaches to prevent aggression and bullying. Many of these programs require extremely strong buy-in and time commitment from the majority of school personnel

in order to be effective. There needs to be a recognition that change may be somewhat slow, and that the impact of such a program may not be fully realized in the short term.

Examples of RA and PA Prevention Programs at the Group, Classroom, and Schoolwide Levels

The Friend to Friend (F2F) Program is a group intervention program designed through a community-based participatory research approach, in which an empirically supported program was adapted to be responsive to the needs of urban, predominantly African American aggressive girls in grades 3–5 (see Leff et al., 2007, for more details). Girls are selected for the program through a peer nomination procedure that helps to identify those who are exhibiting high levels of RA and/or PA. This 20-session program is conducted twice per week during the lunch–recess period. F2F teaches children about the different forms of aggression and bullying, and the settings in which these behaviors are most likely to occur (e.g., playground, lunchroom, and hallways). It also teaches a series of problem-solving strategies designed to help girls recognize signs of physiological arousal, stay calm, objectively examine and determine the perpetrator's intent (i.e., did the perpetrator have hostile intentions or not?), and generate and evaluate potential responses to aggression. These strategies are then applied to different social situations, such as “when someone spreads a rumor about you,” or “when you wish to join in a game with peers during recess.” Facilitators are trained graduate students partnered with a classroom teacher or teacher's assistant. Role plays, as well as cartoon and video illustrations designed collaboratively with local urban African American youth, are the main teaching modalities used in F2F. There are typically 8–10 girls in each group, including one to two positive role models who help minimize the possibility that aggression may become worse and/or be reinforced within the group sessions. Once girls have completed about half of the group sessions, they then serve as co-leaders for 10 classroom-based sessions in which they partner with the group facilitator and classroom

teacher to teach the skills they are learning to their classmates. Serving as co-leaders for their peers provides the aggressive girls with an opportunity to demonstrate their new skill set and helps combat their negative peer reputations, which typically are firmly entrenched by the time they begin participating in the group intervention. Research has demonstrated that relationally aggressive girls participating in F2F demonstrate decreases in their levels of both RA and PA, improvements in problem-solving abilities, and decreases in loneliness as compared to similar high-risk girls assigned to a no-treatment control condition (Leff, Gullan, et al., 2009). In addition, the program was rated as being highly acceptable by participating youth and their teachers, and implementation quality was found to be extremely high, as determined through video-recorded integrity-monitoring procedures.

Positive teacher feedback for the classroom sessions of F2F encouraged researchers to develop the Preventing Relational Aggression in Schools Everyday (PRAISE) Program. PRAISE translates the classroom sessions of F2F into a stand-alone prevention program that can be conducted simultaneously across multiple classrooms. This 20-session classroom-based RA/PA prevention program includes the problem-solving strategies and application of these strategies to defusing rumors and entering groups described above for the F2F Program (Sessions 1–11), combined with additional sessions and strategies related to developing empathy for peers and stronger perspective-taking skills, what to do if a student is the bystander of bullying, and how to help teachers develop classroomwide rules and procedures to prevent peer aggression and bullying. This program is jointly run by research staff and the classroom teacher. The program is designed for all students in a classroom and can be integrated within a social studies or health curriculum; the curriculum can thereby be offered to all boys and girls, regardless of risk status. As in F2F, culturally specific cartoons, video illustrations, and interactive role plays are used. A preliminary study of the PRAISE Program found that it increased problem-solving knowledge for all participants, but that girls, especially aggressive girls, appeared to benefit the

most (see Leff, Waasdorp, Paskewich, et al., 2010). For example, strong aggression suppression effects (both relational and physical aggression) were demonstrated for relationally aggressive third- and fourth-grade girls whose classrooms were randomized to PRAISE, as compared to similar girls from classrooms randomly assigned to the regular social studies curriculum. In addition, the program was rated by both students and teachers as being highly acceptable, and as classroom teachers as being feasible to implement within the busy urban school setting. Finally, the program demonstrated high levels of implementation quality, as rated through live observations of classroom sessions.

Given the research demonstrating that a schoolwide, comprehensive, developmental-ecological approach to peer aggression and bullying is likely to have the largest impact (see Farrington & Ttofi, 2009), researchers are now beginning to integrate multiple components of F2F and PRAISE into a schoolwide initiative that will allow for a comprehensive focus on the social-contextual variables that often support aggression and bullying. This expanded program will teach youth strategies to deal more successfully with peer aggression and bullying; equip teachers and support staff with techniques to deal more proactively with student misbehavior; assist lunchtime supervisors in providing a more structured and interactive lunch-recess period; and promote communication among students, school staff, and parents around active participation in aggression and bullying prevention programming. The coordination of these strategies to address behavioral issues at individual, classroom, and schoolwide levels is the hallmark of more successful programs (Swearer & Espelage, 2011).

Future Research and Practice

Despite numerous studies over the past 20–30 years examining different aspects of peer aggression and bullying, there remains a lot of research to be conducted, especially with regard to children and youth with EBD and special health care needs. Recent research on implementation quality suggests

strongly that successful programs are those that have solid research evidence for their utility, combined with being feasible and acceptable within particular school communities (Leff, Hoffman, & Gullan, 2009). Although programs should be implemented as intended, we must also recognize the importance of giving researchers and educators flexibility in the way program content may be delivered (Kendall, Gosch, Furr, & Sood, 2008).

Three additional gaps in the literature base are likely to be explored in the coming years. The first of these is the need for disseminating and/or enhancing programs so that they are appropriate for implementation not only in schools, but also within a range of after-school environments (Leff, Thomas, et al., 2010). This is important, given that community-based recreation centers and after-school programs increasingly provide support to youth and families during high-risk evening and weekend times (see Leff, Thomas, et al., 2010). The second is the need to study factors that will help promote the sustainability of school-based aggression prevention programs, so that strong programs, implemented under more ideal conditions through research grants within schools, become part of the fabric of these schools' communities and thereby build the schools' capacity to provide needed programming to students. Finally, there is a need to develop a consistent definition and method for assessment of cyberaggression, so that this newest form of aggression/bullying can be better understood, and appropriate intervention strategies can be developed.

Conclusion

Though school personnel are all too aware of the prevalence of PA, RA, and bullying, they are increasingly *required* to address these problems by both state and federal mandates (e.g., No Child Left Behind Act of 2001; Whitted & Dupper, 2005). Over the past 20 years, schools have increasingly targeted the problem of bullying among students at all levels because of its deleterious effects on individual children and on the schools as a whole. Because PA is easy to recognize, many schools have long-standing rules and policies to address it, and teach-

ers usually intervene quickly to address PA between students. RA, on the other hand, can be conducted more covertly and has historically gone unaddressed. Incidents of RA require expanded programming from teachers and school administrators, who should take into account the match between a program and the school's needs, the feasibility of implementation, and the adaptation of the program to address specific concerns within different community contexts. Finally, given the tremendous increase in the use of social media over the past 10 years, it is essential that more systematic research be conducted on CB so that appropriate strategies can be developed and, where appropriate, integrated into best-practice programs addressing RA and PA.

In sum, aggression is a multifaceted issue, varying in form and frequency across the span of childhood and adolescence. Aggressive behavior is determined by multiple factors, ranging from individual children's inherent traits and capacities to the responses of child and adult bystanders. These, in turn, are affected by group dynamics and school climate. Due to the complexity of the problem, preventive interventions for aggression and bullying must be implemented at multiple levels (i.e., small groups, classrooms, a whole school) and across systems (i.e., students, teachers, administration, and community). Recent consensus is that the schoolwide approach to aggression prevention is most effective; however, children at high risk for becoming victims or perpetrators of aggression (e.g., children classified with EBD) may benefit from individual or targeted group interventions as well. Schools should integrate and coordinate prevention programming at the universal, secondary, and tertiary tiers of intervention in order to best meet the needs of all students (Walker et al., 1996).

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Interventions for Students with Attention-Deficit/Hyperactivity Disorder

School and Home Contexts

George J. DuPaul, Seth D. Laracy, and Matthew J. Gormley

Students diagnosed with attention-deficit/hyperactivity disorder (ADHD) exhibit clinically significant levels of inattention and/or hyperactivity/impulsivity relative to peers of the same age and gender (American Psychiatric Association [APA], 2000, 2013). Children and adolescents with this disorder experience academic and/or social difficulties that are chronic and pervasive across home, school, and community settings (Barkley, 2006). The purpose of this chapter is to describe effective interventions that can be implemented in home and school settings to address the functional impairments associated with ADHD. The chapter begins with a brief overview of the prevalence and etiology of ADHD, followed by a description of best practices in assessing students suspected of this disorder. Next, we describe the current treatments for ADHD and their relative use in practice. Principles guiding an individualized intervention approach are delineated. A detailed overview of school-based, parent-mediated, school-home collaborative, and self-regulation interventions follows, along with brief descriptions of other interventions (e.g., stimulant medication) used to treat ADHD. The chapter concludes with a discussion of future directions for research and practice.

Prevalence and Etiology

ADHD is the most common reason for mental health referral among school-age children in the United States (APA, 2000, 2013). The prevalence of ADHD is roughly 5% of students, with estimates ranging from 3% up to nearly 10% (Barkley, 2006; Centers for Disease Control and Prevention [CDC], 2010). This suggests that the typical classroom will have at least one student with ADHD, underscoring the importance of school professionals' having high-quality training for supporting students with this disorder. Relative to girls, boys are approximately 6 times more likely to have a diagnosis in clinical settings and approximately 2.5 times more likely to have a diagnosis in a community sample (Barkley, 2006; CDC, 2010).

Historically, ADHD has been treated as a childhood disorder; however, evidence indicates that most individuals with ADHD continue to suffer impairments related to this disorder into adulthood (Barkley, Murphy, & Fisher, 2008). Evidence also suggests that about 66% of children in community settings and up to 75% of children in clinical settings have at least one comorbid disorder (Larson, Russ, Kahn, & Halfon 2011).

Despite the relatively high prevalence of ADHD, little is confidently known yet about its etiology. The majority of evidence suggests that ADHD is a neurobiological disorder with genetic links, and that contributing environmental factors (such as parenting practices) play a role in regulating the severity of the symptoms (Barkley, 2006). Prenatal factors such as maternal smoking and alcohol consumption may increase risk for ADHD (Kurth & Hausmann, 2011). Although the specific links have not been made clear, such prenatal factors are likely to affect a child's neurobiological structure, resulting in associations with ADHD.

Assessment

The symptoms of ADHD can lead to impairment and negative outcomes in a variety of domains, including school, home life, and peer relationships. Even within the same setting, the presentation of symptoms can fluctuate as a function of situational demands and different stakeholders (e.g., parents and teachers), who may interpret behaviors very differently (Anastopoulos & Shelton, 2001). It is necessary to use multiple methods to collect information from multiple informants regarding behavior in multiple settings, in order to design appropriate, comprehensive interventions. Such information is also necessary to document whether diagnostic criteria for ADHD are met (e.g., clinically significant functional impairment in at least two settings) (APA, 2000, 2013).

Common assessment methods include clinical interviews, rating scales, and direct observation. Clinical interviews with parents, teachers, and/or students themselves can help establish the presence or absence of symptoms of ADHD and other disorders, as well as the age of onset, frequency, duration, setting, and severity of impairment (Anastopoulos & Shelton, 2001; Barkley, 2006). Clinical interviews range from highly structured, allowing for standardized administration requiring less training, to unstructured, allowing more freedom to highly skilled assessors (Anastopoulos & Shelton, 2001).

Rating scales assess symptom presence and the degree of developmental deviance. Rating scales require a parent, teacher,

or student to answer questions relating to symptoms of ADHD, another disorder, or a range of disorders or domains. Their responses are then compared to findings for a normative sample. Ratings can also be obtained to evaluate functional impairment (e.g., the Impairment Rating Scale; Fabiano et al., 2006).

Direct observation of student behavior in natural settings, such as the classroom, can confirm information gathered from informants. Selecting appropriate interventions can be aided by rigorous observation, such as a functional behavioral assessment that identifies the situational variables eliciting a behavior, the consequences reinforcing a behavior, and the function of a behavior (Steege & Watson, 2009).

The State of the Practice

Because ADHD is associated with significant impairment across multiple settings, the optimal treatment approach typically includes intervention strategies implemented in home, school, and community environments. Although specific treatment strategies differ across children, the most frequent combination will include psychotropic medication and behavioral interventions applied at home and school (Barkley, 2006; MTA Cooperative Group, 1999).

Commonly Used Treatments outside School

The most common treatments for ADHD outside the school setting are psychotropic medication (e.g., central nervous system [CNS] stimulants) and parent training in the use of behavior modification strategies (Barkley, 2006).

Psychotropic Medication

The most widely studied and used treatment for ADHD is the prescription of psychotropic medication, chiefly CNS stimulants (e.g., methylphenidate). In fact, over 70% of students with a full diagnosis of ADHD will use a stimulant medication at some point over 4 years (Angold, Erkanli, Egger, & Costello, 2000), and approximately 3.5–4.8% of all

U.S. schoolchildren are treated with stimulants, presumably for ADHD (CDC, 2010; Zuvekas & Vitiello, 2012). Stimulant medication has been used successfully for more than four decades, with 60–80% of children and adolescents exhibiting a positive response to treatment (Connor, 2006b). Specifically, methylphenidate and other CNS stimulants are consistently associated with significant reductions in inattentive, impulsive, and/or hyperactive behavior (Van der Oord, Prins, Oosterlaan, & Emmelkamp, 2008). Similar (albeit less ubiquitous) reductions in ADHD symptoms have been found for nonstimulant medications, such as atomoxetine, guanfacine, and bupropion (Connor, 2006a).

Despite the significant symptom reduction effects of stimulants and other psychotropics, at least three factors limit the impact of pharmacotherapy for ADHD (Brown et al., 2008). First, stimulants can lead to adverse side effects (e.g., insomnia, appetite reduction) that are associated with significant discomfort for some individuals. Second, although symptom reduction is helpful, concomitant improvements in academic and social functioning are minimal. Finally, medication-induced long-term enhancement of symptoms and functioning has not been demonstrated.

Psychosocial Interventions

The most common psychosocial intervention implemented outside the school setting to address ADHD is parent education in the use of behavior modification strategies. As discussed later in this chapter, token reinforcement and other behavioral interventions can be implemented with integrity by parents to enhance child compliance and task completion (Pelham & Fabiano, 2008).

Social skills or peer relationship training is another psychosocial intervention that has been examined in the research literature and is sometimes used in clinical or community settings. Although the findings of controlled studies are mixed, emerging evidence suggests at least moderate improvements in social behavior for peer relationship training implemented in home and community settings (i.e., outside the clinic) (Pelham & Fabiano, 2008).

Commonly Used School-Based Treatments

The two most commonly recommended treatment strategies for students with ADHD in school settings are classroom-based behavioral interventions and educational accommodations (DuPaul & Stoner, 2003). Typically, classroom-based behavioral interventions (e.g., token reinforcement) are implemented by the teacher for part of the school day or in specific subject areas. These interventions can also be mediated by peers, parents, and computer technology, as well as by a student with ADHD (as discussed later in this chapter). Accommodations are not interventions per se; rather, they involve changing the environment (e.g., preferential seating) or task demands (e.g., reducing workload) to accommodate a child's disability. Although there are scant data regarding the efficacy and extent of use of accommodations, anecdotal evidence suggests that these are relatively common and are probably used more frequently than intervention strategies.

Principles Guiding Individualized Treatment

Although children diagnosed with ADHD share common features, any two children with ADHD may vary considerably in symptomatology or severity, and may respond differently to various treatments (DuPaul & Stoner, 2003). Given this between-student variability, it is essential to tailor treatments to the specific presentation of each individual child. Several principles can help practitioners develop and adapt the most appropriate treatment plan.

Data-Driven Treatment

Successful intervention is greatly aided by data collection throughout the treatment process. For example, functional assessment can help to identify setting events and consequences, such as peer attention or avoiding schoolwork, that maintain problem behavior (O'Neill et al., 1997). Such information can help practitioners tailor interventions to achieve maximum efficacy. Once treatment is underway, data on treatment integrity should be collected to ensure that interven-

tions are being implemented as intended because integrity of implementation may influence the effectiveness of the intervention (e.g., see Gresham, 2009 and Chapter 25, this volume; Lentz, Allen, & Ehrhardt, 1996). Data collected on a periodic basis regarding desired outcomes should be used to inform decisions regarding treatment continuance, modification, and/or termination.

Treatment at Point of Performance

Interventions for ADHD may be most effective when provided as close to the point of performance as possible (Goldstein & Goldstein, 1998). Evidence suggests that deficits in behavioral inhibition may be the primary deficits leading to symptoms associated with ADHD (Barkley, 2006). These deficits may make it difficult for students with ADHD to employ skills learned in a clinician's office when faced with challenges in the school or home environment. Interventions that are implemented directly in the setting in which a child is struggling stand a better chance of affecting problematic behaviors. Furthermore, many teacher- and parent-mediated strategies draw extensively upon principles of applied behavior analysis; this suggests that the more closely reinforcement and punishment follow a target behavior's occurrence, the stronger their effects on shaping future behavior will be (Michael, 2004).

Multiple Treatment Approaches

Employing multiple intervention strategies offer several advantages in treating ADHD. First, the flexible use of treatment agents allows a treatment team to employ the most appropriate, function-based, and data-driven interventions to target various symptoms at different points of performance. Second, different treatment modalities may also serve different ultimate goals. Treatment plans for students with ADHD often feature some mixture of accommodations, psychotropic medications, and behavioral interventions. Accommodations, such as extended time on tests or a second set of books to keep at home, allow students with ADHD better access to the academic environment; however, they do not teach skills that will remediate core deficits, generalize to other

environments, or lead to lasting improvement (Evans, Owens, Mautone, DuPaul, & Power, in press). Medications can lead to rapid improvement in ADHD symptomatology across several settings, but these advantages dissipate once medication is removed. Behavioral interventions can teach lasting skills that remediate core deficits associated with ADHD, but often require more effort to implement with integrity than do accommodations or medication. Given the advantages and disadvantages of different treatment modalities, combining various strategies may offer the best balance of easy, fast-acting components and more intensive components with potentially lasting effects.

Consideration of Stakeholder Preferences

It is important to consider the preferences of the stakeholders who will be called on to carry out interventions, as stakeholder expectations can influence the efficacy of treatments. Teachers who disagree with intervention choices are less likely to implement interventions or to complete them with high integrity (Eckert & Hintze, 2000). Among patients receiving therapy, those receiving preferred treatments show somewhat stronger outcomes and are 50% less likely to terminate treatment (Swift & Callahan, 2009). Consultants can also boost teachers' perceptions of interventions by providing research-based evidence of effectiveness (Von Brock & Elliott, 1987) or by providing support to teachers to help facilitate implementation.

The next several sections describe in more detail several evidence-based strategies that may be helpful components of an individualized treatment plan. These sections cover school-based interventions, parent-mediated strategies, self-regulation interventions, and other interventions.

School-Based Interventions

Several school-based intervention strategies can produce moderate to large improvements in behavior and academic functioning for students with ADHD (DuPaul, Eckert, & Vilaro, 2012). Because classrooms and

schools are complex environments, intervention implementation can be difficult, especially for general education teachers who must meet the needs of 20 or more students. Interventions may be implemented with more quality and integrity if they are chosen according to factors such as the ease of implementation, the match between the intervention and the teacher's teaching style, the basic understanding of the treatment plan, the use of feedback regarding performance, and the motivation to implement the intervention (Klinger, Ahwee, Pilonieta, & Menendez, 2003; Witt, Noell, LaFleur, & Mortenson, 1997). The interventions included here are the more common forms of treatment used for this population and are described in order from basic to more complex. These strategies should be considered components of a comprehensive intervention plan rather than stand-alone interventions (although they can be used in this manner when appropriate).

Proactive Strategies

The use of cues and prompts has been found to increase compliance with desired behavior (Paine, Radicchi, Rosellini, Deutchman, & Darch, 1983; Sulzer-Azaroff & Mayer, 1991). This is not a surprising finding, given that students must first know what is expected of them before they can perform a given behavior. Similarly, providing students with simple and explicit rules regarding classroom expectations can improve behavioral functioning (Johnson, Stoner, & Green, 1996). The difficulty is ensuring that students understand the rules and expectations of the classroom. For example, fewer than 10% of students in first, second, and third grades could accurately provide the rules of their own classroom, even though their teachers felt that they had accurately and clearly taught the classroom rules (Stoner & Green, 1992). DuPaul and Stoner (2003) provide basic suggestions for teachers, based on their review of the relevant literature regarding proactive behavioral interventions: (1) Remind students of classroom rules throughout the day, and publicly praise students for appropriate behavior; (2) maintain appropriate eye contact with students; (3) remind students of behavioral expectations prior to the start of

a new activity; (4) actively monitor students by moving throughout the classroom; (5) use nonverbal cues to redirect behavior; (6) maintain appropriate pacing for classroom activities; and (7) provide a clear schedule of activities.

Teacher Attention

One of the most basic intervention components consists of differential teacher attention (Pelham, Fabiano, Gnagy, Greiner, & Hoza, 2005). Teachers can maintain positive behavior by "catching" their students being good. Positive teacher attention should occur immediately following the desired behavior and should be specific in nature (e.g., "James, you're doing a great job finishing your worksheet!"). In addition to providing positive attention contingent on desired behaviors, teachers can mitigate disruptive or nonpreferred actions by ignoring minor behaviors (e.g., tapping a pencil), although ignoring can sometimes lead to more intrusive behaviors (e.g., calling out) because students are not gaining the attention that they desire (Cooper, Heron, & Heward, 2007). Evidence further suggests that teacher reprimands can be effective in managing student behavior if redirections are brief, are specific in nature, consistently occur immediately following the negative behavior, and are delivered in a calm and quiet manner (Pfiffner & O'Leary, 1993). Although differential attention and reprimands can be effective, additional contingencies (see "Token Reinforcement," below) may be needed, especially when behavior problems escalate (DuPaul & Stoner, 2003).

Token Reinforcement

"Token reinforcement" is a commonly used strategy in which students gain immediate reinforcers (e.g., points, stickers) for meeting specific behavioral expectations. Immediate reinforcers can then be exchanged for backup reinforcers (e.g., additional free time, computer time) later in the day or at the end of the week (Cooper et al., 2007). For example, students may receive stickers for every class period in which they complete assigned activities. If students earn a sticker in at least five of their classes, they receive 10 minutes on the computer at the end of the

day. This form of intervention has long been noted as effective in reducing the disruptive behavior of students with ADHD (Ayllon, Layman, & Kandel, 1975). Token reinforcement offers valuable flexibility, as the criteria to earn both immediate and backup reinforcers can be made increasingly stringent to help elicit longer periods or higher levels of appropriate behavior.

Response Cost

Response cost is similar to token reinforcement, except that students are fined for undesirable classroom behavior rather than provided reinforcement for appropriate behavior (Cooper et al., 2007). Although token reinforcement and response cost used alone are similar in efficacy, the combination of these treatments leads to greater efficacy, enhanced maintenance, and higher ratings of acceptability from U.S. teachers (Curtis, Pisecco, Hamilton, & Moore, 2006; DuPaul, Guevremont, & Barkley, 1992; Jurbergs, Palcic, & Kelley, 2007; Pfiffner & O'Leary, 1987; Rapport, Murphy, & Bailey, 1980). Finally, in analogue classroom settings, the combination of response cost and token reinforcement has produced behavioral gains greater than those observed with stimulant medication (Fabiano et al., 2007).

Contingency Contracting

Contingency contracting involves the negotiation of specific terms with students that identify behavioral expectations in clear, unequivocal language and stipulate the consequences for meeting or failing to meet contractual requirements. It is important that the terms of such contracts are agreed upon by all parties, and particularly that students buy into the contract. Allowing students to identify reinforcers they are willing to work for may boost their engagement in the contracting intervention (DuPaul & Stoner, 2003). Contracting requires that students are able to understand the meaning of a contract, and that the contract period is developmentally appropriate (i.e., shorter periods for younger students). When these factors are taken into consideration, this strategy has been shown to be effective for students with ADHD (Fabiano et al., 2011).

Academic Supports

Students with ADHD are more likely to receive failing grades and to be retained in a grade than typically developing peers are (Barkley et al., 2008; DuPaul & Stoner, 2003), and nearly 50% of students with ADHD have a comorbid learning disability (LD) (DuPaul, Gormley, & Laracy, 2013). Presented here are general academic intervention guidelines for working with students who have ADHD. First, students with ADHD should be screened for an underlying LD. Second, meta-analytic research on behavioral interventions has found consistently small effects regarding academic improvement (DuPaul et al., 2012; Fabiano et al., 2009). Thus it should be assumed that any academic deficits will require specific intervention to remediate those deficits, and that reduction in behavioral symptoms alone will not lead to academic improvement. Third, students may require specific intervention to aid in their study and organizational skills (see the "Other Treatments" section later in this chapter).

Parent-Mediated Strategies

Parent-mediated strategies for treating ADHD usually focus on teaching parents behavioral strategies to reinforce appropriate or desired behaviors. Key skills often covered in behavioral parent training (BPT) include rewarding appropriate behavior with attention, praise, or tangible rewards; actively ignoring inappropriate behaviors; providing structure by establishing rules and routines and giving clear, concise instructions; managing disruptive behavior or aggression; effectively communicating with schools; and managing the stress often associated with parenting a child with ADHD (Owens, Storer, & Girio-Herrera, 2011). Parents are also taught techniques used in school settings (e.g., token reinforcement), and the application of these techniques in the home follows the same logic as when they are applied in school.

Although individual studies have focused on somewhat different treatment protocols, the preponderance of evidence indicates that BPT should be considered a well-established treatment for ADHD (Pelham & Fabiano,

2008). Numerous studies have shown BPT to be effective in improving a variety of outcomes, including increasing parent competence and decreasing dysfunctional parenting, as well as decreasing child behavior problems, inattention, hyperactivity, and internalizing symptoms (Bor, Sanders, & Markie-Dadds, 2002; Eisenstadt, Eyberg, McNeil, Newcomb, & Funderburk, 1993; Webster-Stratton, Reid, & Beauchaine, 2011). Follow-up studies commonly find lasting effects ranging from 6 months to 2 years (Cunningham, Bremner, & Boyle, 1995; Eyberg et al., 2001). Several programs have shown strong effects when BPT is provided in group settings, with effects sometimes greater than those produced by individual parent training sessions (Cunningham et al., 1995; Webster-Stratton et al., 2011).

One of the most widely studied BPT programs is *The Incredible Years*, a parent and child training program that focuses on academic, social, and emotional coaching; establishing routines; and teaching emotion regulation strategies and problem-solving skills (Webster-Stratton et al., 2011). This program has been researched extensively and is considered an efficacious treatment for ADHD and related externalizing disorders (Pelham & Fabiano, 2008).

Most BPT programs focus primarily on mothers of children with ADHD. One program, *Coaching Our Acting-out Children: Heightening Essential Skills (COACHES)*, has been developed specifically to teach parenting skills to fathers. Fathers are taught parenting skills and then practice the skills in coaching their children in a relational activity (e.g., a soccer game; Fabiano et al., 2009). *COACHES* has been effective in improving fathers' attendance and engagement with treatment, increasing positive parenting practices (more praise and less negative talk), and producing ratings of improvements in children's positive behavior (Fabiano et al., 2009, 2012).

School–Home Collaboration

To this point, this chapter has discussed parent- and teacher-mediated interventions separately; however, research suggests that coordinated efforts lead to improved out-

comes for students with ADHD (Corkum, McKinnon, & Mullane, 2005; Power et al., 2012; Vannest, Davis, Davis, Mason, & Burke, 2010). Two methods of collaboration have attracted significant interest: conjoint behavioral consultation (CBC) and daily report cards (DRCs; also called school-home notes).

CBC is a variation of the traditional behavioral consultation model that involves the collaborative partnership of school and parents, assisted by a consultant, to identify and intervene with child-centered academic, behavioral, or social needs. CBC is a four-stage process that includes (1) conjoint needs identification, (2) conjoint needs analysis, (3) plan implementation, and (4) conjoint plan evaluation (Sheridan & Kratochwill, 2008). During the first phase, parents and teachers identify target behaviors and decide how to collect data on those behaviors. Next, the group reviews the collected data, hypothesizes what is maintaining the behavior, and creates a plan to address the target behavior. The parents and teachers implement the plan, and the group has a plan evaluation meeting after a specified period of time (e.g., 4 weeks) to discuss the need for continuation, modification, or discontinuation of the original plan. CBC has been demonstrated as an effective service delivery model for improving the behavioral functioning of students with ADHD (for a review, see Sheridan & Kratochwill, 2008).

DRCs are a mechanism for teachers to inform parents about student behavior each day. There are many different forms of DRCs; however, they are designed to improve student behavior through communication between school and home (Kelley, 1990). Most basically, DRCs include target behaviors and periods of the day, with specifics modified for the age of the student. For example, a second-grade student may have the target of "No more than four instances of calling out," and the teacher rates that behavior during classroom subjects throughout the day (e.g., using a 5-point Likert scale). Ideally, students provide their DRCs to their parents, who then provide a predetermined reward (e.g., time to play video games) if students met the behavioral requirements. This type of home reward DRC method has been shown to be effective for students with ADHD (Pelham & Fabi-

ano, 2008), and programs that link school and home are more effective than those that are only implemented at school (Vannest et al., 2010). Although consistent school-home communication is ideal, some parents may be unable or unwilling to participate in the DRC intervention; in such a case, the teacher will administer the reinforcement to the student as in a school-based token reinforcement system.

Self-Regulation Interventions

Self-regulation interventions are particularly attractive options for students with ADHD, as these strategies attempt to teach them improved self-control, which may help ameliorate some of the key deficits of ADHD. Self-regulation techniques can vary in several ways, but the broader class of interventions has been associated with moderate to large effect sizes in increasing on-task classroom behavior, decreasing disruptive behaviors, and improving academic performance (Reid, Trout, & Schartz, 2005).

Self-regulation interventions begin with selecting a target behavior for students to monitor (e.g., time on task, calling out, work productivity and accuracy). One study compared different targets of self-regulation among students with ADHD and found that targeting attentiveness and academic performance led to similar gains in on-task performance, but that more students showed gains in academic performance when attentiveness was targeted (Harris, Friedlander, Saddler, Frizzelle, & Graham, 2005). Conversely, a small body of literature among students diagnosed with LD (but not ADHD) suggests that monitoring academic performance may produce greater gains in both on-task behavior and academic performance in this population (Harris et al., 2005). Given the relatively high rates of LD among students with ADHD, targeting academic performance may be warranted for some students.

Students are then trained to discriminate between the occurrence and nonoccurrence of the target behavior. For example, if the target is on-task behavior, students will be given a clear idea of what constitutes on- or off-task behavior. Next, students are trained in recording the occurrence or nonoccurrence of the target behavior when prompted

by a timer or an audio recording that signals at a variable interval. Students are typically provided with a chart on which they can record the presence or absence of the target behavior.

Once students are trained in monitoring the target behavior, one of several reinforcement plans can be used to encourage appropriate behavior. First, self-regulation interventions can be used without extrinsic reinforcement. Second, teachers or consultants can monitor student recordings and provide reinforcement for attaining a certain level of performance. Third, students may be permitted to administer rewards (such as token reinforcers) to themselves, based on their performance. Finally, students can earn points in a token reinforcement system for accuracy of reporting. With reinforcement based on accuracy, student ratings are usually compared to those of the teachers, and points are awarded for coming close to or exactly matching teacher ratings. Over time, the frequency with which student ratings are compared to teacher ratings can be reduced to facilitate a transition to independent feedback (Rhode, Morgan, & Young, 1983). All of these approaches to reinforcement have demonstrated some efficacy in increasing on-task behaviors and decreasing inappropriate behaviors (Reid et al., 2005), with the exception of self-administered reinforcement, which showed no effect on inappropriate behavior in one study (Ajibola & Clement, 1995). All have shown efficacy in improving academic performance, with the exception of reinforcement based on accuracy, for which an effect on academic performance has not been studied (Reid et al., 2005).

Although self-regulation interventions have shown some strong effects in improving the behavior of students with ADHD, two limitations bear mentioning. First, all of the research examining the efficacy of self-regulation has employed single-subject designs, and the vast majority of subjects have been males between the ages of 7 and 13, limiting the generalizability of findings (Reid et al., 2005). Second, it is unclear to what extent improvements in self-regulatory abilities will generalize to other settings, or whether gains will be maintained after guidance and reinforcement are removed. Although most studies fail to consider gen-

eralization, it does appear that specifically programming for generalization by introducing a less intensive form of the intervention in other settings may be effective (Hoff & DuPaul, 1998).

Other Treatments

Peer-Mediated Interventions

When planning treatment for students with ADHD, one may consider the strategic use of peers in the delivery of interventions. For example, DuPaul and Stoner (2003) suggest that peers can serve as positive role models, can help monitor and respond to behavior in settings not typically closely observed by adults (e.g., playgrounds), and can serve as “co-therapists” in some contexts. Regardless of the role, it is important that peer helpers receive appropriate training.

Perhaps the most widely known form of peer intervention is “classwide peer tutoring” (CWPT; Greenwood, Maheday, & Delquadri, 2002). Students are split into two teams and placed into tutoring pairs. Each student in each pair spends half the time as the tutor. The tutor covers specified material (e.g., math problems), monitors the tutee, provides praise and points for correct answers, corrects incorrect responses, and arranges for additional practice on missed items. During the 20-minute session, the teacher monitors pairs and provides bonus points for adherence to the specified criteria. After the session is complete, students record their progress; the scores for each team are tallied; and one team is declared the winner. The CWPT procedure has been shown to enhance academic performance and reduce behavioral difficulties among students with ADHD (DuPaul, Ervin, Hook, & McGoey, 1998).

More recent research has utilized peers as direct interventionists. Grauvogel-MacAleese and Wallace (2010) investigated the utility of peer-implemented differential reinforcement for three students with ADHD. The peers were trained to mastery of the experimental procedures (i.e., ignoring the target students when they engaged in off-task behavior, praising and next providing assistance to the students when they were appropriately engaged). Peers were able

to master experimental procedures with little difficulty, and students with ADHD demonstrated increased time on task. Although these are positive findings, the experimental sessions were only 5 minutes long and occurred during an after-school homework group.

Organizational Skills Interventions

Many children with ADHD struggle with making careless mistakes, completing or remembering to turn in assignments, and studying effectively (DuPaul & Stoner, 2003). Organizational skills interventions aim to ameliorate these difficulties by teaching students to organize physical materials (e.g., binders or book bags), to use a planner effectively and regularly, and to plan for long-term projects (Langberg, Epstein, Urbanowicz, Simon, & Graham, 2008). Organizational skill interventions can lead to improved parent, teacher, and student ratings of the students’ organizational skills, as well as to improved academic performance, homework management and performance, and family functioning (Abikoff et al., 2013; Langberg et al., 2008). Several programs have effectively combined teaching organization skills with other skills. The Homework, Organization, and Planning Skills (HOPS) program has led to improvements in parent ratings of organizational skills and homework problems, though teacher ratings showed no improvements (Langberg et al., 2011). The Challenging Horizons Program (CHP) attempts to improve children’s skills in organization, studying, and note taking. CHP has demonstrated efficacy in improving academic performance as rated by parents or teachers, or as measured by school grades, when it is delivered as an after-school program or through teacher consultation for middle school students with ADHD (Evans, Serpell, Schultz, & Pastor, 2007; Langberg et al., 2006).

Psychotropic Medication

As described previously, psychotropic medication (chiefly CNS stimulants) is very commonly used to treat ADHD and may lead to significant reductions in symptoms of the disorder. It is important that school personnel and parents monitor the desired effects

and possible adverse side effects of medication, and that they communicate and cooperate with prescribing medical professionals. Such feedback regarding the efficacy of medication can help the prescribing physicians determine the most appropriate medication, dose, or dosing schedule (DuPaul & Stoner, 2003). For example, data regarding adverse reactions (e.g., reduced appetite, insomnia) can help prescribing physicians adjust the medication regimen to minimize side effects.

Practitioners should also be aware that a comprehensive package of school-based behavioral interventions combined with stimulant medication may allow lower dosages of each intervention to be used (Fabiano et al., 2007). Stated differently, a low dosage of behavioral intervention and stimulant medication may produce sufficient behavior change, perhaps equivalent to a high dosage of either treatment alone. This synergistic effect may be particularly beneficial to students who are exhibiting adverse side effects of stimulant medication.

Computer-Assisted Instruction

Computer-assisted instruction (CAI) offers several advantages that may be helpful to students with ADHD (DuPaul & Stoner, 2003). CAI can provide clear instructions, with measurable objectives broken up into manageable goals that lead to instant feedback. CAI can also present material with an interesting, interactive display that highlights key information and limits distraction. Among children with ADHD, CAI can lead to more time on task, more completed coursework, and better performance on completed coursework (Kleiman, Humphrey, & Lindsay, 1981; Mautone, DuPaul, & Jitendra, 2005). These effects have also been found with children with comorbid ADHD and LD (Ota & DuPaul, 2002), suggesting that CAI may be helpful for students with ADHD and academic deficits.

Summer Treatment Program

The Summer Treatment Program (STP) is an 8-week, intensive outpatient treatment program for children and adolescents with ADHD (Pelham, Greiner, & Gnagy, 2004). There are numerous studies detailing the effectiveness of the STP (for a review, see

Pelham et al., 2005). The STP provides a highly structured summer camp and academic classroom environment that delivers evidence-based behavioral interventions for students with ADHD. The major STP component is a 25-item comprehensive point system in which students gain or lose points based on their specific behavior. Students receive immediate feedback (i.e., praise or reprimand with corresponding point reward or reduction) throughout the day, with the exception of two recess periods during which the point system is not in effect. Point totals are reviewed with each student at the end of each activity and reviewed with parents each day via a DRC. The STP also includes a weekly parent education group to teach parents the strategies employed in the STP (e.g., effective commands, planned ignoring, specific praise).

Social Skills Training

One major domain of impairment for students with ADHD is social functioning. Students with ADHD are more likely to be viewed as less friendly, to be quickly rejected by peers, and to have difficulty maintaining friendships over time (Grenell, Glass, & Katz, 1987; Pelham & Bender, 1982). Of direct concern are findings that social skill deficits are associated with high rates of maladjustment at school, future peer rejection, and adult mental health difficulties (Parker & Asher, 1987). Given these findings, it is no surprise that there have been many attempts to design effective social skills interventions for students with ADHD.

Empirical data regarding the efficacy of social skills training programs have been mixed, with most extant studies showing that training-related gains do not typically generalize to settings outside the social skills training group (e.g., Sheridan & Dee, 1996). Alternatively, there is some evidence that peer relationship training that involves prompting and reinforcement of desired social behaviors in natural settings (e.g., playground, classroom) may yield at least moderate effects on peer interactions (Pelham & Fabiano, 2008). More studies are needed, particularly in school settings, to document the degree to which social skills or peer relationship interventions improve child behavior over the short- and long-term.

Future Directions for Research and Practice

Over the past several decades, significant strides have been made in the assessment and treatment of children and adolescents with ADHD. A plethora of psychometrically sound diagnostic measures are now available to identify students with this disorder in a reliable and valid fashion. Furthermore, the results of controlled investigations have established the efficacy of various behavioral and academic interventions that reduce the frequency of ADHD symptoms and ADHD-related behaviors, as well as enhance peer relations and academic achievement. Finally, increasing numbers of children are being diagnosed with and treated for ADHD, although treatment remains heavily weighted toward prescription of psychotropic medication (CDC, 2010).

Despite the increased scholarly attention to treatment of ADHD, there are at least three areas in critical need of future research: early screening and intervention for young children at risk for ADHD; school- and community-based interventions for adolescents with the disorder; and transition planning for high school students with ADHD moving on to postsecondary education or the workforce.

Early Screening and Intervention

Approximately 2–5% of preschool-age children meet diagnostic criteria for ADHD, while additional children exhibit inattention and/or hyperactive–impulsive behaviors that place them at risk for the disorder (Lavigne, LeBailly, Hopkins, Gouze, & Binns, 2009). Young children with or at risk for ADHD frequently experience social, behavioral, and academic difficulties that deleteriously affect early school performance (for a review, see DuPaul & Kern, 2011). Thus effective early screening, identification, and intervention are of critical importance. Significant advances have been made regarding the reliable and valid assessment of ADHD in young children (Egger, Kondo, & Angold, 2006) as well as in development of efficacious interventions such as parent education (e.g., Webster-Stratton et al., 2011), preschool-based programs (McGoey & DuPaul, 2000), and combination strategies

(DuPaul & Kern, 2011). Additional research is needed to (1) develop assessment methods that will optimize matching interventions to individual children's needs; (2) individualize early intervention in the context of a response-to-intervention framework; and (3) evaluate the effectiveness of early intervention implemented by community practitioners in real-world settings (i.e., not by trained research staff in a controlled clinical trial).

Interventions for Adolescents

Surprisingly few studies have examined school-based and psychosocial interventions for adolescents with ADHD. In fact, two meta-analyses of the school-based intervention literature found that only 14 of 123 studies (11%) conducted between 1975 and 2010 focused on secondary school students (DuPaul & Eckert, 1997; DuPaul et al., 2012). Furthermore, virtually all of these studies were conducted at the middle school level (i.e., there were almost no studies of interventions for ADHD in high school). The lack of research to guide practice for this age group is particularly disconcerting, given the ubiquitous and pervasive impairment that adolescents with ADHD face (Barkley et al., 2008). Thus, at a basic level, we need to know what interventions will help reduce symptoms and enhance academic and social functioning among secondary school students with ADHD. In particular, treatment strategies are needed to help adolescents with organization and study skills that are critical to both short- and long-term educational success. Although some studies (e.g., Langberg et al., 2008) have shown promising results for organization and study skills, these strategies need to be studied on a wider scale when they are implemented by school staff rather than by researchers. Finally, research on developmentally appropriate approaches to improving social functioning and decreasing disruptive behavior is sorely needed.

Transition Support

ADHD is a chronic disorder that affects most individuals into adulthood and throughout the lifespan (Barkley, 2006). Yet we know very little about ways to support

high school students in making the transition to the workforce and/or postsecondary education. In fact, there isn't currently a single published study specifically evaluating transition support for adolescents with ADHD. Thus research is needed to identify strategies for guidance counselors and other school personnel that are efficacious in helping middle and high school students with ADHD to prepare for life after graduation. Given that these students tend to evaluate their actions and behaviors in the context of immediate consequences, it is critical to support them in taking a long-term view of their career and educational pursuits. Although it is likely that typical guidance counseling efforts (e.g., aptitude and vocational assessment) will help all students, including those with ADHD, it is also likely that more intensive and specific strategies will be necessary to aid the transition of students with ADHD.

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Empirically Based Targeted Prevention Approaches for Addressing Externalizing and Internalizing Behavior Disorders within School Contexts

John R. Seeley, Herbert H. Severson, and Amanda A. M. Fixsen

Epidemiological research has estimated that approximately one out of four adolescents in the United States meets diagnostic criteria for a mental disorder annually, and approximately one-third over their life course (Merikangas et al., 2011). The most common diagnoses included anxiety disorders (32%), followed by disruptive behavior disorders (19%), mood disorders (14%), and substance use disorders (11%). Despite the large numbers of youth in distress, only one-third of adolescents in need of mental health services were receiving them, and about half of adolescents who reported that symptoms severely affected their daily functioning had *never* received treatment (Merikangas et al., 2011). Of those who do in fact receive care, three-fourths receive it within the school system, leading to the identification of schools as the de facto mental health system for youth (Burns et al., 1995). This concept is supported by the aims of both the No Child Left Behind (NCLB) Act of 2001 and the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, and is consistent with the goals and recommendations of the President's New Freedom Commission on Mental Health (2003/2007). The commission was unambiguous in its resolution that integrating mental health services into the schools is an essential component of its vision for improved mental health treat-

ment and prevention for this country, as evidenced by the inclusion of the recommendation to "improve and expand school mental health programs."

With IDEA and NCLB, schools are now being held accountable for the academic performance and aptitude of all students, including those with mental health issues and disabilities. School personnel are being strongly encouraged to incorporate evidence-based practices and scientifically supported interventions to promote school success for their exceptional students. Current school services, however, are more often limited and not grounded in research, leaving vulnerable students with their mental health problems untreated and at risk for negative school outcomes. Indeed, only about 1% of students with emotional and behavioral disorders (EBD) are identified for special education services (U.S. Department of Education, 2005), leaving this student population critically underidentified and underserved (Kauffman, Mock, & Simpson, 2007). A recent review of the EBD prevalence literature found that a minimum of 12% of students with EBD are in need of services at any given point in time, and at least a third of all students will have experienced an EBD at some point during their school years (Forness, Freeman, Paparella, Kauffman, & Walker, 2012). This finding

calls attention to the discrepancy between the estimated prevalence rates of EBD and the rate at which these students receive services.

Empirical research has supported the classification of EBD syndromes and symptoms into either externalizing or internalizing dimensions (Achenbach, Bernstein, & Dumenci, 2005). Externalizing behaviors include propensities toward aggressive behavior, rule breaking, intrusiveness, opposition, and substance abuse. The most common externalizing disorders are oppositional defiant disorder, conduct disorder, attention-deficit/hyperactivity disorder, and substance use disorders. In contrast, internalizing behaviors are associated with experiences of worry, fear, anxiety, depressed or irritable mood, social withdrawal, and somatic complaints. The most common internalizing disorders are anxiety, depressive, and bipolar disorders. Both externalizing and internalizing disorders include behavioral, affective, and cognitive symptoms that result in impaired functioning and follow a chronic course that leads to negative outcomes in school and other areas of role functioning.

The purpose of this chapter is to examine the current state of the field with respect to school-based interventions for preventing externalizing and internalizing disorders among at-risk students. In doing so, we describe (1) the impact of externalizing and internalizing behaviors on school functioning and the importance of addressing student mental health needs within the school context; (2) school-based approaches for identifying and intervening with students at risk for mental health disorders; (3) exemplars of evidence-based targeted prevention programs; and (4) implementation issues associated with adoption and sustainability of mental health targeted prevention approaches.

Addressing Mental Health Needs within the School Context

Schools are experiencing increasingly younger children who display externalizing behavior patterns that severely stress the management skills of teachers and disrupt peer relations (Farmer et al., 2002;

Karr-Morse & Wiley, 1997). Mature acts of deviance are now being committed by younger children who are highly aggressive, oppositional, and very destructive in their social behavior toward others (Loeber & Farrington, 2001). Many of today's regular classroom teachers are held hostage by such children—a substantial number of whom, in the absence of effective intervention, will develop full-fledged externalizing behavior disorders by the upper elementary or middle school grades (Loeber & Farrington, 2001; Reid, Patterson, & Snyder, 2002). The continuity and stability of these externalizing behavior patterns across school years can severely disrupt a student's social-emotional adjustment and academic success (Loeber & Farrington, 2001; Walker, Ramsey, & Gresham, 2004). Indeed, the long-term negative outcomes associated with these destructive forms of behavior are extremely serious and have been well documented (Loeber & Farrington, 2001; Reid et al., 2002).

Extensive research has also established significant concurrent associations between internalizing behaviors and low academic performance or problematic school functioning (e.g., Frojd et al., 2008; Marcotte, Lévesque, & Fortin, 2006). For example, Frojd and colleagues (2008) found that in a sample of seventh- through ninth-grade students, self-reported depression was associated with poor academic achievement, challenges in maintaining effective study habits, trouble with reading and writing, concentration problems (including paying attention to instruction), and social relationship difficulties with peers and teachers. Furthermore, depression in middle school students predicts poor academic achievement (Shahar et al., 2006) and is associated with a two-fold increase in academic failure (Fergusson & Woodward, 2002). Adolescent depression and anxiety are also strongly associated with school refusal behavior, which typically leads to such consequences as incomplete schoolwork, academic difficulties, or school failure, as well as to strained relationships with peers, family, and school personnel (Kearney & Bensaheb, 2006).

Given that most students who develop externalizing and internalizing behavior disorders do not receive services for their impairing conditions, there is a critical need for the early identification of at-risk students.

Effective practices to address their mental health needs and improve their school functioning are also critically needed.

Identification of At-Risk Students

Schools provide the ideal context for identifying students in need of specialized mental health interventions and providing remedial services to promote their success in the educational setting. Educators have become increasingly aware of the benefits of early identification and intervention for EBD, as the evidence has grown on how these conditions are related to school success (Hoagwood et al., 2007; Levitt, Saka, Romanelli, & Hoagwood, 2007). The first step in this process involves screening and identification of students who are exhibiting high-risk behaviors. An array of successful approaches to universal screening within behavioral domains has emerged in recent years, but their adoption and implementation, accompanied by the necessary levels of fidelity, are comparatively limited at present (Albers, Glover, & Kratochwill, 2007). However, as educators become more aware of the benefits of early intervention, resistance to screening and early identification of students has lessened to some degree (Hoagwood et al., 2007; Levitt et al., 2007).

Studies continue to show a significant underidentification of children who exhibit serious emotional and behavioral problems in school and who may meet diagnostic criteria for mental health disorders. In an analysis of federal data relating to the proportion of students who are served in the EBD category, Walker, Nishioka, Zeller, Severson, and Feil (2000) found no change in these rates between 1993 and 1998, with EBD referrals peaking at grade 9, while academic teacher referrals peaked at grade 2. Several problems can be seen in this referral-driven approach to serving the needs of at-risk students in schools. For example, teachers are often insensitive to, or unaware of, students with internalizing problems (such as anxiety or depression), compared with students who have externalizing problems (such as disruption or noncompliance). Teacher referrals can also be highly idiosyncratic and subjective, which can contribute to their inaccuracy. Hence referrals of at-risk students are likely to be the result of a complex interac-

tion of teachers' behavioral tolerance levels, their standards and expectations for student performance, their perception of the likely dispensation of referrals, and the at-risk students' behavioral characteristics (Walker, 1986). Structured, universal, and proactive screening procedures that utilize and integrate differing types of measures (e.g., nominations, informant ratings, direct observations, archival school records) are much more likely to (1) address the problem of teacher underreferral of at-risk students, (2) create a more equitable balance between externalizing (teacher-owned) and internalizing (student-owned) problems, and (3) improve the accuracy of teacher referrals.

School- and districtwide screening to identify students for behavioral problems has become recognized as an important professional practice (Glover & Albers, 2007). For example, both the President's Commission on Excellence in Special Education (2002) and NCLB have strongly endorsed the approach. In the 2004 reauthorization of IDEA, up to 15% of the program's available funds can be used for early screening, intervention, and prevention to reduce referrals to special education and related services.

Hoagwood and colleagues have been especially articulate regarding the need to address the mental health problems of at-risk students within school contexts (Burns & Hoagwood, 2002; Hoagwood et al., 2007). Their work supports implementation of early universal screening procedures, integrated with appropriate intervention strategies that can lead to prevention outcomes and effective treatment (Burns & Hoagwood, 2002; Levitt et al., 2007). The next section provides a brief overview of the three levels of such school-based intervention strategies.

Public Health Prevention and the Three-Tiered Model

The three-tiered intervention model is based on the original public health classification system developed by the Commission on Chronic Illness (1957). The three levels correspond to the three types of prevention in the U.S. public health service model: primary, secondary, and tertiary. In 1994, the Institute of Medicine (IOM; Mrazek &

Haggerty, 1994) proposed an alternative mental health spectrum for mental disorders that ranges from prevention to treatment to maintenance. In the IOM paradigm, the term “prevention” is reserved for interventions that occur before the initial onset of the mental disorder. The IOM paradigm includes three levels of preventive interventions: “universal,” “selective,” and “indicated.” Universal prevention programs are administered to the entire population, regardless of risk status. Selective preventive interventions target specific subgroups of the population whose risk for developing a disorder is significantly elevated on the basis of known risk factors for the disorder. Indicated prevention programs target individuals who have prodromal or elevated symptoms of the disorder but are below the clinical criteria for a diagnosis. Thus selective and indicated prevention programs can be considered “targeted” prevention approaches. To align the IOM prevention paradigm with the three-tiered model, targeted prevention programs (i.e., selective and indicated) comprise the second tier for the purposes of this chapter.

Tier 1 interventions are implemented with the entire student population and are designed to prevent the development and exacerbation of problem behavior. These interventions draw upon a large research base that has demonstrated effective strategies for supporting positive social behavior. Tier 2, designed for students who are not responsive to Tier 1 interventions, consists of interventions with more structure and support to assist students in meeting school-wide expectations. Students receiving Tier 2 interventions typically exhibit behavior that is not dangerous to themselves or others, but is disruptive to the classroom or peers and interferes with their learning. There is also a large literature base that has documented the effectiveness of interventions for students identified as needing a more targeted approach to address their specific behavioral needs (Anderson & Borgmeier, 2010). The students for which these interventions are used include those whose behavior has escalated to a level that requires a more specialized intervention. This move from Tier 1 to Tier 2 follows the response-to-intervention (RTI) framework described below. Tier 3 interventions are provided for students

whose behavior is not responsive to Tier 1 or Tier 2 interventions. Tier 3 interventions are highly individualized and require more expertise to administer and more resources to implement, as discussed by Vidair, Sauro, Blocher, Scudellari, and Hoagwood in Chapter 2 of this volume.

Response to Intervention

RTI is a relatively new approach that can be used in screening for the presence of externalizing and internalizing disorders; determining eligibility for special education and related services; and adjusting, intensifying, or titrating the “dosage” of an intervention (Gresham, 2005). RTI is based on the idea that behavioral performance must be assessed as an intervention is implemented with a student. In an RTI approach, decisions about adjusting or changing an intervention are made according to how well or how poorly a student responds to an evidence-based intervention that is implemented as intended (i.e., with fidelity). RTI assumes that if a student demonstrates an inadequate response to the best interventions available, then that student can and should be eligible for additional assistance—including more intense interventions, special assistance, or special education and related services. It should be emphasized that RTI is not used exclusively to make special education entitlement decisions, although it may be used for this purpose.

Three general principles provide guidance to the application of the RTI framework for school-based interventions. First, the intervention intensity is increased only after data indicate that a student is showing an inadequate response to intervention. Second, intervention decisions are based on objective data that are collected continuously over time (i.e., data-based decision making). The third principle is that decisions about treatment intensity are based on the collection of additional data as the student moves through each stage of intervention intensification. This RTI logic should be used to make important intervention decisions for students who are at risk for externalizing and internalizing disorders, such as the selection of targeted prevention programs for those who have not been responsive to universal prevention strategies.

Evidence-Based Targeted Prevention Programs

As it is beyond the scope of this chapter to conduct an exhaustive review of the available school-based mental health targeted prevention programs, we draw upon exemplars from the research literature to illustrate the various approaches to school-based prevention of externalizing and internalizing disorders. Later in the chapter, we again draw upon these exemplars to highlight issues related to intervention implementation, adoption, and sustainability.

Externalizing Behavior Exemplars

First Step to Success

The First Step to Success program is a manualized intervention that is packaged within a kit containing a coach's manual, a parent manual, a forms packet, and sufficient consumable materials for three applications of the intervention. First Step is a school and home intervention that is initially set up and delivered by a behavioral coach (e.g., school psychologist, counselor, early interventionist, behavioral specialist, etc.), who invests 40–50 hours of professional time over a 3-month intervention period. The target student in grades K–3 is identified via a universal screening procedure based on teacher nominations and behavior rating scales to identify children with externalizing problem behaviors. First Step requires completion of 30 program days, each with a prescribed set of activities, tasks, and a reward criterion. During the first 5 days of the school intervention program, the behavioral coach works with and coordinates specified roles of the target child, parent(s), teacher(s), and peers throughout the implementation process, explains the intervention to each participating social agent, and implements the classroom intervention. On program day 6, the teacher takes over operation of the program, with the support, assistance, and supervision of the First Step coach. On program day 10, First Step is extended to the target student's home setting (this is referred to as the homeBase component), where the coach trains parents through six weekly home visits in how to teach their child key school success skills such as communication and

sharing, cooperation, problem solving, limit setting, and friendship making. Through instruction, role playing, cueing, prompting, and feedback, parents learn how to teach and encourage these skills in their child and to communicate/cooperate with the child's teacher in prompting and reinforcing their display at school. The final 10 days of the First Step program are designed to maintain the target child's improved behavior without reliance upon external rewards. In this phase, the focus shifts to adult praise, intrinsic rewards, and encouragement by teachers, peers, and parents to motivate and sustain the child's improved behavior.

Over the past two decades, the effects of First Step to Success have been examined in 11 experimental and quasi-experimental studies, including 9 efficacy trials (both single-subject and group designs) and 2 effectiveness studies. Across these studies, First Step has consistently demonstrated reductions in externalizing problem behaviors and increases in adaptive behaviors among participating students, including observer ratings of improved academic engagement and teacher ratings of improved academic competence (for more information, see Walker et al., Chapter 29, this volume).

An implementation fidelity checklist has been developed to assess adherence to the First Step to Success protocol and to provide ratings on quality of implementation for program elements. The checklist is completed by an observer who has been trained in the First Step intervention. Interrater agreement on the implementation fidelity checklist has been found to be excellent. A monitoring log for the home component has also been developed for completion by the First Step coach, in order to assess attendance, homework compliance, and quality of engagement in the session by participating parents.

The First Step to Success starter kit can be purchased from Sopris Learning for \$203.95. Training is currently provided by the program developers through 2-day workshops (1.5 days for coach). However, a web-based training program for coaches and teachers is currently in development.

Coping Power

The Coping Power program is designed to prevent substance use and delinquency

among students in grades 4–6 who exhibit aggressive, disruptive, or noncompliant behavior. This broad-band intervention works with students who are about to make the transition to middle school and who exhibit mild to moderate aggressive behavior problems. The current intervention is based on an earlier school-based program, Anger Coping. The Anger Coping program was shown to produce significantly lower levels of substance use in students than a control group at a 3-year follow-up, whereas other behavioral gains attenuated over time. These results led researchers to expand the program to include a parent component, and thus the Coping Power program was developed. The current multicomponent targeted prevention program works to address two potential mediators of adolescent antisocial behavior: factors related to the child and those related to the parent or caregiver (Lochman & Wells, 2003).

Children targeted for this program are typically the top third of aggressive students, as determined by a simple teacher rating of child aggressive behavior in their class. Working at the parent and child levels, Coping Power aims to address both externalizing behavior problems and social outcomes. Two studies have demonstrated strong positive effects for externalizing behavior (Lochman, Boxmeyer, et al., 2009; Lochman & Wells, 2004), and one study has demonstrated potentially positive effects for social outcomes (Lochman, Powell, et al., 2009). Notable findings for effects on external behavior include a decrease in self-reported covert delinquency at a 1-year follow-up for boys, a decrease in child substance use as reported by parents, and an improvement in teacher ratings of child behavior (Lochman & Wells, 2004). For social outcomes, a significant difference was found on teacher ratings of social and academic behaviors (Lochman, Powell, et al., 2009).

The child component consists of 34 group sessions, typically with four to six students in each group, and additional individual sessions delivered in the school setting. Group sessions focus on areas such as establishing group rules and contingent reinforcement, coping with anxiety and anger arousal by using self-statements and relaxation, increasing social skills, coping with peer pressure

to use drugs, and increasing study/organizational skills, among others. Individual sessions are used to reinforce learning from group sessions. The parent component consists of 16 group sessions, with two group co-leaders facilitating sessions for four to six parental caregivers or caregiver dyads. Throughout these sessions, parents develop skills in areas such as managing stress, family communication, being clear with rules and expectations, and giving their children positive attention.

Program developers have begun to assess the psychometric properties of two intervention fidelity tools that can be used for both the parent and child components. These measures, while not included in manuals for those implementing Coping Power in school settings, are available to researchers and those utilizing Coping Power for clinical purposes. One is a measure to assess the extent to which objectives for each intervention session are met, and the other is a measure to assess the quality of implementation through process ratings.

Coping Power requires at least one full-time master's-level counselor or other similar staff member at the implementing school. In addition, the developers recommend that there be active support for the program from both teachers and school administrators. Ensuring that qualified staff are in place and that buy-in is obtained from the start are essential to successful implementation. Training for the program consists of a 2- to 3-day workshop that incorporates hands-on learning, group discussion, presentations, and other modeling via video. Ongoing technical assistance can be arranged through the program developer. Workshops are scheduled twice annually at the University of Alabama campus, and can also be scheduled on site. Program materials for both the parent and child components are available through Oxford University Press. Facilitator manuals range from \$50 to \$60 each, and eight copies of participant workbooks range from \$67 to \$100.

Reconnecting Youth

Reconnecting Youth (RY) is a targeted school-based prevention program aimed at 9th through 12th graders who are at risk

of dropping out of school, or who have a history of dropping out. Students who are determined to be at risk must have fewer than average credits for their grade level, high absenteeism, and a substantial drop in their grades the previous semester. This semester-long program incorporates five units and utilizes teachers to present the curriculum to students in a class that offers high school credit to its participants.

The initial unit in the curriculum is composed of 10 lessons that introduce students to the RY program and model and offer a chance for the students in the class to establish positive group norms. The units that follow include self-esteem, decision making, personal control, and interpersonal decision making. The aim is for students to learn how to monitor their school attendance, moods, and substance use on a daily basis. On the basis of these daily data, students then establish behavioral goals (Sanchez et al., 2007).

Studies of RY have demonstrated that positive effects can be obtained in the domains of student attendance, school achievement, drug involvement, self-esteem, deviant peer bonding, school bonding, and personal control (Eggert, Seyl, & Nicholas, 1990; Eggert, Thompson, Herting, & Nicholas, 1995; Eggert, Thompson, Herting, Nicholas, & Dicker, 1994). However, an independent study failed to replicate previous findings and found that those students who had received the intervention actually did worse in some outcome areas than their control group peers did (Hallfors et al., 2006). Program developers then offered a rebuttal to these findings and concluded (1) that there were many deviations in the Hallfors and colleagues (2006) study from standard implementation of the intervention, (2) that intervention fidelity was compromised in various ways, and (3) that school readiness for the intervention was not established. This failure to replicate previously recorded positive findings points to the importance of attending to implementation supports, not just the intervention, when a program is adopted in a school.

To implement the RY intervention, program curriculum and student workbooks are required by program developers. Several other implementation supports are offered,

including free phone consultations, evaluation materials and services, additional trainings for administrators, and advanced training for program coordinators. On the RY website (www.reconnectingyouth.com), program developers offer many implementation resources, including several implementation worksheets focused on the process of implementing RY in a school setting, information for applying for grants to fund the RY intervention, and more.

The required materials to run the program cost \$500 for 10 students. This price includes the curriculum (\$318) and student workbooks (10 for \$237.60). Additional costs to running the program include \$1,100 per person for a 4-day on- or off-site training workshop for program leaders and coordinators.

Internalizing Behavior Exemplars

FRIENDS

The FRIENDS program is based on the Coping Cat, developed at Temple University by Philip Kendall in the 1980s as an individual cognitive-behavioral treatment (CBT) for children with diagnosed anxiety disorders (see Swan, Cummings, Caporino, & Kendall, Chapter 18, this volume). In 1991, Paula Barrett modified the Coping Cat for Australian youth and titled this modification Coping Koala. Subsequently, in 1998, the FRIENDS program was developed as an early intervention and prevention program (both universal and targeted prevention) for internalizing disorders based on the Coping Koala. There are two parallel versions for ages 7–11 years and 12–16 years. The FRIENDS program consists of 10 sessions plus 2 booster sessions. The program also promotes important educational self-development concepts such as self-esteem, problem solving, psychological resilience, self-expression, and building positive relationships with peers and adults. The FRIENDS intervention can be delivered in groups or on an individual basis.

FRIENDS is the only childhood anxiety prevention and treatment program acknowledged by the World Health Organization for its comprehensive validation and assessment across several countries and languages in

rigorous randomized controlled studies. A recent meta-analysis involving 27 prevention studies of child and adolescent anxiety that included comparison group designs indicates that the FRIENDS program had significantly greater effect sizes (0.25) than the other anxiety prevention programs (0.11).

Training is not needed for clinical psychologists or senior guidance personnel with experience in CBT (who are using FRIENDS with individual clients). There is a 1-day training workshop for teachers and other professionals who want to implement the program. Inservice training is also offered to allow a group to be trained at their implementation site. The training workshop is provided in various locations in Australia, as well as by one certified trainer in North America. Training for one person (\$250) is available, or, training for over 50 people can be arranged (\$3,000). In addition, there is a 1-week training to qualify as an official program facilitator who is able to train other facilitators (only available in Australia). Program information can be obtained from the developer's website (www.friendsinfo.net). A new workbook titled "The Take Action Program: A User-Friendly Intervention for Practitioners Working with Anxious Children" will be available in 2013 from the Australian Academic Press.

Cognitive-Behavioral Intervention for Trauma in Schools

The Cognitive-Behavioral Intervention for Trauma in Schools (CBITS) program is based on standard CBT approaches to combat posttraumatic stress disorder (PTSD) symptoms, anxiety, and depression among students ages 11–15 who are symptomatic after exposure to a traumatic event (Jaycox, 2004). CBITS is designed to be delivered in the typical school environment by a trained therapist, and it allows flexibility to adapt to changing school schedules. The program includes 10 weekly 1-hour group sessions and one individual session for students, two group educational meetings for parents, and an educational session for teachers. Six to nine students in each group meet weekly with a trained therapist, with participants excused from one nonacademic class period each week. The group sessions

are designed to be delivered within one class period, similar to classroom lessons. In each session a new set of CBT techniques is introduced through a mixture of didactic presentation, age-appropriate examples, skill practice to solidify concepts, and individual work on exercises during and between sessions. Group activities include (1) educating students about trauma and common symptoms, (2) training students in relaxation techniques to ameliorate anxiety symptoms and reduce negative thoughts, (3) increasing coping strategies to deal with trauma, and (4) practicing social problem-solving skills. Between the third and sixth weeks, students meet individually with the therapist to describe their trauma experience in more depth and to discuss how to process it during the group sessions.

Evidence exists for the efficacy of CBITS in achieving prevention goals and positive outcomes for behaviorally at-risk middle school students. A quasi-experimental design was used to assess outcomes of CBITS with 198 Latino recent immigrant students in the third through eighth grades in several schools (Kataoka et al., 2003). The intervention was delivered in Spanish by bilingual, bicultural school social workers. Researchers found that compared with students in the wait-list group, students in the intervention group had significantly greater improvement in PTSD symptoms and depressive symptoms. Another investigation by the CBITS developers involved a randomized controlled trial of sixth graders (Stein et al., 2003). Findings replicated that students who received the intervention had significantly fewer PTSD symptoms and depressive symptoms, and fewer reports of psychosocial dysfunction by parents, than students who were randomly assigned to a delayed-intervention control group. The impact of the intervention on a variety of school-related outcomes, as well as the feasibility of implementing the program in various school settings, is currently being investigated.

Program materials can be obtained for free from the developers' website (www.cbitsprogram.org). The website includes an implementation assistance section that provides implementation monitoring forms, consent forms, and sample letters. A CBITS manual (Jaycox, 2004) is available for pur-

chase (\$43.95) from Sopris Learning. With respect to training, CBITS assumes that therapists already have basic training and experience in child development, developmental psychopathology, engaging clients, and establishing therapeutic alliance, as well as specialized training in CBT. Because the program addresses sensitive issues and uses specific techniques, it is not recommended for use by teachers or school personnel who lack clinical training. School-based mental health therapists can adequately implement the program after receiving a 2-day intensive training by CBITS developers at the implementation site (costs range from \$4,000 to \$10,000). However, the CBITS website provides an online training course for free. It should also be noted that CBITS has been recently adapted for implementation by teachers and counselors, and this adaptation has been shown to be feasible and acceptable in a pilot study, but further evaluation in a large-scale trial is needed (Jaycox, Langley, & Dean, 2009).

Coping with Stress Course

The target population for the Coping with Stress (CWS) course is adolescents (ages 13–18) who already have some known increased risk of depression, such as (1) having had a past episode of depression, (2) reporting persistent subdiagnostic dysphoria and/or other depressive symptoms (Clarke et al., 1995), or (3) having depressed parents (Clarke et al., 2001). CWS consists of 15 sessions lasting 45–60 minutes each, which can be offered at a pace of two to four times per week, depending on site capabilities and needs. The first few sessions provide an overview of depression, its relationship to stressful situations, and an introduction to other group members. Subsequent sessions focus on teaching adolescents cognitive restructuring skills and techniques for modifying irrational or negative self-statements and thoughts, which are hypothesized to contribute to the development and maintenance of depressive disorder. The general approach has been modified from cognitive therapy for depressed adults, developed by Beck, Rush, Shaw, and Emery (1979) and Ellis and Harper (1961). CWS is an adaptation of the Adolescent Coping with Depression course

(Clarke, Lewinsohn, & Hops, 1990), a form of CBT for adolescent major depression and/or dysthymia, which is itself a modification of the adult Coping with Depression course (Lewinsohn, Antonuccio, Steinmetz-Breckenridge, & Teri, 1984).

The first efficacy trial of the CWS was conducted in three suburban high schools in Oregon, with 150 students randomly assigned to either the CWS or usual care. CWS participants were found to have a significantly lower incidence rate of depression compared to control participants during the ensuing 12-month period (15% vs. 26%). The results were replicated in a subsequent randomized trial conducted in a health maintenance organization (Clarke et al., 2001), as well as a large-scale multicenter randomized controlled trial of community-residing adolescents (Garber et al., 2009). In addition, a six-session abbreviated intervention based on the CWS found lowered risk for major depression onset over the 6-month follow-up compared to the assessment-only condition (7% vs. 13%; Stice, Rohde, Seeley, & Gau, 2008).

Implementation fidelity is rated by CWS developers for adherence and competence, based on audio recordings of sessions. Protocol adherence is measured via session-specific checklists for the concepts, skills, and exercises detailed in the scripts. Each item is rated for full, partial, or minimal presentation. General facilitator competence is rated with 18 items that assess the various indicators of a competent therapist (e.g., leader fosters supportive group process, allocates time fairly across group members). Group facilitators receive both written and oral supervision based on the tape review.

CWS groups are led by master's-level school psychologists and counselors who have previous experience in conducting psychoeducational groups with adolescents. Therapists are provided with 40 hours of training, including mock intervention sessions, role-playing adolescent responses to exercises, homework, and videotaped feedback. However, the developers do not provide ongoing training workshops at this time. CWS materials can be obtained from the developers' website at no cost (www.kpchr.org/research/public/acwd/acwd.html).

Implementation of Targeted Prevention Programs

Whereas the development and identification of efficacious prevention programs are certainly important, they constitute only the start of an often long and complex process resulting in the ultimate goal of improving outcomes for students (Durlak & DuPre, 2008; Forman, Olin, Hoagwood, Crowe, & Saka, 2009). Interventions must be effectively implemented and sustained over time in order to have a significant impact. Creating this impact on outcomes is challenging; it often requires a look outside an intervention itself, and toward strategies that guide the practitioner throughout the implementation process.

In recent years, studies have begun to highlight the link between high-quality implementation of efficacious interventions and improved child outcomes (Domitrovich & Greenberg, 2000; Durlak & DuPre, 2008; Kam, Greenberg, & Walls, 2003). There has been much discussion about the dimensions of intervention fidelity, with most agreeing that aspects of intervention content, quality, quantity, and process are relevant dimensions of measurement (Sanetti & Kratochwill, 2009). Measuring fidelity during implementation is essential in order to know whether or not an intervention is delivered as intended, and can often offer insight into why an intervention succeeds or fails (Dusenbury, Brannigan, Falco, & Hansen, 2003). As program practices are adhered to more closely (i.e., intervention fidelity is greater), more positive outcomes for children are seen. Indeed, a strong association between fidelity of implementation and student outcomes has been obtained in the effectiveness research on the First Step to Success intervention (Sumi et al., 2012).

Even those school-based interventions that have been well evaluated can fail in practice without an implementation support system (Greenberg, Domitrovich, Graczyk, & Zins, 2005). An emerging literature on implementation research within education in particular, and human services in general, outlines specific implementation strategies to improve fidelity. Strategies that support the implementation process are both purposeful and intentional (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Proc-

tor et al., 2009). These include attention to how providers learn new competencies required to implement an intervention (i.e., staff selection, training, and coaching); how, at the organizational level, the school can support providers and the intervention (i.e., administrative support, data systems to support decision making, etc.); and also how technical and adaptive leadership can be applied to support implementation (i.e., access to leadership that can allocate time or funding for an innovation, motivated leaders who provide momentum, etc.).

In addition to implementation strategies, there are stages of implementation. After a program has been deemed effective, it can then be adopted, implemented, and sustained (Domitrovich, Moore, & Greenberg, 2012). Within these stages, different strategies can be applied for successful support of implementation. For example, teacher or principal perception of an intervention can play a significant role in the rate of adoption (Greenhalgh, Robert, MacFarlane, Bate, & Kyriakidou, 2004). Thus, in order to support effective implementation at the adoption stage, one strategy may be to assess school readiness and to work with these key stakeholders to gain buy-in during the adoption stage.

Barriers and Facilitators to Implementation

As there is a dearth of research focusing on implementation strategies utilized to successfully implement and sustain targeted prevention programs in school settings (Anderson & Borgmeier, 2010; Lochman, Boxmeyer, et al., 2009), we draw on implementation research within school settings both generally and for targeted preventive interventions. In this section, we discuss salient barriers and strategies to the implementation and sustained use of school-based interventions within the context of the Practical, Robust Implementation and Sustainability Model (PRISM; Feldstein & Glasgow, 2008). This model allows for the exploration of elements that influence implementation across the following key domains: (1) the intervention characteristics as perceived by the adopters and implementers (e.g., the demands placed on the school); (2) the organizational characteristics (e.g., school staff members who provide services); and (3) the implementa-

tion and sustainability infrastructure (e.g., team members who support maintenance and provide support to implementers).

It is important to keep in mind the inherent complexity involved in successfully implementing an intervention (Greenhalgh et al., 2004). Numerous factors influence implementation within various integrated levels of a system (e.g., the school, the teacher, etc.). For example, in a study where Coping Power was implemented, it was found that teacher personality characteristics interacted with school characteristics to influence the effectiveness of implementation (Lochman, Powell, et al., 2009).

Intervention Characteristics

Various elements of an intervention can influence implementation success. For example, does the team seeking to adopt the intervention perceive that it will create barriers for those who will implement it? Is the intervention adaptable or flexible? Does it have a strong base of evidence on relevant outcomes to support its use? And will its complexity or cost create a burden to the school or barrier to sustainability?

For those wishing to adopt a school-based prevention program, an initial barrier is identifying an intervention (Webster-Stratton & Herman, 2010). Given the overwhelming number of interventions available to implement, some administrators may choose to adopt heavily marketed programs in lieu of those with scientific support (Forman et al., 2009). When looking at evidence-based interventions, there is often a lack of information in the form of published intervention studies that can lead administrators in their decision-making process (Domitrovich & Greenberg, 2000; Greenberg, Domitrovich, Graczyk, & Zins, 2005). Also, the extent to which program developers specify the active or essential components of the intervention can affect the perceived usability of the intervention (Elias, Zins, Graczyk, & Weissberg, 2003). This lack of information creates a barrier for schools that are identifying an intervention for adoption, and may also decrease teachers' or principals' perceptions of its usefulness (Feldstein & Glasgow, 2008).

If an intervention is perceived to be complex by those who have made the decision

to implement it, the odds are that it will be less likely to be perceived as effective, and thus less likely to be implemented and sustained with fidelity (Dusenbury et al., 2003). In order to facilitate successful implementation of mental health interventions from the start, school administrators must consider both school and individual staff readiness for the intervention (Kam et al., 2003; Lochman, Powell, et al., 2009).

PRISM highlights that the strength of evidence supporting an intervention can influence staff buy-in and implementation (Feldstein & Glasgow, 2008). The stronger the evidence for an intervention, particularly for its impact on school-related outcomes, the more likely staff members will be to accept it. Targeted prevention programs in particular often require specific expertise on the part of the school staff and extra time for planning and assessment. In addition, teachers may not feel committed to working with challenging behavior in students if they feel it is not their responsibility (Bambara, Goh, Kern, & Caskie, 2012; Greenberg et al., 2005). Even with high-quality staff training for the intervention, core beliefs held by the school staff may reign strong (Bambara et al., 2012).

Due to these challenges, administrators must work to gain buy-in from teachers, principals, and other key staff members, both during the adoption process and once it has been decided that an intervention will be adopted (Elias et al., 2003). Gaining staff buy-in for an intervention before it is implemented is crucial. In fact, program developers of school-based interventions have cited staff support as a main facilitator in fostering the climate for successful implementation (Forman et al., 2009).

Interventions may be perceived as too costly or complex to implement. Researchers and program developers of school-based interventions have cited a lack of funding, time, and other resources as primary barriers to implementation (Dusenbury et al., 2003; Forman et al., 2009). School personnel need adequate time and resources to implement and sustain an intervention with fidelity (Bambara et al., 2012; Webster-Stratton & Herman, 2010). Targeted prevention programs may require special expertise or know how that goes beyond what a teacher can provide. For example, the Coping Power,

CWS, and CBITS programs require groups to be led by school counselors or psychologists.

School Characteristics

School-level characteristics also influence the implementation process. Here we discuss staffing and incentives, organizational health and culture, and management support as they relate to intervention implementation in schools.

Turnover of teachers and other key staffers in schools can often be a barrier in sustaining interventions (Elias et al., 2003). Staffing and the incentives offered to staff for implementing interventions with fidelity must be given careful consideration. In implementing targeted interventions such as Coping Power, researchers recommend that specific criteria be established for selecting staff to work with the intervention. Researchers studying Coping Power found that implementers (in this case, school counselors) who are agreeable, conscientious, and not cynical may be better able to implement the school-based intervention than those who are not (Lochman, Powell, et al., 2009).

The fit of a targeted preventive intervention within a school can be a central barrier to implementation. Whereas universal interventions have been adapted over time to work well within existing school systems, more individualized interventions, such as those discussed in this chapter, may not fit as readily (Bambara et al., 2012). When an intervention is chosen for implementation, beyond evaluating intervention characteristics, there must also be an evaluation of the intervention's fit with the school and teachers (Dusenbury et al., 2003; La Greca, Silverman, & Lochman, 2009; Webster-Stratton & Herman, 2010).

Hughes, Cavell, Meehan, Zhang, and Collie (2005) identified two comparable, targeted school-based mentoring interventions; though both had been shown to produce positive effects, one resulted in much more positive outcomes than the other when implemented in a setting where school adversity was high. The other intervention produced much more positive outcomes in a school setting with low adversity. This example further highlights the need to take school context into account before an inter-

vention is implemented (Domitrovich et al., 2012). An additional implementation strategy that can be leveraged is to integrate the targeted intervention approach into existing school structures (Domitrovich et al., 2012; Webster-Stratton & Herman, 2010).

Principal leadership and administrative support can have a significant impact on the quality of intervention implementation (Dusenbury et al., 2003; Greenberg et al., 2005; Kam et al., 2003). There may be initial intentions for an intervention to be sustained, but drastic changes in leadership and administration can quickly weaken support for an intervention (Kam et al., 2003). In a local dissemination of the Promoting Alternative Thinking Skills (PATHS) Curriculum, it was found that principal leadership support *and* high-quality teacher implementation of the curriculum were necessary in order for significant intervention effects to be seen (Kam et al., 2003). The need for principal support is underscored for those schools with a poor climate and rapid staff turnover. In addition, garnering leadership support before the intervention is implemented ultimately supports teachers' implementation of the intervention (Forman et al., 2009; Kam et al., 2003; Webster-Stratton & Herman, 2010).

Implementation and Sustainability Infrastructure

Beyond factors pertaining to intervention and school context, the infrastructure for implementation and sustainability must be considered (Domitrovich et al., 2012). In this section, we examine the role of training and support for teachers and staff, as well as the role of performance data in supporting implementation.

Staff training, as well as ongoing supervision and consultation for staff, have been shown to be effective in supporting implementation (Dusenbury et al., 2003; Fixsen et al., 2005; Webster-Stratton & Herman, 2010). Although one-time staff training may seem to be cost-effective in the moment, it has been shown to be ineffective in promoting successful implementation (Lochman, Boxmeyer, et al., 2009; Powell et al., 2011). Periodic coaching or peer support for those using the intervention can help to address implementation challenges as they occur (Domitrovich et al., 2012; Kam et al.,

2003; Webster-Stratton & Herman, 2010). The CWS intervention requires that therapists who conduct groups have 40 hours of training that includes interactive role play and video-recorded feedback (Clarke et al., 1995). While more intensive training and coaching are costly implementation supports, they can be integral in maintaining intervention fidelity over time. In a study examining the role of intensive training for counselors using Coping Power, it was found that those who were trained with higher intensity produced better child outcomes (Powell et al., 2011). Students who had counselors with more intensive training had significantly less externalizing behavior than students with control counselors had; they also had more improved social and academic skills, as well as improved social cognitive abilities (Lochman, Boxmeyer, et al., 2009).

Performance data also support implementation over time. Recording implementers' performance and examining whether an intervention is being implemented with fidelity are important. In two studies of the CWS program, intervention sessions were videotaped and reviewed to assess compliance with the intervention protocol. Data showed that there was, on average, 94% and 96% compliance across the two studies (Clarke et al., 1995, 2001). A similar, though more detailed, fidelity assessment was used with the CBITS intervention. Intervention sessions were assessed for completion (average of 96%) and also for quality, which was moderate to high across all sessions (Stein et al., 2003). In general, maintaining intervention fidelity is a major key to success of validated prevention programs in schools and other settings (Dusenbury et al., 2003; Webster-Stratton & Herman, 2010). The implementation strategies we have highlighted can be utilized to support intervention fidelity.

Summary

Schoenwald and Hoagwood (2001) have argued convincingly that the adoption, implementation, and sustainability of evidence-based interventions into the normal practices of applied settings such as schools remain to be demonstrated. Although con-

siderable progress has been made with respect to scaling up schoolwide universal interventions (e.g., schoolwide positive behavioral supports), there is a paucity of targeted mental health prevention programs that have been widely disseminated to date. However, recent progress has been made with advancing targeted prevention research from well-controlled efficacy trials to real-world effectiveness trials (e.g., First Step to Success; Sumi et al., 2013). Furthermore, implementation and scale-up research on school-based mental health interventions has made considerable advances in the past decade, as illustrated by the CBITS scale-up research (Nadeem, Jaycox, Kataoka, Langley, & Stein, 2011).

As previously discussed, improving our understanding of the barriers and facilitators to the implementation of targeted mental health prevention programs is central to accelerating the dissemination of evidence-based practices into schools. Key facilitators include the provision of resources and technical assistance to practitioners, such as program developer and publisher websites that allow for ordering program materials, scheduling inservice trainings, participating in online trainings, and providing technical assistance for effective implementation; the FRIENDS, CBITS, and RY program websites are positive examples in this regard. In addition, targeted prevention programs that are designed to fit within typical school contexts (e.g., First Step to Success and CBITS) are likely to have greater potential for broad-scale adoption than those that do not take this consideration into account during the formative development process. Furthermore, the research evidence needs to include key outcomes that are relevant to the potential adopters and implementers, in order to foster buy-in. As Hoagwood and colleagues (2007) highlight, research on school-based mental health programs often fails to include relevant outcomes on academic and school-related functioning.

Implementation heuristics such as PRISM provide a framework for a more in-depth assessment of an intervention as perceived by the potential adopters, the context in which it will be implemented, and the infrastructure specific to implementation and sustainability. Just as researchers plan for intervention assessment before starting an

intervention trial within a real-world application, there has to be an up-front plan for how the intervention will be implemented, what implementation strategies will be used, and how fidelity will be assessed over time. Given this, successful implementation requires beginning with the end in mind and integrating implementation supports into early planning phases. By taking into account contextual factors, such as those addressed by the PRISM framework, intervention developers would be better positioned to bridge the chasm between research and practice.

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Evidence-Based Intervention Approaches for Students with Anxiety and Related Disorders

**Anna J. Swan, Colleen M. Cummings, Nicole E. Caporino,
and Philip C. Kendall**

Anxiety disorders (and disorders traditionally grouped with the anxiety disorders; see below) are among the most common mental disorders to affect school-age children (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003), with data suggesting that 3–24% of children in community samples meet full diagnostic criteria (Cartwright-Hatton, McNicol, & Doubleday, 2006, for a review). In addition to high prevalence rates, the presence of an anxiety disorder is linked to negative developmental and school-related outcomes. Children with anxiety disorders are also more likely to have difficulties with peers and socializing (e.g., Verduin & Kendall, 2008), as well as to have future emotional health problems (e.g., Feehan, McGee, & Williams, 1993). Data suggest that the presence of an anxiety disorder has a negative impact on academic achievement (e.g., Van Amerigen, Manicini, & Farvolden, 2003) and school functioning (Mychailyszyn, Mendez, & Kendall, 2010).

Children with these disorders often experience distressing levels of anxiety even when presented with low-threat situations, causing them to avoid these situations or endure them with distress. For example, a child with social phobia (SP) may perceive answering questions in class as disproportionately threatening. The child's fear of

negative evaluation by his or her peers may result in avoidance of class participation, or school refusal in extreme cases. In addition to impacting scholastic achievement, such avoidance can have a negative impact on social-emotional development. A child with SP may experience extreme emotional distress when meeting new people or talking to/entering into a group. Subsequent avoidance of these situations can result in severely circumscribed friend groups and/or strained peer relations.

Beyond causing interference in daily functioning, anxiety disorders are linked to long-term negative outcomes. Research suggests that child anxiety disorders are unlikely to remit on their own (Keller et al., 1992; Pine, Cohen, Gurley, Brook, & Ma, 1998): Children with anxiety disorders often mature into adults with anxiety disorders. Moreover, although the developmental trajectory of child anxiety disorders and later comorbid disorders warrants further research, the presence of an anxiety disorder in childhood has been linked to increased risk of developing later substance use problems (Lopez, Turner, & Saavedra, 2005) and depression (Angold, Costello, & Erkanli, 1999). The subsequent development of comorbid conditions is likely to cause further impairment (Kessler et al., 2011), in addition to complicating later

intervention methods. It is apparent that to improve current functioning, enable normal development, and preclude negative sequelae associated with anxiety disorders, requires identification and intervention for anxiety disorders in childhood.

The current chapter provides (1) an introduction to common anxiety disorders seen in school-age children, (2) a description of psychometrically sound assessment methods and tools, (3) coverage of cognitive-behavioral intervention procedures, and (4) consideration of future directions for the field of child anxiety research.

Common Child and Adolescent Anxiety Disorders

The diagnostic system used to categorize psychological disorders is the *Diagnostic and Statistical Manual of Mental Disorders* (DSM; American Psychiatric Association [APA], 2000, 2013). Among the most common anxiety disorders present in children and adolescents are generalized anxiety disorder (GAD), SP (also known as social anxiety disorder), separation anxiety disorder (SAD), and specific phobia. Posttraumatic stress disorder (PTSD), obsessive-compulsive disorder (OCD), and selective mutism (SM), though less common, are also discussed.¹

Generalized Anxiety Disorder

GAD is characterized by excessive, uncontrollable worry that is present more days than not, with prevalence rates ranging from 3 to 10% (Benjamin, Beidas, Comer, Puliafico, & Kendall, 2011). Children with GAD typically worry about a range of topics, including world affairs, harm to self or others, school performances, and the future. Other worries include perfectionistic concerns (e.g., worry about meeting self-imposed, high expecta-

tions) and everyday concerns (e.g., worry about saying the wrong thing). To assuage their worries in the moment, children with GAD often avoid activities and/or situations that trigger feelings of anxiety. They may also engage in excessive reassurance seeking, asking family members or authority figures questions aimed at mitigating their excessive worries. To qualify for a diagnosis of GAD, children must experience at least one physical symptom of anxiety (e.g., muscle tension, restlessness). These worries and accompanying physical symptoms typically endure for at least 6 months and cause significant distress and impairment in the child's social, academic, or family life (APA, 2000, 2013).

Social Phobia

Children with SP have an excessive fear of being negatively evaluated by others. Children with SP commonly experience extreme distress in performance situations (e.g., class presentations, musical or athletic performances) or other social situations (e.g., meeting new people, talking in a group, attending social events). Moreover, avoidance of anxiety-provoking, social situations is common for children with SP. This avoidant behavior can result in fewer friends and decreased academic performance, among other unwanted sequelae. Although it is developmentally normative to experience some anxiety in some social situations, for children with SP the anxiety is heightened and does not diminish with time or experience. To meet criteria for a diagnosis of SP, social concerns typically endure for at least 6 months, and result in meaningful impairment at home, at school, or with peers (APA, 2000, 2013). SP is present in approximately 7% of children and is more common in adolescents than young children (Essau, Conradt, & Petermann, 1999).

Separation Anxiety Disorder

SAD is classified as an age-inappropriate, irrational fear of being separated from a caregiver or group of caregivers. In anticipation of or upon separating from their caregivers, children with this disorder express extreme distress. They may throw tantrums, cry, and/or report physical symptoms of anxiety (e.g., headaches, nausea). Children

¹As we were writing this chapter, the APA was concluding its work on DSM-5—in which PTSD and OCD are no longer grouped with the anxiety disorders, but have their own separate categories. However, since they were classified with the anxiety disorders from DSM-III to DSM-IV-TR, and since the research we cite in this chapter includes them as anxiety disorders, we continue to consider them as such here.

with SAD exhibit a range of avoidant behaviors aimed at minimizing time spent away from their caregivers. In the home, they may follow caregivers from room to room and/or have difficulty sleeping alone. They often endorse fear that they or their caregivers will be harmed when separated. In addition, it is common for children with SAD to have difficulty separating from their parents for social activities (e.g., sleepovers, play dates) and for academic events (e.g., school, field trips). Because of separation concerns, children with SAD may have fewer friends and intermittent school attendance. To qualify for a diagnosis, separation anxiety symptoms must be persistent and cause significant interference in the family, at school, or with friends (APA, 2000, 2013). SAD is present in approximately 4% of youth and is more common in young children than adolescents (Beesdo, Knappe, & Pine, 2009).

Specific Phobia

Specific phobia is an excessive, irrational fear of a specific object or situation. The most common types of specific phobia involve animals (e.g., spiders, dogs) and the natural environment (Ollendick, Rai-shevich, Davis, Sirbu, & Ost, 2009). Other common types include fears of blood/injections/shots, health-related fears (e.g., vomiting, choking), and situational fears (e.g., airplanes, elevators). In anticipation of or upon encountering a phobic trigger, children with this disorder experience severe distress, sometimes expressed through tantrums or crying. Avoidance of phobic stimuli is highly characteristic of this disorder. To meet diagnostic criteria for specific phobia, fear and avoidance of the phobic stimuli typically endure for at least 6 months and cause meaningful interference in the child's home, academic, or family life (APA, 2000, 2013). Approximately 5% of children have a specific phobia (Ollendick, King, & Muris, 2002), and it is highly comorbid with other anxiety disorders (Kendall et al., 2010).

Posttraumatic Stress Disorder

Unlike the previously discussed anxiety disorders, PTSD is necessarily triggered by an external traumatic event. (As such,

it and other trauma-related disorders now have their own separate category in DSM-5 [APA, 2013].) Common traumatic events associated with the later development of PTSD symptoms include natural disasters, sexual or physical abuse, and automobile accidents. Moreover, objective characteristics of the traumatic event (e.g., death toll, child's proximity to the event) as well as the child's subjective experience of the event (e.g., perceived threat, distress during the event) affect a child's risk of later developing PTSD (Furr, Comer, Edmunds, & Kendall, 2010). Children with PTSD typically exhibit three clusters of symptoms: (1) reexperiencing the event through flashbacks or nightmares; (2) avoidance of thoughts or scenarios reminiscent of the event; (3) increased negative mood and cognitions, and (4) hyperarousal, manifested as irritability, difficulty sleeping, or hypervigilance. Although PTSD symptoms are normative immediately following a traumatic event, these problems persist for at least 1 month and cause impairment in the social and academic functioning of children who develop PTSD (APA, 2000, 2013).

Obsessive–Compulsive Disorder

OCD is characterized by obsessions (repetitive and intrusive thoughts, images, doubts or impulses) and accompanying compulsions (ritualistic thoughts or actions aimed at relieving distress related to the obsessions). (In DSM-5 [APA, 2013], OCD and related disorders also now have their own separate category.) Compulsions are often excessive and illogical. Though they help to reduce distress related to obsessions in the short term, engaging in compulsions is counterhelpful because doing so maintains anxiety and obsessions over time (Albano, March, & Piacentini, 1999). Common obsessions include contamination fears, fear of harming a loved one, excessive doubting, and unwanted religious or sexual thoughts. Common compulsions include excessive hand washing, repetitive checking, and ritualistic touching or arranging of objects. OCD obsessions and compulsions are often time-consuming (taking more than 1 hour per day) and the cause of extreme distress in

a child's life. OCD symptoms cause significant interference in the lives of children with this disorder, often resulting in problems attending and working in school, socializing with peers, and maintaining family relationships (APA, 2000, 2013).

Selective Mutism

SM is a rare childhood disorder in which children fear and avoid speaking in select situations, despite speaking normally in others (APA, 2000, 2013). For example, children with SM may avoid speaking in places outside the home (e.g., school), but speak fluently with family members at home. Diagnostic criteria require that symptoms of the disorder endure for at least 1 month, and cause impairment in academic and/or social functioning. SM is more common in young children and occurs in less than 1% of community samples (Cohan, Chavira, & Stein, 2006).

It is important to keep in mind that anxiety disorders in youth are highly comorbid among themselves, as well as with other disorders (Costello et al., 2003; Kendall et al., 2010). Comorbid anxiety diagnoses may capture distinct symptoms and problems as intended, but high rates of co-occurring disorders may also be the product of an imperfect diagnostic system. Disorders in the DSM (APA, 2000, 2013) are organized categorically; however, many anxiety disorders have overlapping, nondistinct symptoms, which can complicate accurate assessment and increase the prevalence of comorbid conditions. Alternatively, high rates of comorbidity may result from an underlying construct common to all relevant disorders—*anxiety*, for example.

Assessing Anxiety in Children and Adolescents

Accurate assessment of anxiety disorders is a precursor to effective intervention. Assessment tools include self-report measures, other-report measures (e.g., parent and teacher reports), semistructured interviews, and direct observations. Some assessments focus on measuring symptoms of specific

anxiety disorders (e.g., SP), while others assess multiple domains of anxiety. Outlined below are some of the more psychometrically sound measures of anxiety symptoms in children.

Measures of Symptoms across Multiple Anxiety Disorders

Anxiety Disorders Interview Schedule for DSM-IV—Child and Parent Versions

The Anxiety Disorders Interview Schedule for DSM-IV—Child and Parent Versions (ADIS-IV-C/P; Silverman & Albano, 1996) is a clinician-administered semistructured diagnostic interview that assesses DSM-IV anxiety disorders and associated psychopathology (e.g., disruptive behavior disorders and mood disorders) in school-age children and adolescents. Composite diagnoses are determined by using information gathered from parent and child interviews, and are based on the presence of core symptoms and a clinical severity rating of ≥ 4 (on a scale of 0–8) made by the interviewer. The ADIS-IV-C/P has excellent psychometric properties (e.g., Silverman, Saavedra, & Pina, 2001), has demonstrated treatment sensitivity (e.g., Kendall, Hudson, Gosch, Flannery-Schroeder, & Suveg, 2008), and is available from Oxford University Press.

Pediatric Anxiety Rating Scale

The Pediatric Anxiety Rating Scale (PARS; Research Unit on Pediatric Psychopharmacology [RUPP] Anxiety Study Group, 2002) is a clinician-rated measure of anxiety severity estimated over the past week. The PARS is a checklist of 50 anxiety symptoms (targeting SAD, SP, and GAD) and 7 global items that are administered to the child/adolescent and parent(s) together. For each global item, severity ratings are made on a 6-point (0–5) scale and reflect the number of symptoms present, their frequency, the severity of distress experienced by the child, and anxiety-related interference with functioning at and outside of the home. The PARS takes approximately 30 minutes to administer. Acceptable reliability and validity data have been demonstrated, and the PARS is sensitive to change in treatment (e.g., RUPP

Anxiety Study Group, 2002). Percent reduction and absolute cutoff scores are available for determining treatment response and remission in individual cases (Caporino et al., 2012). The PARS is in the public domain and can be used at no cost.

Multidimensional Anxiety Scale for Children

The Multidimensional Anxiety Scale for Children (MASC; March, 1997; March & Mulle, 1998) is a 39-item self-report questionnaire that assesses presence and severity of general, social, and separation anxiety symptoms in youth 8–19 years old. Items are rated on a 4-point Likert-type scale (0 = “never true about me” to 3 = “often true about me”) and take approximately 15 minutes to complete. The MASC yields a total score, as well as scores on four scales: Physical Symptoms, Social Anxiety, Separation Anxiety, and Harm Avoidance. The MASC has an index for detecting inconsistent responding. Strong reliability (i.e., internal consistency, test–retest stability; March, Sullivan, & Parker, 1999) and validity have been demonstrated (March, 1997; Villabø, Gere, Torgersen, March, & Kendall, 2012), and the MASC is sensitive to change in treatment (e.g., Manassis et al., 2002). A 10-item version of the MASC is available for repeat testing, and a parent report version has been used in research. The MASC can be purchased through Multi-Health Systems.

Screen for Child Anxiety Related Emotional Disorders

The Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher, 1999; Birmaher et al., 1997, 1999) is a 41-item screening questionnaire that assesses anxiety symptoms in youth 9–18 years old over the past 3 months. There are parallel parent and child report versions that yield a total score, as well as scores on five scales: Somatic/Panic, GAD, SAD, Social Phobia, and School Phobia. Internal consistency and test–retest reliability have been established, and the SCARED has associations with other measures of internalizing problems (Muris, Merckelbach, van Brakel, Mayer, & van Dongen, 1998). There is some evidence of treatment sensitivity (Muris, Merckel-

bach, Gadet, Moulaert, & Tierney, 1999). The SCARED can be administered at no cost and takes approximately 10 minutes to complete.

Child Behavior Checklist—Anxiety, Teacher Report Form—Anxiety

The Child Behavior Checklist—Anxiety (CBCL-A) and Teacher Report Form—Anxiety (TRF-A) (Kendall et al., 2007) can be used to measure anxiety symptoms and associated physical complaints (e.g., headaches, stomachaches) experienced over the past 6 months and to determine whether a more thorough assessment is needed. The CBCL-A consists of 16 items from the Child Behavior Checklist (rated by parents), and the TRF-A consists of 18 items from the Teacher Report Form (Achenbach, 1991; Achenbach & Rescorla, 2001). The administration of additional forms is not required, as these scores are determined by summing existing items from the CBCL and TRF. Convergent and discriminant validity have been supported, and the CBCL-A and TRF-A have shown treatment sensitivity (Kendall et al., 2007). The CBCL and TRF forms can be purchased through the Achenbach System of Empirically Based Assessment website (www.aseba.org).

Other questionnaires that can be used with youth and/or parents to assess anxiety symptoms across multiple disorders include the Revised Children’s Manifest Anxiety Scale (Castenada, McCandless, & Palermo, 1956; Reynolds & Richmond, 1978, 1979, 1985), the State–Trait Anxiety Inventory for Children (Spielberger, Edwards, Montuori, & Lushene, 1973), the Spence Children’s Anxiety Scale (Spence, 1998), and the Fear Survey Schedule for Children—Revised (Ollendick, 1983). The Revised Preschool Anxiety Scale (Spence, Rapee, McDonald, & Ingram, 2001) measures anxiety symptoms in young children by parent report. In addition to measures of symptom severity, the Child Anxiety Impact Scal (Langley et al., 2012; Langley, Bergman, McCracken, & Piacentini, 2004) measures anxiety-related interference in school, social, and home/family functioning by parent and/or child report.

Measures of Symptoms of Specific Anxiety Disorders

Social Phobia and Anxiety Inventory for Children and Other SP Measures

The Social Phobia and Anxiety Inventory for Children (SPAI-C; Beidel, Turner, & Morris, 1995) is a 26-item self-report measure of cognitive, somatic, and behavioral dimensions of social anxiety in children ages 8–14 years. The SPAI-C yields a total score and three scale scores: Assertiveness, Traditional Social Encounters, and Public Performance. The SPAI-C has demonstrated excellent internal consistency and very good test–retest reliability (e.g., Clark et al., 1994). It has discriminated between SP and other anxiety disorders (Beidel, Turner, Hamlin, & Morris, 2000). The SPAI-C has also shown treatment sensitivity (e.g., Beidel, Turner, & Morris, 2000). The SPAI-C takes approximately 20–30 minutes to complete and can be purchased through Multi-Health Systems.

The adult SPAI (Turner, Beidel, & Dancu, 1996) is appropriate for adolescents 14 years of age or older. The Social Anxiety Scale for Children—Revised (SASC-R; La Greca, Dandes, Wick, Shaw, & Stone, 1988; La Greca & Stone, 1993) measures social anxiety and can be administered to youth 8 through 18 years old (La Greca & Lopez, 1998).

Children's Yale–Brown Obsessive–Compulsive Scale and Other OCD Measures

The Children's Yale–Brown Obsessive–Compulsive Scale (CY-BOCS; Scahill, Riddle, McSwiggin-Hardin, & Ort, 1997) is a clinician-rated, semistructured inventory that assesses the presence of 62 obsessive–compulsive symptoms and their severity (i.e., distress, frequency, interference, resistance, control) over the past week. Ten items are rated on a 5-point Likert-type scale, and ratings are summed to produce a total score, as well as Obsessions Severity and Compulsions Severity scores. The CY-BOCS has good internal consistency, interrater, and test–retest reliability (Scahill et al., 1997; Storch et al., 2004), construct validity (Storch et al., 2004), and treatment sensitivity (Pediatric OCD Treatment Study

[POTS] Team, 2004). The CY-BOCS takes approximately 45 minutes to administer and can be obtained by contacting the authors. There are parent and child report versions with satisfactory psychometric properties, but these versions are recommended only for repeat testing or for when a clinician is not available (Storch et al., 2006).

The Children's Florida Obsessive–Compulsive Inventory (Storch, Bagner, et al., 2007) is similar to the child report form of the CY-BOCS. In addition, the parent and child report versions of the Child Obsessive–Compulsive Impact Scale—Revised (Piacentini, Peris, Bergman, Chang, & Jaffer, 2007) can be used to assess the extent to which pediatric OCD has caused impairment in specific areas of psychosocial functioning over the past month.

UCLA PTSD Reaction Index and Other PTSD Measures

The UCLA PTSD Reaction Index (Pynoos, Rodriguez, Steinberg, Stuber, & Frederick, 1998) assesses exposure to trauma (including community violence, natural disasters, medical trauma, and abuse) and posttraumatic stress symptoms in youth 7–18 years old. In addition to providing diagnostic information, the UCLA PTSD Reaction Index measures the frequency of trauma symptoms over the past month. Items map onto DSM-IV criteria for establishing trauma-related intrusion, avoidance, and arousal. There are parent and child/adolescent versions that can be self- or clinician-administered in individual and group settings. The UCLA PTSD Reaction Index typically takes 20–30 minutes to complete. Psychometric properties are well established (e.g., Pynoos et al., 1993), and treatment sensitivity has been demonstrated (e.g., Salloum & Overstreet, 2008). An abbreviated version of the measure takes 5–10 minutes to complete and has good sensitivity and specificity. The UCLA PTSD Reaction Index can be obtained by contacting the UCLA Trauma Psychiatry Service.

Alternatives for measuring trauma-related symptoms in school-age children include the Child PTSD Symptom Scale (Foa, Johnson, Feeny, & Treadwell, 2001), the Children's Revised Impact of Event Scale (Perrin,

Meiser-Stedman, & Smith, 2005), and the Trauma Symptom Checklist for Children (Briere, 1996). A subset of CBCL items can also be used to screen for trauma sequelae (Dehon & Scheering, 2005).

Selective Mutism Questionnaire

The Selective Mutism Questionnaire (SMQ; Bergman, Keller, Piacentini, & Bergman, 2008) is a 17-item parent report measure of children's nonspeaking behavior and related interference at school, at home/with family, and in public/social settings. There is evidence of internal consistency, convergent and discriminant validity, incremental validity, and treatment sensitivity (e.g., Bergman et al., 2008). The SMQ can be obtained by contacting the authors.

School Refusal Assessment Scale—Revised

The School Refusal Assessment Scale—Revised (SRAS-R; Kearney, 2005) is a 24-item questionnaire with four scales that assess the functions of school refusal behavior: Avoidance of Fear-Provoking Situations, Escape from Social Evaluation Situations, Attention-Getting Behavior, and Positive Tangible Reinforcement. Parent and child versions are available. There is evidence of retest reliability, as well as of construct and concurrent validity (Higa, Daleiden, & Chorpita, 2002). The SRAS-R is useful for tailoring intervention to a child's clinical presentation.

Direct Observation

Silverman and Ollendick (2005) identified three types of direct observation procedures used to evaluate contextual variables that might stimulate or maintain child anxiety: social evaluative tasks (e.g., role playing with peers, reading aloud for 10 minutes); behavioral avoidance tasks (i.e., *in vivo* exposure to a feared stimulus); and parent-child interaction tasks (e.g., discussing topics together, generating problem-solving solutions). Youth are typically instructed to provide subjective ratings of anxiety during or after these procedures, while observers trained to a standard of reliability also provide ratings. Although research is needed to establish the

equivalence of these tasks across age groups (Vasey & Lonigan, 2000), as well as their incremental validity over child self-report and parent report measures (Silverman & Ollendick, 2005), direct observation procedures are informative and clinically useful.

Informant Discrepancies

Gathering reports from multiple informants (e.g., the child, parents, teachers) is highly recommended to facilitate a complete picture of a child's anxiety concerns. Unfortunately, discrepancies across informant reports are common, with limited agreement between child and parent reports on anxiety symptoms (e.g., Choudhury, Pimentel, & Kendall, 2003). Informant discrepancies may be influenced by numerous forces. First, accurate assessment of symptoms within a youth (e.g., features of anxiety) can be difficult, and parent-child agreement is greater for external than for internal indicators of anxiety (Comer & Kendall, 2004). Reporter bias may also play a role. Youth who prefer socially desirable responses are more likely to underreport anxiety symptoms (Rapee, Barrett, Dadds, & Evans, 1994), whereas parents with anxiety disorders are more likely to overreport anxious symptomatology in their children (Frick, Silverthorn, & Evans, 1994). Lastly, informant discrepancies may not be attributable to reporter error; that is, the inconsistencies may simply reflect true differences in a child's context-dependent behavior that are not captured by most assessment tools (De Los Reyes et al., 2011). For diagnostic purposes, use of the "or rule" is recommended. The "or rule" dictates that if a youth meets full diagnostic criteria for a disorder on the basis of either the child self-report or the parent report, then the youth receives the diagnosis.

Interventions for Child and Adolescent Anxiety Disorders

Cognitive behavioral therapy (CBT) has been found to be efficacious for youths with anxiety, is recommended as a first line treatment, and is deemed empirically supported (Hollon & Beck, 2013). Anxiety-focused CBT for youth has been delivered successfully

in a variety of formats, including individual, group, family, computer-assisted, and school-based protocols (see Kendall, 2012). In this section, we first review the theory and main components of CBT for child anxiety disorders, and then review the research regarding different modes of CBT delivery.

Theory and Main Components of CBT

Various operationalizations of CBT for child anxiety disorders share a common theoretical base. This model views anxiety disorders as stemming from physiological, cognitive, and behavioral components (e.g., Barlow, 2002). Physiological or autonomic nervous system responses to anxiety activate the “fight-or-flight” response in stressful situations. Cognitive components include a focus on threat cues in the environment. Behavioral responses include avoidance (a common response to anxiety), and can reduce anxiety in the short term but actually maintain it in the long term. Common CBT treatment components for anxiety include (1) psychoeducation, (2) somatic management, (3) cognitive restructuring, (4) exposure tasks, and (5) relapse prevention (Albano & Kendall, 2002).

Psychoeducation

Psychoeducation is an acceptable entryway into treatment and provides the child with facts about the nature of anxiety and a rationale for treatment. The child also learns that anxiety is a natural and often adaptive emotion that leads to difficulties when it is out of proportion. Treatment focuses on the management and reduction, not the elimination, of anxiety. This process of normalizing anxiety for the child helps correct mistaken beliefs that the child may hold (Gosch, Flannery-Schroeder, Mauro, & Compton, 2006). The therapist explains the connections among thoughts (self-talk), feelings, and behavior; this explanation provides the premise for CBT, which is that the child can change his or her emotional reactions by altering self-talk and avoidant behavior. The child learns to identify his or her physiological responses to anxiety (e.g., pounding heart, nausea, breathlessness, sweaty palms) and to distinguish these early signs

of anxiety from true somatic concerns. Furthermore, the beginning of a collaborative relationship between the child and therapist is established. This collaboration includes an affective bond and an agreement on treatment goals and tasks (e.g., Martin, Garske, & Davis, 2000). The collaborative alliance and a “coaching style” have been found to promote positive outcomes in CBT for anxiety disorders (Podell et al., 2012).

Somatic Management

Somatic management includes relaxation to help the child gain control of his or her anxious physiological responses. Common relaxation strategies for youth include progressive muscle relaxation or deep breathing techniques (Ollendick & Cerny, 1981). The child is encouraged to practice relaxation skills initially during nonstressful periods, after which these skills can be applied to periods of increased anxiety—for instance, on the way to school or at bedtime.

Cognitive Restructuring

Cognitive restructuring introduces “self-talk,” explained to the child as “things we say to ourselves” that can be helpful or unhelpful. Unhelpful thoughts are central to anxiety disorders; anxious children tend to report more anxious/negative self-statements than nonanxious children, and negative (but not positive) self-statements differentiate between children with and without anxiety disorders (Sood & Kendall, 2007); these findings thus highlight the “power of non-negative thinking” (Kendall, 1984). Children with anxiety disorders often underestimate their own competency to cope with danger (Bogels & Zigterman, 2000), overestimate the probability of negative outcomes (Barrett, Dadds, & Rapee, 1996), and overattend to threatening stimuli (Vasey, El-Hag, & Daleiden, 1996). Likewise, changing negative patterns of self-talk can affect children’s behavior and emotions. Reductions in negative self-talk have been found to partially mediate treatment outcomes for anxious children (Kendall et al., 2007), highlighting the importance of this treatment component. Children learn to recognize patterns of anxious thinking, chal-

lenge their thoughts, and respond with more adaptive coping thoughts through examining evidence and reframing (Kearney, 2005).

Exposure Tasks

Most would agree that engagement in exposure tasks is a critical component of CBT for child anxiety (Bouchard, Mendlowitz, Coles, & Franklin, 2004; Kendall et al., 2005), as children do not evidence substantial gains from treatment until after such tasks have begun (Kendall et al., 1997). Exposure tasks both correct dysfunctional beliefs about the danger of the feared stimuli and reinforce a child's coping with the stimuli (Bouchard et al., 2004). Typically, exposure tasks are conducted in a gradual, hierarchical manner, with an emphasis on the importance of the collaborative process with the child (Podell et al., 2012). Exposure tasks can be either imaginal or *in vivo*. Imaginal exposure can be useful for children with more abstract worries (e.g., a child with GAD who fears that parents will die), or as practice prior to an *in vivo* exposure task. During either type of exposure, the child rates his or her anxiety on the subjective units of distress/discomfort scale (SUDS; Wolpe & Lazarus, 1966). In general, it is recommended that a child stay in imaginal or actual contact with the feared stimulus until anxiety is reduced by at least 50% on SUDS ratings (Kendall et al., 2005). Exposure tasks can be repeated to allow the child to build a history of adaptive coping, and practiced in different settings to encourage generalization (Bouchard et al., 2004). Accordingly, the child is typically assigned a few "at-home challenges" to complete during the week.

Following the completion of an exposure task, the therapist should process the event with the child (i.e., thoughts and feelings, use of anxiety management techniques, and any obstacles or difficulties). Such postexposure processing is associated with treatment gains, perhaps because it allows children to evaluate their ability to cope with the feared stimuli and challenge any distortions they held prior to the exposure (Tiwari, Kendall, Hoff, Harrison, & Fizur, 2013). In addition, praise and rewards should be provided for effort expended (see Kendall et al., 2005, for a more detailed discussion of and examples of exposure tasks).

Relapse Prevention

Addressing relapse prevention takes place near the end of treatment, as the therapist reviews the goals of treatment and the improvements the child has made. A therapist may distinguish between short setbacks, called "lapses," and the return of the larger anxiety problem, or a "relapse" (see also Brownell, Marlatt, Lichtenstein, & Wilson, 1986). In the case of a relapse, the child may require a return for a booster session. Generally, children are encouraged to adapt an "exposure task lifestyle" that includes routinely facing their fears, as opposed to returning to maladaptive patterns of avoidance (Chorpita, 2007).

Modes of CBT Delivery

Individual Treatment

Individual treatment is the most common mode of providing CBT for child anxiety. One empirically supported individual CBT program for youth is the Coping Cat program (Kendall & Hedtke, 2006a, 2006b). The Coping Cat consists of 16 sessions, separated into two segments (skills training and skills practice—i.e., exposure tasks) and has been adapted for adolescents (i.e., The C.A.T. Project; Kendall, Choudhury, Hudson, & Webb, 2002). Several randomized clinical trials (RCTs) have reported the efficacy of the Coping Cat program, with sample sizes ranging from 47 youth (Kendall, 1994) to 488 youth (Walkup et al., 2008). Overall, study findings indicate significant reductions in anxiety among children who participated in the Coping Cat program, compared to wait-list participants, participants receiving a family-based education/support/attention condition (Kendall, 1994; Kendall et al., 1997; Kendall, Hudson, et al., 2008), and those receiving a pill placebo (Walkup et al., 2008). Moreover, gains have been found to be maintained at 1-year to 7.4-year follow-ups, and a meaningful percentage of successfully treated participants had reduced problems associated with substance use (Kendall, Safford, Flannery-Schroeder, & Webb, 2004; Puleo, Conner, Benjamin, & Kendall, 2011). Various adaptations of the Coping Cat program have also demonstrated efficacy, such as the Australian Coping Koala (Barrett et

al., 1996; Heard, Dadds, & Rapee, 1991), the Canadian Coping Bear (Manassis et al., 2002; Mendlowitz & Scapillato, 1994), and the Dutch Coping Cat translation (Nauta, Scholing, Emmelkamp, & Minderaa, 2003).

The largest RCT, the Child Anxiety Multimodal Study, evaluated the efficacy of CBT (the Coping Cat program for 7- to 13-year-olds; the C.A.T. Project for 13- to 17-year-olds), medication (sertraline), a combination of the two treatments, and a pill placebo among 488 youth ages 7–17. This trial was conducted at six different clinics (medical schools, hospitals, university clinics) across the United States. Response rates indicated very favorable outcomes: 80.7% of participants in the combined treatments, 59.7% of those in CBT, 54.9% of those receiving sertraline, and 23.7% of those receiving the placebo were considered treatment responders (youth rated by independent evaluators as “very much” or “much improved”) at week 12 (Walkup et al., 2008).

Family-Based Treatment

Research indicates that anxious children often have anxious parents (e.g., Ginsburg & Schlossberg, 2002) who have maladaptive parenting behaviors, such as criticism, control/intrusiveness, lack of autonomy, and modeling of anxious responses—all of which have been linked to child anxiety (Burstein & Ginsburg, 2010; Creveling, Varela, Weems, & Corey; 2010). These factors suggest that parental involvement in child CBT may be helpful (Barmish & Kendall, 2005; Rapee, 2012), but the nature, extent, and amount of this involvement require additional study.

A few studies have compared family CBT (FCBT) to individual CBT (ICBT). For instance, FCBT demonstrated significant reductions in anxiety at posttreatment and 1-year follow-up (Howard, Chu, Krain, Marrs-Garcia, & Kendall, 2000), compared to a family-based education/support/attention control (Kendall, Hudson, et al., 2008). FCBT was comparable to ICBT (the Coping Cat program) on almost all outcomes, except that ICBT outperformed FCBT on teacher reports, whereas FCBT outperformed ICBT when both parents had an anxiety disorder (Kendall, Hudson, et al., 2008). It is important to note that parents are also involved,

albeit to a lesser degree, in ICBT. Wood, Piacentini, Southam-Gerow, Chu, and Sigman (2006) compared ICBT to the Building Confidence program, which included parents as co-clients and specifically targeted parental intrusiveness (Wood & McLeod, 2008). At posttreatment, FCBT outperformed ICBT in terms of anxiety severity, clinical global impressions, and parent report, but not child report and diagnostic status (Wood et al., 2006), and these results were maintained at a 1-year follow-up (Wood, McLeod, Piacentini, & Sigman, 2009). It appears that at least some parental involvement is important, but that the degree to which parents should participate and the nature of their participation both vary, depending on several factors (e.g., presence of a parental anxiety disorder; maladaptive parenting behavior; Barmish & Kendall, 2005; Creswell & Cartwright-Hatton, 2007).

Group Treatment

Group CBT (GCBT) offers certain advantages, including increased “reach” by working with multiple youth at a time, opportunities for social skill practice, and the ability to complete exposure tasks in front of peers. Barrett (1998) examined the efficacy of a GCBT program for youth with SAD, over-anxious disorder (a DSM-III diagnosis that has since been incorporated into GAD), and SP. Three conditions were compared: GCBT, GCBT plus family management, and a wait-list control. At posttreatment, 64.8% of treated children no longer met criteria for an anxiety disorder, compared with 25.2% of wait-list children, and improvements were maintained at a 12-month follow-up. Differences between the two treatment groups were not significant at posttreatment or at the 12-month follow-up (see also Flannery-Schroeder, Choudhury, & Kendall, 2005). Silverman and colleagues (1999) found that 64% of participants in GCBT no longer met criteria for their primary anxiety diagnosis at posttreatment, compared to only 13% of the wait-list control group. These gains were maintained at 3-month, 6-month, and 12-month follow-ups. Several research groups have conducted comparisons of GCBT to ICBT, often demonstrating equivalent efficacy (Flannery-Schroeder & Kendall, 2000; Manassis et al., 2002), with

maintenance of gains at a 1-year follow-up (Flannery-Schroeder et al., 2005).

Computer-Assisted Treatment

Given the common disjunction between empirically supported treatments and those available in the community (see Weisz, 2000), computer-assisted treatments can facilitate the dissemination of CBT for child anxiety while promoting fidelity to approaches that have empirical support. There are several potential advantages of computer-based CBT programs (Kendall, Khanna, Edson, Cummings, & Harris, 2011). First, computers reduce the cost of treatment (Olmstead, Ostrow, & Carroll, 2010), and they are available in a variety of settings (e.g., home, school). Computers can also provide anonymity and privacy for those who may be hesitant to seek treatment, thereby extending the reach of services. Computers may improve standardization and adherence to key treatment strategies while offering customization for individuals. Data can easily be collected and stored during the use of computer-assisted programs, and this can effectively save time and costs for clinicians (Khanna, Aschenbrand, & Kendall, 2007).

Camp Cope-A-Lot (CCAL) is a computer-assisted intervention program based on the Coping Cat. The first six sessions are completed by the child, and the remaining sessions (primarily exposure tasks) are completed with the assistance of a coach (therapist). An RCT compared CCAL to ICBT and a computer-assisted education/support/attention condition among 49 children with anxiety disorders. All therapists were from the community and reported no prior training or experience in CBT for child anxiety. Children in the ICBT and CCAL conditions showed significantly greater gains at posttreatment than did youth who received the control condition, and the gains were maintained at a 3-month follow-up. Spence and colleagues' (2008) CLIN-NET program, for anxious youth ages 7–14 years, includes partial delivery of CBT via the Internet. The researchers compared CLIN-NET to GCBT and a wait-list control group, and found significantly greater reductions in anxiety symptoms for both treatment groups than for the wait-list group.

The BRAVE program is an Internet-based treatment for 7- to 12-year-old children with anxiety disorders. Unlike CCAL and CLIN-NET, this program includes minimal therapist contact via phone and/or email. At posttreatment, compared to wait-list participants, children receiving BRAVE showed only small reductions in anxiety symptoms and increases in functioning. Results were improved at a 6-month follow-up, as 75% of the BRAVE children no longer met criteria for their principal diagnosis (March, Spence, & Donovan, 2009). Finally, the Cool Teens program (Cunningham, Rapee, & Lyneham, 2007; Cunningham et al., 2009) is a multimedia self-help program for anxious adolescents that is supplemented with biweekly telephone calls to a clinical psychologist. A pilot study of five adolescents indicated that two of the participants reported anxiety severity ratings that were reduced to sub-clinical levels for at least one anxiety disorder after 12 weeks. At a 3-month follow-up, these two participants no longer met criteria for an anxiety disorder. These are only case reports, but the initial efforts are encouraging. The successes of several computer-assisted interventions support their continued study, including exploration of any moderators of outcome and the potential for dissemination to a variety of settings (e.g., schools).

School-Based Treatment

Treatment for children with mental health problems is often provided in schools (e.g., Canino et al., 2004). School-based CBT has the advantage of bringing mental health treatment directly to children, thus avoiding many of the common barriers to treatment (e.g., transportation difficulties, costs, scheduling). In addition, many children have anxiety related to school situations (McLoone, Hudson, & Rapee, 2006), making the school an appropriate setting to address these problems. School personnel may be the first to detect the emergence of symptoms, so schools are ideal for early detection and prevention (Elkins, McHugh, Santucci, & Barlow, 2011).

A few RCTs have examined the efficacy of CBT conducted in the school setting (McLoone et al., 2006), and a recent meta-analysis revealed that school-based

anxiety interventions are generally effective compared to control groups (Mychajlyszyn, Brodman, Read, & Kendall, 2012). The Skills for Academic and Social Success (SASS) program, a 12-week treatment for adolescents with SP (Masia et al., 1999), demonstrated initial promise in a small pilot study (Masia Warner et al., 2005). In an RCT comparing SASS to an active control condition, statistically significant improvements were found for SASS, as 59% of youth who received SASS no longer met criteria for SP, compared with 0% of the control group (Masia Warner, Fisher, Shrout, Rathor, & Klein, 2007). Bernstein, Layne, Egan, and Tenneson (2005) examined the efficacy of the FRIENDS program (Barrett, Webster, & Turner, 2000) for both a GCBT condition and a GCBT + parent training condition compared with a control condition. Both GCBT conditions outperformed the control condition, and GCBT + parent training outperformed GCBT on a few measures. In a universal prevention trial, the FRIENDS program also outperformed the control condition when administered by a trained school teacher (Lowry-Webster, Barrett, & Dadds, 2001), and gains were maintained at a 1-year follow-up (Lowry-Webster, Barrett, & Lock, 2003).

The Cool Kids program (Rapee, Wignall, Hudson, & Schniering, 2000) is intended to be delivered by a trained school counselor to small groups of children identified as suffering from an anxiety disorder or at risk for one. In one early intervention trial conducted among primarily low-socioeconomic-status families, children in the Cool Kids program (eight student sessions plus two parent sessions) were found to demonstrate significantly greater decreases in anxiety symptoms than children in a wait-list condition (Mifsud & Rapee, 2005).

Finally, Ginsburg, Becker, Drazdowski, and Tein (2012) compared a modular CBT program for anxiety disorders to usual care among 32 urban, mostly African American children ages 7–17. Treatments were delivered by school-based clinicians who were novices to CBT. Although all youth demonstrated statistically significant improvements in anxiety symptoms, response rates did not differ between usual care and CBT at posttreatment and a 1-month follow-up. However, results were comparable to those

of other efficacy trials, with 50% of youth receiving CBT no longer meeting criteria for an anxiety diagnosis at posttreatment. The authors found that CBT techniques were also used in the usual-care condition, which may have contributed to the lack of significant differences between conditions. The literature suggests that CBT for youth anxiety disorders can be implemented in schools, which has positive implications for dissemination.

Future Directions

CBT has been found to meaningfully reduce anxiety for, on average, 60–65% of children who receive treatment (e.g., Kendall, Hudson, et al., 2008; Storch, Geffken, et al., 2007; Walkup et al., 2008). Nevertheless, many children who could benefit from CBT fail to receive treatment. Researching the dissemination and implementation of CBT for child anxiety disorders into community clinics and schools merits attention. In addition, although approximately two-thirds of youth benefit in a meaningful way from CBT, one-third of children (nonresponders) do not demonstrate a reliable change in their anxiety. Research on how to serve these nonresponders is needed.

Dissemination, Implementation, and Sustainability of Child Anxiety Interventions

Many youth in need of treatment fail to receive appropriate mental health services (Collins, Westra, Dozois, & Burns, 2004). Barriers to treatment include family factors (e.g., life stressors like unemployment or divorce), treatment cost, and accessibility of therapy. Moreover, despite empirical support, CBT remains underutilized in community clinics (Kendall et al., 2010). Community clinicians may fail to adopt CBT as a treatment strategy because of lack of support or training (Beidas & Kendall, 2010), or a mistaken belief that the characteristics of participants in CBT RCTs (e.g., symptom severity, comorbid diagnoses) do not reflect community samples (Stewart, Stirman, & Chambless, 2012). Note that comorbidities in RCTs (e.g., Walkup et al., 2008; see Kendall et al., 2010) are comparable to those in

community samples. Consideration of these barriers will facilitate dissemination and implementation efforts.

For areas where treatment cost and lack of accessibility are impediments (e.g., low-income communities, rural areas), dissemination of computer-based or computer-assisted CBT may increase access to mental health services (Khanna et al., 2007; Khanna & Kendall, 2010). Increased dissemination of CBT programs into school settings also offers substantial promise, as schools often lack many of the barriers to treatment (e.g., personal cost, transportation to and from appointments) inherent in other delivery settings. Moreover, many children with anxiety disorders identify school-related concerns as problematic. Intervening in schools facilitates exposure tasks for anxiety-provoking school situations, and may better enable children to generalize progress made in session to everyday life. Research on effective dissemination and implementation of empirically supported treatments, as well as research on the sustainability of these treatments, is needed.

Individualization of Therapy

Greater personalization of therapy may help treatment nonresponders and increase the breadth of efficacy of CBT interventions. As underscored by the National Institute of Mental Health's (2008) call for an increase in research on individualized interventions, no two children are the same, and strategies that work for one youth may need to be adapted to produce similar changes in another child. In manualized treatments like CBT, tailoring therapy to individuals' needs is recommended and has been conceptualized as "flexibility within fidelity" (Kendall, Gosch, Furr, & Sood, 2008).

Identifying common characteristics of treatment nonresponders may help clinicians distinguish individuals for whom personalization of therapy will be of particular importance. Although youth in general improve, initial research suggests that children are more likely to show symptom remission (be symptom-free) after treatment if they are younger in age, have lower anxiety severity ratings at pretreatment, do not have a comorbid internalizing disorder, and do not have SP (Ginsburg et al., 2011). In

children who *do* have these characteristics, strategies to improve treatment efficacy warrant further research. For example, children with SP may demonstrate greater benefit if social skills training is included as part of treatment (e.g., Beidel, Turner, & Morris, 1999). For children with comorbid anxiety and depression, use of transdiagnostic CBT approaches (Ehrenreich, Goldstein, Wright, & Barlow, 2009)—in other words, approaches that apply CBT strategies to multiple problems—merits further research.

Identification of key effective components of CBT (e.g., exposure tasks) and mediators of treatment outcome (e.g., reductions in negative self-talk; Kendall & Treadwell, 2007) can be an important step in efforts to increase outcomes. Do treatments that place an increased emphasis on exposure tasks or reducing negative self-talk have greater potential benefit? Lastly, examining optimal ways for child and parent involvement in treatment may enhance treatment outcome.

Child and adolescent anxiety disorders are among the most pervasive groups of psychological disorders present in school-age children. Accurate assessments and efficacious interventions for anxious youth are available. The need for future research that focuses on broadening the reach of CBT interventions—both by disseminating empirically supported treatments to community settings and by personalizing interventions to target traditional nonresponders—is paramount.

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Secondary Education and Promising Practices for Students with Emotional/Behavioral Disorders

Douglas A. Cheney, Therese M. Cumming, and Tal Slemrod

Since completion of the first National Longitudinal Transition Study (NLTS) of students with disabilities, a major concern has been the high school graduation rates for this population. The 5-year NLTS study included a national sample of 8,000 youth ranging in age from 13 to 21, who had been in special education between the years 1985 and 1986. After interviewing parents by phone, surveying educators, and reviewing students' school records, the investigators found that students with emotional/behavioral disorders (EBD) were failing in school, demonstrating very low graduation rates, and having little involvement in postsecondary schooling (Wagner, Blackorby, Cameto, & Newman, 1993). These findings were cause for concern and set in motion initiatives to improve outcomes for students with EBD, such as the priorities written into the 1990 reauthorization of the Individuals with Disabilities Education Act (IDEA) to fund a discretionary program focusing on research and demonstration projects in emotional disturbance. To reassess the status of youth with disabilities in the early 21st century, the U.S. Office of Special Education Programs funded the National Longitudinal Transition Study-2 (NLTS2; SRI International, 2005; Wagner & Davis, 2006). NLTS2 compared the post-high school progress of youth with disabilities from the NLTS cohort in 1987 with a second cohort of stu-

dents in 2003. Once again, data were collected on high school completion, employment, postsecondary school involvement, living arrangements, and social engagement. Overall, improvements were noted for all students having disabilities, with 72% of youth completing high school (17 percentage points higher than the 1987 graduation rate). Notable differences among groups emerged, as students with visual or hearing impairments (95%) and autism (86%) had higher graduation rates, but youth with EBD had lower comparative rates (56%). This rate was not insignificant for youth with EBD, however, as it was a substantial improvement from their 39% graduation rate in 1987. In addition, their postsecondary enrollment increased to 22%, and most of this enrollment was in 2-year colleges. Although graduation rates improved for students with EBD, major concerns continued for their educational progress in secondary education, along with their transition to postsecondary education, adult living, and employment.

Concurrently, data from 1994–2007 showed that students with EBD were increasingly receiving the majority of their educational programs in the general education setting. McLeskey, Landers, Williamson, and Hoppey (2012) noted that general education placements for students with EBD increased between 1990 and 2007 by 105%,

from 1.52 to 3.12 as a cumulative percentage. Students with EBD were much less likely to be placed in self-contained programs. Although the inclusive educational approach for youth with EBD is sometimes controversial (see McLeskey et al., 2012), placement data confirm that secondary students with EBD are currently receiving their education primarily in general education settings.

Placement in inclusive settings and successful outcomes should not necessarily be viewed as positively correlated. Wagner and Davis (2006), for example, analyzed NLTS2 data for students with EBD and found that those with EBD (1) were less involved/engaged in strong relationships with teachers and peers than other students; (2) were assigned to general education classes, but were in classes considered less rigorous and demanding, such as foreign languages; (3) received whole-class instruction like their peers, rather than receiving necessary individualized attention or instruction; (4) rarely participated in extracurricular or community-based activities; (5) had modifications or accommodations in about half their classes; and (6) rarely had classes or community experiences related to their life/career interests, even though 69% had vocational goals on their transition plans. (For further discussion of NLTS and NLTS2, see Wagner, Chapter 5, this volume.)

Most secondary education settings do not provide paths to employment, civic involvement, or community engagement after graduation. College preparation and content instruction are the principal course offerings for high school students, and students with EBD have few options to engage in vocational education and placements, or in community living instruction. Without these pathways to success, community outcomes after high school tend to show high levels of unemployment and underemployment (Cheney & Bullis, 2004), lower rates of civic and community participation (Armstrong, Dedrick, & Greenbaum, 2003), and higher rates of incarceration (Wagner, Newman, Cameto, & Levine, 2005).

The purpose of this chapter is to present a model for the high school education of students with EBD and to review evidence that supports it. Discussion and evidence for six major areas regarding secondary education of youth with EBD are presented as follows:

(1) inclusion and collaboration, (2) academic instruction, (3) technology use, (4) social-behavioral interventions, (5) mental health services and interagency coordination, and (6) vocational education. We conclude with recommendations to enhance assessment and interventions across general and special education for students with EBD.

A Model for Improving High School Programs for Students with EBD

Given our combined experience in research and practice within secondary education, we believe that an emphasis should be placed on improving integrated academic, social, vocational, and mental health approaches to enhance the educational outcomes of students with EBD. This model is consistent with one proposed by Valore and colleagues (2010) for educating secondary students with EBD. They addressed the need for students to have multiple options and pathways for fully meeting their individual needs across three curriculum domains: academic, vocational, and community. When applied at its optimum, Valore and colleagues' model met the individualized needs of students with EBD in alternative settings such as therapeutic day schools.

The model displayed in Figure 19.1 is intended for public high school settings. Initially, curricular offerings in grades 8 and 9 are academically focused, and require proficient co-teaching approaches with appropriate accommodations and modifications for students having EBD. When students are capable of meeting academic goals in content courses, every effort should be made to enact those goals and postsecondary goals within inclusive classrooms. Most teachers or school teams in these grades will have a working knowledge of information regarding students' academic abilities and social-emotional issues. If these factors are thoroughly reviewed and the students are able to succeed in the general education program with all necessary supports, the students should matriculate in the general education program. By grade 10 at the latest, if a student is failing coursework for any reason (academic, motivation, social-emotional, familial) and unable to earn credits in academic content, we recommend that the

school team meet with the student and family members to begin planning an intensive vocational program that is driven by the student's interests and has extensive community placement/involvement. As the transition plan is developed for a 16-year-old (or a 14-year-old in some states), representatives from mental health and vocational rehabilitation agencies should be included. Without such a plan, youth with EBD are likely to lose interest in academic courses, fail subjects, and drop out of school. Figure 19.1 suggests that various specialized supports (all of which are discussed later in the chapter) should be particularly helpful in this process. Details and evidence to support this model follow and are organized by the critical components of the model.

Inclusion/Collaboration

Students with disabilities who spend the majority of their day in general education classrooms have lower dropout rates and higher scores on standardized tests in math and reading. These results are consistent regardless of a student's disability, socioeconomic status, or gender. There has been concern, however, that students with EBD are often served by teachers who have not been adequately educated to work with this student population and their social problems (Wagner et al., 2006). If general education teachers lack the skills for preventing and responding to the behavior problems of these students, they may be unable to provide opportunities for the students to make academic progress. General educators also rely on negative consequences to reduce problem behaviors and lack of consistency in management strategies when students with EBD display problem behaviors (Wehby & Lane, 2009).

Even though collaboration is essential for the inclusive education of students with disabilities, high school staff members inconsistently practice collaborative skills (Eccleston, 2010). High school teachers are trained to be experts in specific subjects and often lack the expertise to assess and provide supplemental supports for skill deficits that challenge struggling learners (Feuerborn, Sarin, & Tyre, 2011). In turn, without content knowledge, special educators strug-

gle to provide academic supports to students with EBD. With increases in classroom size, and general education becoming the main learning environment for students with disabilities, co-planning and co-teaching must provide strategies to address the needs of diverse learners. Knackendoffel (2005) has noted that success, however, is contingent upon shared teacher planning and preparation time, as well as class size. Co-teaching models should have high teacher-student ratios to meet the needs of students with disabilities (approximately 2:30).

With the rise in inclusive classrooms and the federal requirement that students learn from highly qualified teachers, expectations for academic achievement for students with disabilities have increased. As a result, increasing numbers of initiatives for co-teaching programs have been implemented, and discussions of the challenges that co-teaching presents have grown as well (Friend, 2007; Scruggs, Mastropieri, & McDuffie, 2007). For example, Rea, McLaughlin, and Walther-Thomas (2002) found that students with disabilities in co-taught classes performed better on measures such as report card grades and attendance than in a single-teacher class, even though student performance on high-stakes tests were comparable across types of classes. This is noteworthy for students with EBD in high school, since attendance rates correlate significantly with graduation rates and with post-high school academic and vocational success.

Despite the literature reporting that co-teaching and collaboration in high schools improve the outcomes of secondary students with disabilities, students with EBD continue to receive at least half of their instruction in resource rooms (Wilson, Kim, & Michaels, in press). Collaboration and co-teaching in general education have a positive impact on students' academic and social skills, but further research is needed to evaluate whether resource rooms are required to meet the academic needs of students with EBD (Fontana, 2005; Rea et al., 2002). For students who have EBD and are struggling with the transition to high school, increased time for collaboration may be an important missing link between these students and their educational success. Our proposed model (see Figure 19.1) suggests the critical nature of collaboration and co-teaching in the upper

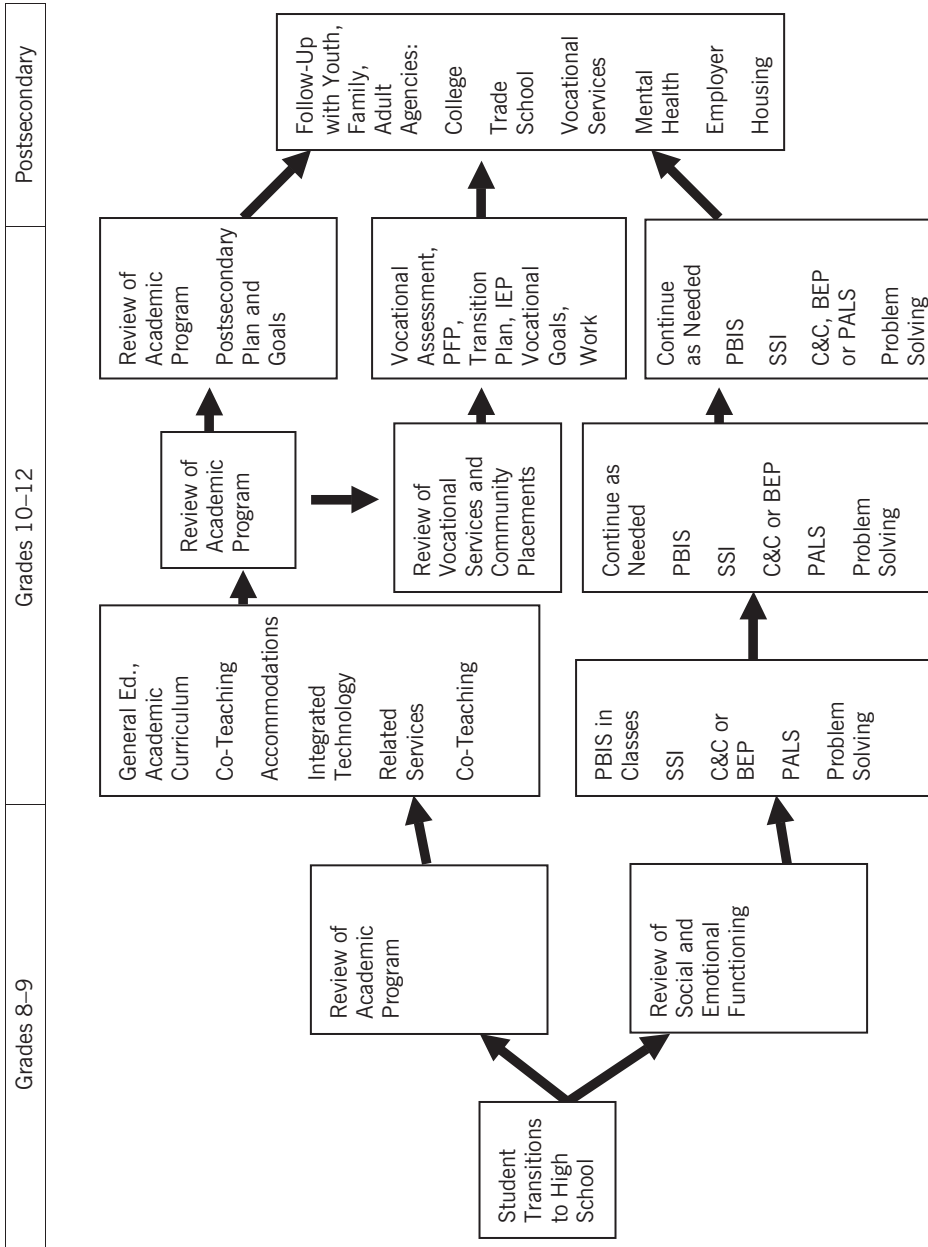


FIGURE 19.1. Pathways and content for students with EBD in high school.

pathway, which emphasizes academic competence.

Academic Instruction

Along with collaboration, the importance of academic instruction, accommodations, and interventions cannot be overemphasized for students with EBD. The research literature repeatedly documents the connection between behavioral problems and the deficiency of academic achievement (Bottge, Rueda, & Skivington, 2006; Griffith, Trout, Hagaman, & Harper, 2008). Students with EBD, however, often lack a challenging academic curriculum in high school. By the time students with EBD reach high school, their academic performance is significantly below that of their peers (Griffith et al., 2008; Lane, Carter, Pierson, & Glaeser, 2006), and they are likely to drop out (U.S. Department of Education, 2008). Vannest, Harrison, Temple-Harvey, Parker, and Ramsey (2011) have noted that motivation, confidence, and reinforcement must be addressed in conjunction with a student's academic ability. Moreover, it is crucial for teaching strategies in the inclusive classroom to increase the academic achievement of all students, due to the strong focus on high-stakes testing.

Lane and colleagues (2006) and Nelson, Benner, Lane, and Smith (2004) have examined the academic, social, and behavioral characteristics of students with EBD. Lane and colleagues compared 45 high school students with EBD to 49 high school students with learning disabilities (LD), while Nelson and colleagues analyzed academic and behavioral data for 88 children (ages 5–12) and 67 adolescents (ages 13–19) with EBD. Using the Woodcock–Johnson III subtests of Reading, Language, and Math (Woodcock, McGrew, & Mather, 2001), Lane and colleagues found that adolescents with EBD or with LD were performing nearly two standard deviations below the mean on these tests. Teachers, however, viewed students with EBD as performing less well than those with LD on these subtests of academic competence from the Woodcock–Johnson, most likely due to the interference of their behavioral or emotional issues with performance on classroom assignments. Nelson and col-

leagues found that students with EBD were underachieving across the grades in reading and writing, and that their mathematics achievement scores decreased by at least 10 points during high school. The authors speculated that these declines in mathematics were due to deficits in reasoning skills, and that students' externalizing behaviors (i.e., disruptions, aggression) influenced academic underachievement in content areas. Given the additive effects of underachievement and disruptive behavior, educating students in content-area classes in high schools is difficult without special accommodations and modifications.

Ryan, Pierce, and Mooney (2008) reviewed the literature and reported evidence-based academic practices that clustered in three categories: peer-mediated, self-mediated, and teacher-mediated. Some types of peer-mediated interventions found to have positive effects across content areas included various forms of tutoring and modeling. Effective self-mediated interventions included self-monitoring and evaluation, goal setting, and strategy instruction. Teacher-mediated interventions included modeling, planning, life space interviewing, sequential prompting, and adjusting presentations. Bost and Riccomini (2006) noted that instructional strategies including active engagement, increased opportunities to respond, small-group instruction, scaffolding, instruction to activate student learning, and explicit instruction were important in high school. But it is difficult to determine how to use such strategies in content courses like math or science to improve the academic performance of students with EBD. Krezmien and Mulcahy (2008) reported that credit earning in classes was limited for students with EBD, and that for college preparation to become a reality, co-teaching, academic accommodations, close monitoring, and specific peer or individually mediated interventions are needed to assist these students.

In addition, students with EBD typically need support with their reading and writing skills. Wilkerson, Gagnon, Melekoglu, and Cakiroglu (2010) found that a national sample of 351 reading or English teachers in secondary day or residential treatment schools for youth with EBD frequently used research-based instructional approaches, but rarely integrated technology or peer tutoring into

instruction. The most frequently reported instructional strategies to improve reading were asking comprehension questions, vocabulary instruction, guided oral reading, and asking clarifying questions. Increased use of technology was recommended for students with EBD, as technology allows better access to the general education curriculum. (See “Technology Use,” below.)

The “self-regulated strategy development” approach has been found to be effective for youth and adults with EBD in improving writing skills, and it has also been related to achieving academic gains in high school (Graham & Perin, 2007). Berry and Mason (2012) similarly found that this approach improved writing skills and ultimately was related to young adults’ ability to obtain their General Equivalency Diplomas.

Beyond the positive findings from the use of instructional strategies in reading and writing, subject-specific academic interventions must continue to be developed for general education teachers in high schools. Without increased assistance for students with disabilities, the demands to learn content areas can amplify frustration, academic failure, loss of access to the general curriculum, and loss of future opportunities in society (Scruggs, Mastropieri, Berkeley, & Graetz, 2010). Educating youth with EBD, for example, can only be effective if evidence-based practices are used with integrity throughout the school days/careers of these students. The implication of these academic findings is that secondary students with EBD require a tailored academic program that uses evidence-based practices in content-area classes and accommodations for specific needs, all coordinated as a schoolwide approach. This is indeed a challenging task for contemporary high schools to address in today’s fiscally stressed school environments!

Technology Use

Technology must be carefully interwoven into all aspects of a student’s curriculum. The IDEA legislation of 1990 emphasized the importance of technology in computer-assisted instruction (CAI) and in supporting individuals with disabilities. CAI may meet many of the unique curriculum needs of

students with EBD by decreasing disruptive behavior, while increasing student motivation and academic engagement (Fitzgerald, 2005). Using instructional technology in the classroom also provides an opportunity for students to collaborate on academic work, and thus to learn social skills in authentic settings (Wetzel, 2001). Increasing access and use of technology for students with EBD should be directly linked to academic, behavioral, and social goals for these students (Wilkerson et al., 2010). Personal digital assistants, smartphones, and tablet computers, for example, have changed the way people access information. Schools are adopting these mobile technologies for everything from textbook replacement to assistive technology. Despite the devices’ large potential for individualizing teaching, learning, and communication, these are relatively new technologies, and the evidence base to support their use as teaching and learning tools in special education generally (and for students with EBD specifically) is scarce. The limited research that is available on CAI with this population can be applied to the use of mobile devices such as the iPad. Mobile technology can also be incorporated into practices that have already been shown to have a strong evidence base.

The iPad’s built-in cameras can be used by students in conjunction with a video-editing application (app) to record, edit, and save their own content for role plays in social skills instruction (SSI). Commercial apps can also assist students and teachers in collecting data for functional behavioral assessments (FBAs) and writing behavioral intervention plans (BIPs). Apps are available for SSI and have premade video models that students can watch at any time, anywhere. Schools and families are using apps to implement and monitor token economies and reward systems. Mobile devices can be used by students to self-monitor their behavior, since self-monitoring is documented as an effective strategy for students with EBD. Gulchak (2008) reported that using a handheld device with a programmed alert system for self-monitoring increased the on-task behavior of an elementary school student by 34%. It is likely that high school students with EBD can discreetly self-monitor their behavior on a device that is popular with their peers. Although these results are prom-

ising, more research is necessary regarding high school students' use of mobile devices to self-monitor their behavior and performance.

Video Technology

“Video modeling” consists of a student’s viewing and learning from a video-recorded vignette of an exemplary target behavior, performed by him- or herself, peers, or adults in relevant contexts. Baker, Lang, and O’Reilly (2009) reviewed a series of studies (three of which had high school students as participants) on the efficacy of video modeling. All 93 participants in their review experienced improvement in their target behaviors after the video modeling intervention. Video modeling has much potential as an effective intervention to improve the social skills of students having EBD. Cumming and colleagues (2008) studied the effects of supplementing traditional teacher-led SSI with student-created multimedia role plays for secondary students with EBD. Groups of students wrote, acted out, and recorded their own social skills scenarios, edited them on a computer, then saved them to a DVD. Each group then screened its role play for the rest of the class to be used as a review before the weekly skills quiz. Teachers’ perceptions of students’ social skills increased, as did the students’ knowledge of social skills.

Live video technology/video conferencing can connect students with classmates and adults in real time. Grant and Dieker (2011) used this technology to provide web-based mentoring to black male students with EBD. This provided a conduit for the students to share their thoughts, seek advice, and become more engaged with school. The students involved in the study developed trusting relationships with the mentor in a short period of time. Web-based mentoring may provide students with EBD from diverse racial and ethnic backgrounds with an adult mentor they can relate to, especially in cases when having a live mentor is not geographically or otherwise feasible.

Virtual Technology

The term “virtual reality” includes both text- and graphic-based environments, and ranges from a simple simulation program to

full immersion that requires special equipment (Smedley & Higgins, 2005). Although research on the educational use of this technology has been going on for more than a decade, there is little reported in the literature on its usefulness for students with EBD. Goldsworthy, Barab, and Goldsworthy (2000) used a full-immersion virtual reality game to assist students with their social problem-solving skills, and found that students using interactive software performed comparably to students who received their instruction from a therapist. Nine years later, Erhlich and Miller (2009) designed a virtual environment similar to Second Life (a virtual reality website; see *www.secondlife.com*) to teach social skills to students with Asperger’s syndrome, and this approach received very positive feedback from parents, adolescents, and educational researchers. Neel (2006) has noted that virtual reality should help to engage students more fully in lessons, especially since a high percentage of them are skilled at using technology to play video games.

Social networking sites constitute another form of virtual technology that holds some promise in education, as many teens are very familiar with its format and spend considerable time interacting socially with others through such platforms (Morgan, 2010). Morgan also discusses ways to use social networking to teach social skills to students with EBD, by creating a “home” profile and posting scenarios for groups of students to respond to and present their responses to classmates. Students can also develop scenarios to post on peers’ profiles and receive feedback. Teachers using this approach to SSI should keep in mind that students may require instruction in using the Internet and social networking sites safely, and to obtain permission from both the school administration and parents before implementing this strategy.

Social-Behavioral Interventions

The lower pathway of the proposed model in Figure 19.1 emphasizes the importance of enhancing the social competence of youth with EBD, since social competence deficits and related psychopathology put them at greater risk for school failure than their

typically developing peers (Cook et al., 2008). High schools must then find ways to implement effective intervention strategies that address social competence. Lane, Pierson, and Givner (2004) have suggested that social-emotional interventions should be integrated into the academic programs of students to maximize generalization of the social or academic behavior across the school day.

Positive behavioral interventions and supports (PBIS) is a three-tiered system that involves the development and implementation of effective instructional systems and supports for improving academic and social behaviors, while decreasing the problem behaviors of students. Its key features are prediction, prevention, consistency, and evaluation, which are applied in schoolwide classroom and nonclassroom situations to support all students (Scott, Park, Swain-Bradway, & Landers, 2007). Research supporting PBIS has shown it to be effective in lowering the rate of school office and special education referrals, so it is an appropriate framework in which to develop and design interventions for high school students with EBD (Flannery & Sugai, 2010; Young, Caldarella, Richardson, & Young, 2012). Cheney and Jewell's (2012) review of PBIS and students with EBD suggested that most of the PBIS findings to date relating to students with EBD are at Tiers 2 and 3 of the model. Classwide strategies and teacher-student relationships at Tier 1, however, are important since the majority of students with EBD receive their education in general education settings. Additional information on PBIS is provided by Sprague, Jolivette, and Nelson (Chapter 14, this volume).

Classwide Strategies

Many evidence-based Tier 1 strategies for addressing problem classroom behavior are anchored in controlling antecedents and consequences in the school setting and classroom(s). They include (1) physical organization of the classroom; (2) teaching clear expectations and routines to the students; (3) positive systems of reinforcement; (4) instructional restructuring (pacing, opportunities for student responses, full use of instructional time); (5) frequent teacher movement patterns; and (6) providing frequent praise

and opportunities to respond (Ryan et al., 2008; Sutherland, Lewis-Palmer, Stitche, & Morgan, 2008). The physical layout of the classroom should support students' emotional and behavioral needs, and seating arrangements should allow the teacher to use proximity control and quick access to engage all students (Emmer & Evertson, 2013; Neel, Cessna, Borock, & Bechard, 2003). By being physically close to students, teachers can monitor and redirect their behavior, thereby preventing problems before they occur. All necessary teaching and learning materials should be readily available to avoid disruptions in instruction. Classroom and school-wide expectations, the daily schedule, assignments, and emergency procedures should all be clearly posted. These are critical features that should occur in both general and special education settings and should support the consistent management of classroom ecologies.

Before any other strategies can be implemented, a set of classroom expectations should be developed and taught to the class. These expectations, or rules, should be few in number (three to five) and must be stated clearly and positively. In other words, the rules should tell students what they should be doing rather than what they shouldn't be doing. The rules should also be enforceable, in that they are focused on observable behaviors. The rules and their rationales should be taught directly to the students by using natural examples (Strout, 2005). In addition, the expectations should also be displayed prominently in the classroom, referred to regularly, and enforced equitably (Lewis, Hudson, Richter, & Johnson, 2004).

A robust research base suggests that praise is very effective at increasing social and behavioral competencies in students. Despite this, teachers still use threats, nagging, criticisms, and reprimands to deal with inappropriate behavior. In all likelihood, this will only increase the inappropriate behavior that the teachers are trying to eliminate (Alberto & Troutman, 2009). On the other hand, effective praise—in other words, praise that is contingent, immediate, specific, and delivered in close proximity to students—has been associated with increased levels of appropriate behavior, correct responses, and student engagement (Alberto & Troutman, 2009).

Supportive Teacher–Student Relationships

Fostering positive teacher–student relationships has been related to improved academic achievement for students with EBD (Mihalas, Morse, Allsopp, & McHatton, 2009). Studies conducted with both the general school population and students with mild disabilities highlight the importance of positive social interactions with both peers and adults as a factor for school completion (Reschly & Christenson, 2006). Mihalas and colleagues (2009) have stressed the importance of positive behavioral supports and creating school and classroom environments that value and emphasize caring. Murray (2002) has recommended several practices for teachers to use when working with adolescents having high-incidence disabilities. These include developing supportive relationships with students; teaching students social skills for developing positive relationships with adults and peers; learning about students' backgrounds, interests, and lives; developing an awareness of personal biases regarding students' ethnicity, culture, and gender, and how they can affect teacher–student interactions; and modeling the appropriate behaviors that students are expected to use.

When a problem occurs, Sprick (2006) has recommended teacher–student discussion of ways to resolve the problem situation. This involves scheduling a meeting when both teacher and student stress levels are low, and when one or more adults are communicating with a student about a concern and the need to develop a plan to resolve it. These discussions are a good way to involve the student in brainstorming solutions to his or her own problems, as well as letting the student know that the teacher is there to help. The teacher can ask in-depth questions, encourage the student to talk about more productive social goals, and develop a behavioral contract if necessary as a plan of action that details both student and teacher responsibilities. This type of active listening and communication promotes understanding and can go a long way in building trust and establishing rapport.

Other suggestions for building positive, supportive teacher–student relationships are as follows: (1) inviting students to be partners in their education; (2) giving students

a voice by asking them for feedback about their teachers' performance; (3) having students keep journals about their experiences, and then reading the journals and providing feedback and support; (4) celebrating both academic and behavioral successes with students, and using these occasions to teach students to reward themselves; and (5) collaborating with other teachers and related professionals to implement relationship-building practices with students having EBD (Mihalas et al., 2009). The strategies listed above take time and commitment. It may be easier to share the responsibility with others, which will give everyone a chance to build stronger relationships with students having EBD.

Small-Group Strategies at Tier 2

Because school engagement and dropout are significant problems for students with EBD, educators must focus their attention on factors involved in these problems that are amenable to school intervention. For students, these factors include (1) assignment and homework completion, (2) attendance, (3) productive behavior, (4) preparation for class, and (5) supervision and monitoring to earn passing grades and credits. Parents can positively influence school success by providing their children with academic and motivational support, monitoring their activities, and simply having high expectations for school completion. A school can influence students' school completion by providing orderly environments characterized by fair discipline policies and caring, along with committed teachers who help students succeed (Reschly & Christenson, 2006). Check and Connect (C&C) and the Behavior Education Program (BEP) use these features with students during Tier 2 interventions and are briefly described next, along with SSI.

Check and Connect

The C&C model was developed to prevent dropout and increase the school engagement of middle school students with disabilities (Sinclair, Christenson, Evelo, & Hurley, 1998). C&C is an evidence-based, Tier 2 student support system consisting of close monitoring of school performance,

mentoring, case management, and other supports. The Check component consists of the continuous, systematic assessment of student attendance, suspensions, grades, and credits, in order to determine the level of student engagement with the school. The Connect component is the individualized intervention portion of the model; it involves a school staff member's monitoring student progress, intervening when necessary, and providing individualized attention to students, in collaboration with other school personnel, family members, and community service providers. The monitor (1) meets with students regularly to discuss progress and help solve problems, (2) intervenes when problems are identified, (3) advocates for students, (4) coordinates services, (5) provides ongoing feedback and encouragement, and (6) stresses the importance of staying in school (Sinclair, Christenson, & Thurlow, 2005). C&C has undergone many empirical tests, and the intervention has successfully increased school engagement and reduced the problem behavior of middle and high school students with LD or EBD (Sinclair et al., 2005). Sinclair and colleagues (1998) used the C&C approach with primarily African American male high school students having EBD across a 5-year study. When compared to a control group, students in C&C had fewer dropouts and more participation in post-high school transition plans.

Behavior Education Program

The BEP, developed by Crone, Hawken, and Horner (2010), uses the "check-in/check-out" (CICO) approach. A designated adult checks in each morning to review student behavioral goals and discusses any current issues with each student in the program. The student carries a daily progress report (DPR) for recording adult behavioral feedback throughout the day, and checks out with the designated adult at the end of the day on the DPR goals. The CICO program involves parents, as they review and sign the DPR daily, and then, the student returns it to school the next day. The daily DPR data are recorded and used by the behavioral support team for data-based decision making (Crone et al., 2010). The program has been adapted for high school (HS-BEP) and shows promise as an effective intervention for use

in that setting (Swain-Bradway & Horner, 2010). The HS-BEP has two components: an academic support class and participation in a DPR strategy. By combining academic and social supports, the program addresses the interrelatedness of academic failure and problem behavior. The primary focus of the HS-BEP is on providing support with academic tasks through explicit instruction in organizational skills and homework completion. It also supports students socially in their use of their self-management skills. Students receive contingent reinforcement from teachers through their use of the DPR (Swain-Bradway & Horner, 2010).

Social Skills Instruction

SSI is an effective small-group intervention to improve the social competence of youth with EBD (Cook et al., 2008). SSI teaches specific behaviors that contribute to improved interpersonal interactions (Miller, Lane, & Wehby, 2005). The skills taught range from the most basic (e.g., greeting someone) to the most complex (e.g., making a high-stakes decision involving others) (Goldstein & McGinnis, 1997). Although many SSI programs are available, their common features primarily focus on the acquisition, performance, generalization, and maintenance of adaptive social behavior while reducing or eliminating inappropriate behavior (Cook et al., 2008).

Individual Strategies at Tier 3

When a student does not respond to a small-group, Tier 2 intervention, more intensive individualized interventions are required. An FBA is conducted in Tier 3 to identify the environmental factors that may be affecting a student's behavior. A comprehensive BIP is then designed to prevent future problem behavior by adjusting the student's environment, teaching new skills, and reinforcing appropriate behavior while removing or reducing reinforcement for inappropriate behavior. One of the most important features of FBA-based support is that procedures are designed to monitor, evaluate, and reassess the support plan as necessary. FBA and positive behavioral supports have a strong evidence base in the literature (Horner, Sugai, & Anderson, 2010), indicating that they

can effectively reduce problem behavior and increase appropriate or target behaviors. Below we highlight several individual interventions that may be implemented as part of implementing a behavior support plan. A cognitive-behavioral intervention (CBI), for example, is defined on the National Dissemination Center for Children with Disabilities (2010) website as

a behavior modification approach that promotes self-control skills and reflective problem-solving strategies. Interventions combine elements of behavior therapy (modeling, feedback, reinforcement) with cognitive approaches (problem solving, self-monitoring, self-instruction, communication skill building, relaxation, and situational self-awareness training) to teach individuals to recognize difficult situations, think of possible solutions, and select the most appropriate response.

Behavioral contingencies, in which a student is reinforced in relation to the appropriateness of his or her behavior, are commonly included in CBIs (Cobb, Sample, Alwell, & Johns, 2006). Common forms of behavioral contingencies are token economies and behavioral contracting. Cobb and colleagues (2006) conducted a review of CBIs and their relationship to dropout among high school students with behavioral disabilities and LD. They argued that the evidence base is sufficient to suggest that CBI reduces both dropout and its behavioral precursors, such as verbal and physical aggression. Their review also indicated that CBIs work equally well for adolescents with differing disabilities across varied settings.

Positive Alternative Learning Supports

Positive Alternative Learning Supports (PALS) was created to support the approximately 10% of students with chronic behavior problems who have difficulty making academic progress. It is a collaborative, school-based approach using FBA and multicomponent interventions. This type of antecedent-consequence approach has over 40 years of research support and consists of academic and behavioral supports, counseling, SSI, and mentoring (Arter, 2007). Arter has outlined steps for implementing PALS with secondary students as follows: First, conduct an FBA and design a BIP that con-

tains the elements just described. Second, assemble a behavioral team that leads the process and that can competently complete student, teacher, and parent interviews; review records; conduct FBAs; develop BIPs; and administer the key components of PALS. One of the most important PALS features is a mentoring component, in which mentors deliver positive reinforcement to students for their appropriate behavior to break the cycle of reactive behavior between students and their teachers. This combination of adult mentoring, along with academic and behavioral supports, has increased both achievement and attendance outcomes for adolescents with EBD.

Mental Health Services and Interagency Coordination

Up to 20% of adolescents manifest mental health symptoms or disorders, but the necessary infrastructure for addressing their mental health needs is fragmented (Adelman & Taylor, 2006). Two primary approaches—"school-based mental health" (SBMH) and the "wraparound" process—appear to be the most promising in meeting the social, emotional, and behavioral needs of adolescents. SBMH enhances access to behavioral health services when clinicians are located within high schools, and it may promote generalization and maintenance of treatment gains. SBMH programs have the potential to promote students' broader school outcomes, reducing inappropriate referrals to special education, decreasing discipline problems, and promoting academic gains (Walker, Kearns, Lyon, Bruns, & Cosgrove, 2010). SBMH encourages schools to identify students who are *at risk* of developing psychiatric conditions that pose barriers to learning and address their issues more readily and efficiently (Kutash, Dunchnowski, & Lynn, 2006). Mental health treatments delivered in schools also can be organized within a response-to-intervention (RTI) approach for coordinating and delivering identification, assessment, and intervention services; RTI ensures that all students receive the best options matched to their individual needs (Cheney & Jewell, 2012).

Adolescents with depression, for example, may benefit from SBMH due to their diffi-

culties with problem solving, memory, motivation, task completion, and social interactions that affect their learning (Crundwell & Killu, 2007). They may appear irritable and argumentative, display a lack of interest or boredom in classes, and have increased tardiness and truancy. An SBMH program could screen and monitor students who appear depressed and provide a supportive learning environment. Mental health professionals may assist teachers by designing, implementing, and coordinating these interventions. They may also work with families to access outside treatment as necessary. Although school-based and evidence-based practices are still emerging, the mental health professional and educators together can implement some common classroom strategies to assist students, such as (1) establishing clear expectations, (2) setting goals and monitoring adherence to them, (3) using problem-solving instruction as needed, (4) modifying the student's work based on his or her performance levels/stamina, (5) having the mental health professional serve as a case manager and coordinate interventions, (6) strategically providing opportunities for positive social interactions, and (7) implementing a home-school communication system.

One of the major factors that makes high school different from middle and elementary school is the focus on preparing students for postschool settings. Lane and Carter (2006) have acknowledged the lack of coordinated services to assist youth with EBD in making the transition to adult life, as well as the limited support for family participation in transition planning. Students with EBD and their families may require extra supports and planning in order to access mental health and other community services. Wraparound is one approach for organizing services and addressing student needs at the intensive tertiary level for students with EBD and their families (Swain-Bradway & Malloy, 2009). The wraparound plan is based on the unique needs of each student and family, must be culturally relevant, and must span multiple settings and life domains. The overall goal of the wraparound team is to support the student and his or her family in achieving agreed-on quality-of-life goals. When the wraparound plan is not working, the team needs to modify the plan. Data-based deci-

sion making in wraparound can be informed by the Systematic Information Management for Educational Outcomes (SIMEO) procedure. SIMEO's online database stores data regarding goals on the person-centered plan and enables the support team to review a student's progress efficiently (see Swain-Bradway & Malloy, 2009).

Vocational Education

The reauthorization of IDEA in 2004 focused on improving the academic and functional achievement of students with disabilities. The 2004 law emphasized that students should have the necessary skills to move from school to postschool activities (e.g., postsecondary education, vocational education, or employment). Transition planning must consider a youth's strengths, preferences, and interests. It must include (1) instruction, (2) related services, (3) community experiences, and (4) employment and other postschool adult living. It is critical to remember that a high school student's transition plan drives his or her individualized education program (IEP). We therefore include a third pathway in our model (see Figure 19.1), beginning in grade 10, based on Cheney's (2012) recommended curriculum features for youth with EBD. These features include (1) self-determination; (2) development of a "personal futures plan" (PFP); (4) IEPs carefully linked with transition plans; and (5) naturally supported vocational and community placements. Since most students with EBD struggle with an academically or college-oriented curriculum, it is important that a self-determination process be used to develop a PFP, as in many cases this reveals that a vocational emphasis is warranted.

Given that many skilled and semiskilled positions will be available in the coming 10 years that require 1–2 years of community college or on-the-job training, having community placements to orient students and teach them initial skills has been shown in several studies to increase longevity of employment for these students (Clark & Unruh, 2009). When high school transition teams assist students with EBD to enhance their self-determination skills, the students are more likely to obtain their desired employment outcomes and to engage in

competitive employment activities (Bullis, Moran, Todis, Benz, & Johnson, 2002). Youth with EBD have limited confidence in the effectiveness of their self-determination efforts, and consequently display low rates of self-determined behavior—that is, goal-directed, self-regulated, autonomous behavior (Carter, 2010). Korterling, Brazziel, and Sitlington (2010) have suggested that special educators may become more proficient at teaching self-determined forms of behavior only when they use a thorough assessment process to understand a student's background information, interests and preferences, aptitudes (or underlying abilities), academic skills, and employment-related skills. Assessment results can then be used for vocational planning through development of a PFP.

Malloy, Drake, Abate, and Cormier (2010) have discussed how a PFP is developed through conversations and graphic development of a student's current situation; relevant past experiences (both positive experiences and those that have not worked well); social networks and resources; goals, dreams, and wishes; challenges or possible roadblocks; and detailed steps in an action plan. For many students with EBD, a clear set of vocational goals can be outlined in a series of steps to assist the students in becoming engaged in an interesting job or vocation. The PFP is a vital tool in shaping an effective and self-determined IEP. Shriner, Plotner, and Rose (2010) provided several essential steps for integrating content from a PFP into a transition plan and an IEP. The reader is referred to Shriner and colleagues' work, which includes examples of how to link academic skills, social-behavioral skills, and transition-related outcomes to a youth's postschool outcomes.

Conclusion

Providing an engaging and effective curriculum to boost high school graduation, postsecondary engagement, and employment rates for youth with EBD has been a daunting challenge to school professionals for the past three decades. In this chapter, we have proposed a model that integrates evidence-based practices into the core con-

tent of a student's high school program. The model requires due diligence on the part of the entire high school staff to enhance collaborative practices and academic instruction. We have proposed that new and existing forms of technology be more fully integrated into a student's program, particularly to enhance SSI and social competence. As a student with EBD progresses toward grade 10/16 years of age, development of a carefully designed transition plan must take priority in the student's individual curriculum. The plan should access resources that provide vocational experiences and success if the student is not bound for postsecondary employment. Within either an academic or vocational pathway, adult agencies must be brought into the planning of coordinated efforts. If a school-based team can integrate all these necessary features, we are optimistic that high school completion and community integration can become more achievable outcomes for youth with EBD.

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GENERIC INTERVENTION APPROACHES

Addressing the Academic Problems and Challenges of Students with Emotional and Behavioral Disorders

J. Ron Nelson, Gregory J. Benner, and Janet Bohaty

A large body of literature indicates that the social and behavioral challenges of students with emotional and behavioral disorders (EBD) interfere with instruction and, in turn, result in learning difficulties (Greenbaum et al., 1996; Hagan-Burke et al., 2010; Hawkins, Farrington, & Catalano, 1998; Herrenkohl et al., 1998; Huizinga & Jakob-Chien, 1998; Lipsey & Derzon, 1998; Nelson, Benner, Lane, & Smith, 2004; Trout, Nordness, Pierce, & Epstein, 2003). Fortunately, several reviews of the literature suggest that students with or at risk of EBD respond to explicit teaching delivered in a range of instructional contexts (e.g., large-group, small-group, individual; Benner, Nelson, Ralston, & Mooney, 2010; Mooney, Epstein, Reid, & Nelson, 2003; Nelson, Lane, Benner, & Okjean, 2011; Ralston, Benner, Tsai, Riccomini, & Nelson, in press). This is good news to teachers seeking to improve the academic outcomes of these students because there is substantial evidence that explicit instruction is a powerful tool available to teachers of students with EBD (Nelson, Benner, & Mooney, 2008).

“Explicit instruction” is an unambiguous and direct approach to teaching, with an emphasis on providing students clear statements about what is to be learned, proceeding in small steps with concrete and varied examples, checking for student under-

standing, and achieving active and successful student participation (Baker, Fein, & Baker, 2010; Carnine & Kame’enui, 1992; Nelson et al., 2008; Rosenshine & Stevens, 1986). The concept of explicit instruction is not new to education. Its effectiveness for improving academic achievement is supported by research conducted over many years (Adams & Engelmann, 1996; National Reading Panel, 2000). Explicit instruction of key skills and strategies consistently produces greater effects than implicit or embedded instruction (Adams & Engelmann, 1996). These effects are more pronounced for students (such as those with EBD) who experience learning difficulties (Nelson et al., 2008).

In addition, students with EBD exhibit more task engagement and less disruptive behavior when teachers use explicit teaching methods. For example, Nelson, Johnson, and Marchand-Martella (1996) conducted a comparative analysis of the effects of explicit instruction, cooperative learning, and independent learning on the classroom behavior (i.e., on-task and disruptive behavior) of students with EBD. The results showed that there were distinct differences in the classroom behavior of students during the three instructional approaches: Students consistently displayed higher rates of on-task behavior and lower rates of disrupt-

tive behavior during explicit instruction. These results, like the literature reviews cited above, indicate that explicit instruction is a powerful tool available to teachers to improve the classroom behavior of students with EBD.

In this chapter, we begin with a discussion of the underlying behavioral mechanisms leading to limited amounts of instruction provided by teachers to students with EBD. Despite the fact that students with EBD are responsive to explicit teaching methods, teachers often fail to actively teach this population of students. Thus it is essential that teachers be aware of the behavioral mechanisms leading to limited instruction and integrate behavioral interventions with explicit instruction to counteract them. We then describe a group-oriented behavioral intervention that is specifically designed for large- and small-group instruction. Group-oriented behavioral interventions may be more economical than individualized ones for instructional situations. Following the description of this intervention, we detail the key elements of explicit instruction that are directly linked to improved academic performance. These elements include instructional momentum techniques and the functions of an explicit instruction lesson. Finally, we summarize the key points discussed in the chapter.

Underlying Behavioral Mechanisms Leading to Limited Instruction

One of the largest impediments to improving the academic instruction provided to students is the fact that teachers tend to focus more attention on interventions and techniques designed to ameliorate student behavior, in an effort to create a classroom environment that is conducive to instruction (Levy & Chard, 2001). The assumption is that academic instruction cannot occur unless student behavior is under control. The ultimate result, however, is that so much teacher attention is devoted to managing disruptive behavior that academic instruction is not afforded much time or careful attention. Teachers of students with EBD only devote approximately 30% of the school day to academic instruction (Wehby, Lane, & Falk, 2003). Furthermore, several studies have

shown that the more often students exhibit disruptive behavior, the less likely they are to receive instruction from teachers (Wehby, Symons, Canale, & Go, 1998).

“Coercion theory” provides an explanation for the lack of instructional focus for students with EBD (Patterson, 1982, 1995). Patterson (1982, 1995) developed coercion theory and provided supporting evidence by studying coercive interaction patterns in families that lead to EBD. Coercive family interaction patterns are thought to develop as follows. A parent unknowingly reinforces a child’s coercive behavior (disruptive behaviors used to control the behavior of others) by nagging, scolding, and yelling when the child misbehaves. This behavior initiates a coercive interaction pattern with the child. If the child continues to misbehave despite the parent’s coercive behavior (e.g., threats of punitive measures, scolding), the parent eventually reaches an exhaustion point, at which point negative reinforcement of the child’s disruptive behavior occurs when the parent fails to follow through with the threatened punitive measure. Because the parent backs down and fails to discipline the child adequately, the child learns that he or she can coerce the parent into meeting the child’s needs. The child becomes aware that if he or she continues to misbehave or respond to the parent’s coercive behavior with severe disruptive behavior, this can shape parental (and other adult) behavior for the child’s own benefit.

Research indicates that these same coercive interaction patterns occur between teachers and students who exhibit disruptive behaviors; the result is that the students’ behavior directs the teachers away from instruction (Nelson & Roberts, 2000). The sequence of teacher instruction, followed by student noncompliant or disruptive behavior, leads to escape and avoidance behaviors by the teachers (Gunter, Jack, DePaepe, Reed, & Harrison, 1994; Wehby et al., 1998). The ultimate result is that teachers reduce their overall curriculum demands and often terminate instruction by removing these students from the classroom. This suggests that students who exhibit disruptive behavior end up directing the level and amount of academic instruction they receive. Improving the learning outcomes of students with EBD requires teachers to understand the

underlying behavioral mechanisms and processes that cause them to focus more attention on remediating the behavior difficulties of students than on teaching. Although an awareness of the behavioral mechanisms is necessary for teachers to emphasize the use of both explicit instruction and the management of behavior, teachers need to integrate behavioral interventions with explicit teaching techniques to counteract them directly.

A Group-Oriented Behavior Intervention for Large- and Small-Group Instruction

In this section, we describe a group-oriented behavior intervention (i.e., the “effortful engagement strategy”) that is designed specifically for large- and small-group instruction (Nelson et al., 2008). This strategy is a standard-protocol behavior intervention designed to meet the needs of a range of students who exhibit behavioral difficulties. Although the effectiveness of several individualized behavioral interventions (e.g., student choice, reinforcement, self-management) has been documented, application at the individual level may not be prudent when several students in a classroom exhibit disruptive behavior and when most instruction is delivered to groups of students. Under typical group instruction conditions, interventions targeted at the group level may be more economical. Thus we describe a group-oriented behavioral intervention that is designed to be integrated directly with instruction.

Before going on, we acknowledge that individualized interventions are often necessary. Two chapters in this volume (Shinn, Chapter 9, and Marquez, Yeaton, & Vincent, Chapter 10) focus on progress monitoring procedures for academic and behavioral performance, respectively. We also acknowledge that the foundation for improving the behavior of students with EBD during instruction is effective classroom management and schoolwide positive behavioral interventions and supports (SWPBIS). The ability of teachers to organize classrooms and manage the behavior of students establishes the environmental context that makes good instruction possible (Emmer & Stough, 2001; Oliver & Reschly, 2007). See the What Works Clearinghouse practice guide on elementary class-

room management for a review of evidence-based practices (Epstein, Atkins, Cullinan, Kutash, & Weaver, 2008). In addition, see Sprague, Jolivette, and Nelson (Chapter 14, this volume) for a description of the elements of SWPBIS.

The effortful engagement strategy is a competition-based behavior management strategy between the teacher and students used in instructional situations. The game format encourages students to manage their own and peers’ behavior through a process of group reinforcement and mutual self-interest. The effortful engagement strategy also helps teachers avoid coercive teacher–student interactions prompted by disruptive behavior occurring during instruction by redirecting students in a nonconfrontational way when they demonstrate such behavior.

The effortful engagement strategy is based on the Good Behavior Game, a validated classroom management procedure grounded in behavioral theory (Barrish, Saunders, & Wolf, 1969). Teachers may use it in conjunction with any individual behavior management system, such as a token economy. The effortful engagement strategy is user-friendly and can be implemented in a range of instructional contexts, including large and small groups within the core curriculum (Tier 1), instruction (i.e., Tiers 2 & 3), and support classrooms (e.g., special education).

The effortful engagement strategy has three behavioral components: (1) establishing expectations from teachers to students, (2) teaching students the expectations, and (3) reinforcing and managing expectations. Initially, these activities are implemented in this sequence. These steps are also recursive; teachers are encouraged to revisit any of the activities whenever needed, such as after an increase in disruptive behaviors or when introducing a new expectation. A detailed explanation of the behavioral components follows.

Establishing Expectations

The first step is for teachers to operationally define a small number of positively stated expectations. Operationally defining the expectations for specific instructional situations is critical to communicating and teaching these expectations to students. The expectations are specific to the instructional

situation and rely on more general classroom expectations, such as how to follow directions. Expectations (three to five for each instructional situation) are stated positively. We provide examples of operational definitions for large- and small-group instruction below. Of course, these can be adjusted to meet the specific needs of teachers and the specific instructional situations that occur in their classrooms. In addition, there is substantial overlap in the expectations across the instructional situations. This makes it relatively easy for teachers and students to use the effortful engagement strategy in varied instructional situations beyond large- and small-group instruction, simply by adjusting the expectations. The following are examples of expectations for large- and small-group instruction.

- *Demonstrate learner position.* Students' backs are against the back of the chair, feet are on the floor in front of the chair, and hands are together on desk/lap.
- *Look at the focus of instruction.* Students' eyes are on the instructional materials, the teacher, or a peer.
- *Answer on signal.* Students start and stop answering on teacher signals (group and individual).
- *Responses are teacher-initiated and subject-focused.* Students' responses are only initiated by the teacher and pertain only to the subject.
- *Use classroom voice.* Students use a voice that is loud enough for everyone in the group can hear, but they do not shout or yell.

Teaching Expectations

The second step is for teachers to systematically teach and review the expectations for each instructional situation during the first three instructional sessions. A three-step approach is used to teach students the expectations. First, teachers discuss the need for the expectations by helping students become aware of past problems, clarifying the expectations, and communicating their importance. Second, teachers explicitly and systematically teach the expectations. Using a T-chart, teachers discuss and model the expectations. Third, teachers structure a practice session. That is, immediately fol-

lowing the discussion of the expectations, teachers teach a lesson where the effortful engagement strategy is used. During the lesson, teachers continuously give immediate feedback to students; at the conclusion of the lesson, teachers engage the students in reflection on their performance. The expectations are reviewed on an intermittent basis or when students show increased classroom behavior problems. A three-step approach is used to teach students the expectations for the instructional situations.

Providing the Rationale

Students need to understand why the expectations are important. Teachers begin by having students identify problems they have experienced during instruction. Then the teachers point out to the students that most of these problems occur because students are unaware of what they are supposed to do during instructional situations. Students also have different ideas about what they need to be doing during instructional situations. Teachers share with students that all teachers have different ideas about what students should do, and that even the teachers themselves sometimes are unsure what they want students to do during instructional situations. Next, they talk with students about the expectations for an instructional situation. A laminated poster of the expectations should be posted in a visible location. The teachers point out that the primary goal of the expectations is to ensure student success. They communicate that it is important for all students to manage their own behavior and support their peers during instructional situations, so that all students can learn.

Teaching the Expectations

It is critical that teachers thoroughly teach the expectations to students. The goal is to identify for students exactly what they need to do and say in order to demonstrate the expectations. During the actual teaching of expectations, it is best to focus on one instructional situation at a time. In other words, teachers do not teach the expectations for all of the potential instructional situations that occur in the classroom at one time. It is possible, however, to teach the expectations for each instructional situation

as they naturally occur throughout the first few days of the school year. Teachers can create a transparency of the T-chart to use on an overhead projector, flip chart, whiteboard, or PowerPoint slide. Teachers begin by writing the particular expectation in the box at the top of the T-chart. Teachers discuss and model for students what students should do (“Looks Like”) and say (“Sounds Like”) when they demonstrate the expectation that is being taught. It is important for teachers to discuss and model for students both examples and nonexamples of the expectation. This process should be highly interactive. Teachers may call on students to model examples of the expectations, but they should avoid doing so in the case of nonexamples.

Practicing the Expectations

After teaching what the expectations look and sound like, teachers provide students with an immediate opportunity to practice them. The best way to do this is to plan an actual lesson that enables students to practice the skills. The content of the lesson should be simple and straightforward, so that students can focus primarily on the expectations during the lesson. During the lesson, teachers give students immediate feedback on the extent to which they are demonstrating the expectations. It is useful to focus both on the entire group and on individual students who are doing a good job with the expectations. Teachers refer to the posted “Looks Like, Sounds Like” T-chart in those cases in which students are not demonstrating a particular expectation correctly. At the end of the activity, teachers reflect on how well students demonstrated the expectations: They take a few minutes to brainstorm with the students all the good behaviors that were observed and the problem responses that need more practice.

Reinforcing and Managing Expectations

During the first three instructional sessions, teachers announce that they are going to use the effortful engagement strategy. The teachers explain how the game is played and implement the game. After the initial lessons, teachers use the game when it is clearly needed (i.e., when students are not demon-

strating the expected behavior) or at random intervals. Intermittent use of the game not only makes it more fun and exciting for students, but also serves to develop students’ self-control and to help them maintain and generalize appropriate classroom behavior.

A game format is used to reinforce and manage the classroom behavior of students. Students as a group score 5 points each time teachers notice the students demonstrating the expectations during an instructional situation or students are having success on lesson tasks. Teachers score 5 points each time they notice students exhibiting behavior that is disruptive to learning, but the teachers do not point out who is disrupting the lesson. Teachers decide when points are awarded. Teachers use an easily accessible small whiteboard (e.g., placed on lap or table in front of them) to make hash marks, which represent points, under a T-chart. One side of the T-chart is labeled “Teacher,” and the other is labeled “Student.” Teachers, for example, make five hash marks under the “Student” side of the T-chart when they notice students demonstrating the expectations or having success on lesson tasks. Teachers make five hash marks under the “Teacher” side of the T-chart when they notice students demonstrating disruptive behavior. This serves to redirect students toward the expected behaviors without initiating coercive teacher–student interactions or power struggles over disruptive behavior during instructional situations. The five hash marks represent 5 points.

Teachers tally the points recorded for students and teachers at the end of the instructional session. The teachers then provide students with social recognition or administers the appropriate prize, privilege, or special activity if the students win the game. If teachers win the game, they point out the behavior students need to work on the next time. Teachers also should review with students the behavior the students need to focus on at the start of the next instructional situation.

Key Elements of Explicit Instruction

The ultimate goal of education is to ensure that students master the educational content, whether it is mathematics, language arts, sci-

ence, social studies, or history. Although all teachers use the elements of explicit instruction sometimes in their teaching, effective teachers use them all the time. We are confident that every teacher seeks to be an effective teacher. This requires teachers to use instructional momentum techniques and the functions of explicit instruction lessons, in conjunction with an in-depth understanding of the curriculum and of student skills and learning. Being an effective teacher also requires judgment about which students need extra help or practice, and when to adjust their use of the functions of explicit

instruction. The elements of explicit instruction are summarized in Table 20.1 and are described in the remainder of this section. We also provide an example of a generic explicit instruction routine that includes the functions of explicit instruction in Table 20.2.

It is important to note that the functions of explicit instruction should be used, whether teachers are teaching at the Tier 1, Tier 2, or Tier 3 levels within multi-tiered or response-to-intervention (RTI) instruction. Our experience indicates that, with few exceptions (e.g., Direct Instruction

TABLE 20.1. Summary of Key Elements of Explicit Instruction

<u>Instructional momentum</u>	
<ul style="list-style-type: none"> • Lesson pacing <ul style="list-style-type: none"> ◦ Organize all lesson materials ◦ Use varied activities to accomplish instructional activities ◦ Use a predictable lesson format • Transitions <ul style="list-style-type: none"> ◦ Establish routines for everyday tasks and activities (e.g., handing in homework) ◦ Follow guidelines for instructional transitions <ul style="list-style-type: none"> —Prepare students in advance for transitions —Establish a signal for student attention —Bring lesson to a close —Give clear directions for transitions —Monitor and provide student feedback on behavior during transitions —Start the next activity promptly 	<ul style="list-style-type: none"> • Specific and concrete procedures <ul style="list-style-type: none"> ◦ Model content being covered as appropriate ◦ Use concrete and varied examples in conjunction with modeling and explanations • Checking for student understanding <ul style="list-style-type: none"> ◦ Ensure students understand one point before moving on to the next ◦ Have students summarize the content taught in their own words ◦ Reteach if mastery is low
<u>Function 1: Daily review and prerequisite skill check</u>	
<ul style="list-style-type: none"> • Daily review <ul style="list-style-type: none"> ◦ Review previous learning <ul style="list-style-type: none"> —Require active responding by all students ◦ Reteach if student mastery is low • Prerequisite skill check <ul style="list-style-type: none"> ◦ Review/teach prerequisite content <ul style="list-style-type: none"> —Basic skills —Strategies —Generalizable concepts 	<p><u>Function 3: Guided practice</u></p> <ul style="list-style-type: none"> • Student practice under teacher supervision as content is presented <ul style="list-style-type: none"> ◦ Students should achieve 80% or higher success rate before moving to independent practice ◦ Reteach if mastery is low
<u>Function 2: Teaching of new content</u>	
<ul style="list-style-type: none"> • Clarity of goals and main points <ul style="list-style-type: none"> ◦ Tell students what they are learning and why they are learning it ◦ Focus on one thought, point, or direction at a time • Step-by-step presentations <ul style="list-style-type: none"> ◦ Present new content in small steps ◦ Give directions in a step-by-step fashion ◦ Use instructional scaffolds (e.g., graphic organizers) when presenting complex information 	<p><u>Function 4: Independent practice</u></p> <ul style="list-style-type: none"> • Overlearning of content <ul style="list-style-type: none"> ◦ Tell students the purpose of practice ◦ Students should achieve 95% or higher success rate ◦ Reteach if mastery is low
<u>Function 5: Weekly and monthly reviews</u>	
<ul style="list-style-type: none"> • Weekly review of content taught <ul style="list-style-type: none"> ◦ Weekly mastery tests • Monthly review of content taught <ul style="list-style-type: none"> ◦ Comprehensive projects, reports, or tests 	

TABLE 20.2. Example of Generic Explicit Instruction Routine: Explicit Instruction Functions with Associated Teacher Prompts

Daily review and prerequisite skill check

- “Yesterday, we learned . . .” (daily review)
- “Before we learn . . . , we need to know how to/about . . .” (prerequisite skill check)

Teaching of new content

- “Today we are going to learn . . .”
- “The reason we are learning this is . . .”
- “Watch me [or listen to me] as I . . .” (demonstrating and describing)

Guided practice

- “Now let’s do this together.”
- Students respond, with scaffolding (e.g., prompts, graphic organizers)

Independent practice

- “Now let’s see you do this on your own.”
- “I want you to . . . when you’re working independently today.”

Weekly and monthly reviews

- “Let’s review what we have learned.”
- “I want you to . . .”

Note. Students are actively involved throughout the lesson and are required to demonstrate understanding.

programs from SRA/McGraw-Hill, *www.sra.com*), lessons in most core curriculum programs used by schools do not incorporate either directly or consistently the functions of explicit instruction. Thus teachers must systematically modify their lessons to ensure they incorporate these explicit design principles. In contrast, most evidence-based supplemental interventions designed to be delivered at Tier 2 and/or Tier 3 instructional levels include the functions of explicit instruction (for a list of programs that have been evaluated for effectiveness, see the What Works Clearinghouse review of interventions, <http://ies.ed.gov/ncee/wwc>). Most evidence-based interventions include a carefully planned sequence of instruction. These programs are likely to include plans for instruction that are carefully thought out, build upon prior learning, are strategic (i.e., build from the simple to the complex), include instructional stimuli that are necessary for instruction, and incorporate the functions of explicit instruction.

Achieving Instructional Momentum during Lessons

Research into effective teaching has shown that teachers must also achieve “instructional momentum” during lessons (Rosenshine & Stevens, 1986). Instructional momentum ensures that students move through lessons efficiently and successfully. Students’ problem behavior is reduced if they are actively engaged in learning and are successful. The elements of instructional momentum include lesson pacing and transitions.

Lesson Pacing

Simply put, lesson pacing is the speed at which teachers and students move through a lesson. We can all remember a meeting or class that seemed to drag on forever, or one that seemed to move through in a flash. Good lesson pacing gives students the perception that the lesson or class is moving at the right speed. Although there are many specific techniques teachers can use to improve lesson pacing, we highlight three important ones here. First, a relatively simple way to improve pacing is by preventing interruptions in the lesson due to misplaced or disorganized materials or instructional resources. Organizing all lesson materials and making them readily accessible will decrease interruptions during instruction and improve lesson pacing. Moving from one activity without preparation and organization will frustrate both teachers and students.

Second, teachers use a variety of work or activities to accomplish a single lesson objective, to create the perception that the lesson is moving quickly. For example, in teaching sight words, the teachers might organize the instruction like this: First, students read the words in isolation; then they read sentences using the sight words; and they conclude by spelling the words.

Finally, the use of a predictable lesson format improves the perception that the lesson is moving along quickly. Predictable lesson formats provide teachers and students with a consistent framework for each lesson (see the “Functions of an Explicit Instruction Lesson” section, below). Although the particular types of activities or work vary from lesson to lesson, the general instructional sequence stays the same (e.g., each lesson

typically begins and ends with a review activity). The general instructional sequence serves as a reference point in a lesson to give students a clear sense that the lesson is moving along.

Transitions

“Transitions” are periods of time when teachers direct students to end one task or activity and begin another (Arlin, 1979). Transitions occur an average of 15 times per day (Martella, Nelson, Marchand-Martella, & O’Reilly, 2012), so maintaining instructional momentum requires teachers to have effective transitions. The most effective transitions are rapid ones that have a clear beginning and end (Cangelosi, 2000). A majority of transitions involve routine everyday tasks and activities, such as handing in homework, lunch, and attendance. Establishing clear routines for accomplishing these everyday tasks and making certain students know of any changes to them will ensure that transitions are not chaotic.

Martella and colleagues (2012) provide general guidelines that teachers can use to improve instructional transitions. First, teachers should prepare students in advance for transitions. For example, teachers notify students a few minutes ahead of time, and then again as the current activity draws to a close. Second, teachers should establish a signal for student attention. For example, the teacher can ask for student attention by using an established cue (e.g., “Everyone, eyes on me”). Third, teachers should clearly bring the lesson to a close. For example, teachers may summarize the lesson before the transition occurs. Fourth, teachers should tell students what they want them to do during the transition. For example, they might say, “I need you to put your reading materials away and form a line at the doorway. We will be going to lunch when the bell rings.” Fifth, teachers should monitor and provide students feedback on their behavior during transitions. We recommend that teachers circulate among students during transitions times, to help students prepare for the next activity and quell any disruptions that occur. For example, they might move through the room answering any individual questions about the transition, and

then say at the end, “Everyone did a nice job putting their reading materials away and lining up for lunch.” Finally, it is important for teachers to start the next activity promptly. This will naturally reinforce students for making transitions and give them the perception that the instruction and the day are moving along.

Functions of an Explicit Instruction Lesson

The term “teaching functions” refers to teaching behaviors that occur during lessons and that are designed to move students from lack of mastery to mastery. Researchers have found that students achieve more when teachers emphasize five teaching functions during lessons (e.g., Good & Grouws, 1979; Rosenshine & Stevens, 1986): (1) daily review and prerequisite skill check, (2) teaching of new content, (3) guided student practice, (4) independent student practice, and (5) weekly and monthly reviews. Keep in mind that the use of each of the teaching functions during a lesson is important. However, the amount of time devoted to each function is also important. For example, guided practice has to be conducted not only at the right time during a lesson, but long enough to ensure that student mastery is achieved (i.e., low error rates) before students move to independent practice. We describe each of these teaching functions in the remainder of this section.

Daily Review and Prerequisite Skill Check

The first function in an explicit instructional lesson includes two activities: daily review and prerequisite skill check. Teachers initiate a lesson with activities designed to review the content covered in the previous lesson. These daily reviews provide clear indicators of the extent to which students have mastered the previously learned content. Teachers then check to see whether students have the prerequisite skills necessary for them to master the new content that will be covered in the lesson. Most concepts in mathematics, reading, and science require prerequisite skills or knowledge necessary for mastery and understanding. Teachers provide a connection across lessons through instruction and assessment of prerequisite skills.

DAILY REVIEW. An explicit instructional lesson begins with a daily review. This review helps students strengthen the connections among content they have learned. Mastery of skills and concepts requires a great deal of practice, and daily reviews are a part of this practice. Daily reviews should be designed to establish a work-oriented atmosphere. Thus the reviews should not involve a lengthy presentation by the teacher or passive participation by the students; effective daily reviews clearly require active participation. One of the most effective ways to do this is to conduct a review of the previous lesson by presenting a small set of problems requiring a written response from all students. These problems can be displayed on the screen, whiteboard, or worksheet in front of the students when the lesson begins. This will ensure that students are actively responding within the first few seconds at the start of the lesson. It is important that students be able to complete the review problems or materials with little difficulty. Another daily review activity that teachers might consider consists of correcting homework and reviewing the concepts and skills that were practiced as a part of the homework. Starting the lesson on a successful note will enhance the students' motivation to participate actively in the remainder of the lesson. Most behavior management issues will be reduced dramatically because students will get the message within the first few seconds of every lesson that they will be expected to participate.

PREREQUISITE CHECKS. Reviewing or teaching the prerequisite skills or knowledge necessary to understand the lesson is the next step in an explicit instructional lesson. Identifying these prerequisite skills and knowledge requires in-depth understanding of the curriculum and of students' skills and learning. This understanding is important for the successful introduction of new skills and concepts. The goal is to prevent errors and misconceptions on the part of students, rather than placing them in a remedial situation.

Although teachers must consider a range of prerequisite skills and knowledge, they should focus on skills that must be mastered to automaticity (e.g., letter sounds, math facts), strategies, and generalizable concepts.

Teachers should avoid teaching high-order strategies and concepts if students are struggling with the basic skills that underlie them. Students must achieve automaticity with basic skills if they are to apply higher-order strategies and concepts successfully. Automaticity is the ability to do things without having to think about them at a conscious level. If basic skills are not developed to automaticity, students expend too much cognitive attention and focus on them, inhibiting their ability to apply them to higher-order strategies and concepts. For example, working on reading comprehension strategies will do little good if students have not mastered the needed decoding skills.

Basic skills in all areas should be taught according to a "mastery-to-automaticity" instruction model (Nelson et al., 2008). Mastery instruction involves the controlled presentation of unknown skills. Unfortunately, teachers often tend not to take the next instructional step necessary for students to achieve automaticity with basic skills: Automaticity is achieved by the repeated presentation of known skills until students reach a 95% or higher rate of mastery. This is done through repeated short, timed instructional trials. The goal is for the students to overlearn the basic skills. A simple way to think about mastery-to-automaticity instruction is that the instruction systematically moves students from initial learning to overlearning a set of skills (e.g., math facts).

Strategy instruction provides students with the tools and techniques necessary to learn and understand new content. Teachers must explicitly teach students the steps necessary to perform tasks easily. They need to keep in mind that many tasks are accomplished by a series of logical steps that are not always evident to students. For example, to improve reading comprehension, teachers might teach students to make predictions as they read. They would begin by identifying the goal of the strategy: "We are going to learn to make predictions about what is going to happen next while reading. Making predictions as we read will help us to be active readers and understand what we read. Correct predictions signal that we understand what we read. Incorrect predictions may signal a misunderstanding that needs to be revisited." Teachers then teach students

the prediction strategy in a step-by-step fashion.

Teaching students generalizable concepts helps them to build connections across lessons within a content area. For example, in physical science, “convection” is a concept that helps explain movement of air in the atmosphere, ocean currents, and the movement of magma inside the earth. Once students are taught that convection is the movement in a gas or liquid in which the warmer parts move up and the colder parts move down, students will be able to integrate this information across many physical science topics. Of course, being able to identify generalizable concepts requires a deep understanding of the content area being taught.

Teaching of New Content

The second function in explicit instructional lessons is the teaching of new content. This is the most critical point in an explicit instructional lesson. The goal is to provide explicit instruction that allows the students to gain mastery of the new content and eliminates the need to provide remedial instruction. Effective teachers do not overwhelm students by presenting too much information. They present relatively small amounts of content at a time, and they ensure that students master each concept before the next one is introduced. Teachers should present new information by giving a series of short presentations with many examples. The examples make the learning concrete and help students to understand the new information. Teaching in small steps requires time. Effective teachers spend about 50–60% of a lesson teaching new content through demonstrations, discussions, and lectures, whereas the least effective teachers spend approximately 25% per lesson on the same activities (Evertson, Emmer, & Brophy, 1980). The teaching of new content includes the following (Rosenshine & Stevens, 1986): (1) clarity of goals and main points, (2) step-by-step presentations, (3) specific and concrete procedures, and (4) checking for student understanding.

CLARITY OF GOALS AND MAIN POINTS. Students are likely to learn more when they know the goals of the lesson. Knowing the instruc-

tional goals or objectives enhances students’ interest in the content and helps them to monitor whether they are learning the new content. Teachers begin the lesson by telling the students what they are learning and why they are learning it. During the lesson, teachers avoid confusion by focusing on one thought, point, or direction at a time. They should avoid digressions when presenting new information because digressions are likely to decrease students’ focus on and attention to the lesson.

STEP-BY-STEP PRESENTATIONS. New content should be presented to students in small steps. Too much information presented at a time will overwhelm students and adversely affect their learning. The content should be organized and presented in such a manner that one point is mastered before the next one is given. All directions should be explicit and presented in a step-by-step fashion. Students are likely to become confused and fail to complete important steps if the directions are not presented in a precise manner. Students’ understanding of complex content should be supported with instructional scaffolds such as outlines or graphic organizers. These instructional scaffolds will facilitate student learning of complex information.

SPECIFIC AND CONCRETE PROCEDURES. When doing so is appropriate, teachers model the content being covered in the lesson. Students’ initial learning of content is enhanced by observing the correct way to use, for example, a reading comprehension strategy or solve a mathematics problem. Difficult content needs to be explained in depth and often repeated. Repetition is necessary for students to master difficult content. Concrete and varied examples should be used in conjunction with modeling and explanation of content. The examples provide the students with the necessary experiences and practices needed to understand the content that is taught. In addition, the examples should be varied in their difficulty, to allow students to develop their problem-solving skills.

CHECKING FOR STUDENT UNDERSTANDING. Teachers should ensure that students understand one point before moving on to the next. Stu-

dents will become confused and frustrated if teachers move on to the next point before the students understand the previous one. The most efficient way to monitor students' level of understanding is to ask questions. Questions should be asked frequently and varied in their level of difficulty. This provides excellent feedback as to whether the students understand the point being taught and are ready to move on to the next one. After presenting the new content, teachers should have students summarize the main points in their own words. This will provide feedback on the students' understanding of the content taught. At any point during the teaching of new content, the teachers should reteach if students do not understand the new content. Movement to the next point should not occur until students master each subsequent point.

Guided Practice

The third function in explicit instructional lessons is guided practice. Guided practice is designed to bridge the gap between the introduction of new content and independent practice. This function in the explicit instruction lesson allows students to practice the content they learned under teacher supervision to prevent the development of consistent error patterns. Errors can easily become established and difficult to remediate. Guided practice activities are integrated into the activities designed to present new information. The guided practice should be designed to practice the new content, and reteaching should be conducted immediately if errors occur. Teachers may scaffold student practice by providing prompts to help them make the correct response. Teachers should also use modeling to help students gain mastery of the content. Prompting and modeling are important aspects of guided practice because they scaffold students' learning of the new content. Guided practice must be conducted until students have a firm understanding of the content. Students do not have a firm understanding until they are experiencing high rates of success without prompting or modeling by the teacher. Although there is no set standard, students' success rate should be 80% or higher before they move on to independent practice.

Independent Practice

The fourth function in explicit instructional lessons is independent practice. Independent practice is designed to help students consolidate their mastery of the content. It is important to note that there is no clear dividing point between guided and independent practice. Rather, these two teaching functions represent different points on the continuum of learning from acquisition to consolidation. Guided practice occurs in small steps under teacher supervision as new information is presented, whereas independent practice is designed to help students overlearn the content being taught. To achieve overlearning of the content, teachers must provide students with a wide range of practice examples. Seatwork is the most common form of independent practice. Regardless of the type of practice teachers apply, it is important for students to understand the purpose of the practice. Practice is not exciting, and students should understand that they need to overlearn the content being taught. In addition, practice should be designed to produce few errors. The saying "Practice makes perfect" is only true if students are not making errors. Students should achieve a 95% or higher success rate.

Weekly and Monthly Reviews

The fifth function in explicit instruction lessons consists of weekly and monthly reviews of the content that has been taught. Approximately 15–20% of instruction time each week should be devoted to weekly and monthly reviews. The regular reviewing of content ensures that the content is not forgotten. Weekly mastery tests are one way teachers can conduct weekly reviews. These tests not only provide students an opportunity to practice, but enable their teachers to measure student progress and identify the amount of content being retained. Monthly reviews can take the form of projects, reports, or comprehensive tests. Students should achieve a relatively high rate of success on the weekly and monthly reviews.

Increasing the Intensity of Instruction

Students with EBD, like all students, have unique learning needs. Teachers may find it

TABLE 20.3. Alterable Variables to Intensify Instruction

Variable	Increasing level of intensity		
Program/ instruction	<ul style="list-style-type: none"> • Pre-/reteach priority skills taught in Tier 1 instruction 	<ul style="list-style-type: none"> • Use Tier 2 intervention in addition to Tier 1 instruction to address skill gaps 	<ul style="list-style-type: none"> • Place student in a Tier 3 comprehensive intervention program • Use individualized Tier 3 experimental teaching approach
Time (opportunities to respond)	<ul style="list-style-type: none"> • Increase opportunities to respond during Tier 1 instruction • Use choral responding • Increase individual turns 	<ul style="list-style-type: none"> • Increase time of instruction 	<ul style="list-style-type: none"> • Schedule two intervention sessions
Grouping for instruction	<ul style="list-style-type: none"> • Group for instruction during Tier 1 instruction 	<ul style="list-style-type: none"> • Reduce group size 	<ul style="list-style-type: none"> • Provide individual instruction

necessary to adjust the intensity of instruction provided to students. There are three alterable instruction factors that teachers can consider to increase the intensity of instruction (see Table 20.3) (Nelson et al., 2008). First, teachers can increase the intensity of the program or instruction. They can do this by pre-/reteaching high-priority skills; providing supplemental Tier 2 or 3 instruction in addition to Tier 1, to address skill gaps; or using a comprehensive intervention program or individualized Tier 3 experimental teaching methods. Second, the teachers can increase the time of instruction or opportunities to respond. This typically is accomplished by reducing the size of the instructional groups. Teachers may also use choral responding; increase the number of individual turns students are provided to demonstrate the content taught during Tier 1 instruction; increase the time of instruction; or schedule two intervention sessions. Finally, teachers can group for instruction. This may involve grouping for instruction during Tier 1 instruction, reducing the size of small-group instruction, or providing individualized instruction.

Summary

We have begun this chapter by saying that teachers working with students having EBD tend to emphasize behavior management

over instruction. We have described coercion theory to highlight the behavioral mechanisms that underlie the limited instruction provided to students. Although we believe that enhancing teachers’ awareness of these behavioral mechanisms is important, teachers must directly integrate behavioral interventions with explicit instruction. We have described in detail a group-oriented behavioral intervention designed specifically for large and small group instruction. We believe that under typical group instruction conditions, interventions targeted at the group level may be more economical than individualized ones. We acknowledge the importance of individualized behavior interventions as indicated, however.

Another emphasis of the chapter is on the functions of explicit instruction that are linked directly with student achievement. We also note that the behavior of students with EBD is noticeably improved under explicit instruction relative to other forms (e.g., cooperative learning). It is important to view these functions as being dynamic. Not all functions are necessary in every lesson. For example, it is not necessary to state the rationale for learning a new set of letter sounds each day in a reading class. In addition, the emphasis placed on each of the functions should be varied to some degree, depending on what is being taught. The number of examples or the amount of teacher modeling provided, for example,

will vary according to what is being taught and the skills and learning abilities of the students being taught.

Although we have not discussed this topic, we would like to comment on the inconclusive research regarding the relationship between disruptive behavior and academic achievement. There is some evidence supporting four different mechanisms; thus the exact nature of the relationship is unclear at this time. The first mechanism is that there is a common developmental antecedent to both low achievement and problem behavior. The association between low academic achievement and problem behavior is jointly affected by either genetic/intrapersonal factors (Rhee & Waldman, 2002) or environmental antecedents (Ary, Duncan, Duncan, & Hops, 1999). The second mechanism is that low achievement leads to problem behavior (Stevenson, Richman, & Graham, 1985). Low achievement leads to low commitment and engagement to school, and to frustration, all of which in turn result in problem behavior. The third mechanism is that problem behavior precedes and causes underachievement (Dishion, 1990). The amount of time children are engaged in instruction is reduced because of the time they spend acting out or being disciplined for problem behavior. In this context, students may also develop negative relationships with teachers and feelings about school; thus they may be less inclined to exert effort during instruction (Arnold, 1997). The fourth mechanism is that each domain leads to the other (Arnold, 1997), in other words, the causal relations between school performance and problematic behavior are bidirectional instead of unidirectional. This view holds that when poor learners become increasingly frustrated, their antisocial behavior increases, which in turn disrupts the processes of learning, which then creates more antisocial problems, and so on.

Finally, we would like to end the chapter by emphasizing that students with EBD are responsive to explicit instruction. There is substantial evidence that explicit instruction is an underutilized but powerful tool available to teachers and schools seeking to improve the outcomes of these students. Teachers, however, must actively shift their

focus on behavior management to explicit instruction. They should not assume that academic instruction cannot occur unless student behavior is under control. Teachers will find that the classroom behavior of students with EBD improves noticeably when the teachers use explicit instruction.

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School-Based Wraparound for Adolescents

The RENEW Model for Transition-Age Youth with or at Risk of Emotional and Behavioral Disorders

Lucille Eber, JoAnne M. Malloy, Jennifer Rose, and Ami Flamini

As described in the other chapters of this book, effectively supporting students with complex emotional and behavioral needs remains a challenge for schools and communities alike. Building competency with interventions commensurate with the level of these students' needs is a challenge and a responsibility for school staff members who need to seek and build meaningful collaborations with mental health professionals and other community-based partners. This chapter describes the “wraparound” process, which originated in mental health, juvenile justice, and child welfare systems as a multidisciplinary approach to supporting youth with the highest level of needs within the context of their families and communities. Although wraparound is typically initiated through these other segments of youth-serving systems, we propose that it needs to be included in a continuum of supports and interventions provided through schools—as this intervention process is ideally suited to youth with emotional and behavioral disorders (EBD), due to the complexity of their needs at home, at school, and in the community. There are equal numbers of youth with similar levels of need, who may not be identified as having EBD under the auspices of the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, but who also are ideal candidates for wraparound

because of their severe mental health and related needs.

In this chapter, we describe the history, theory base, and evidence associated with wraparound, as well as the philosophy, values base, and core features of this highly individualized process. Examples of how wraparound is implemented within the context of a multi-tiered system of behavioral health support in schools are described. Finally, we discuss a specific application of wraparound designed for transition-age youth that has reduced dropout and school “pushout” for older students with EBD, while increasing effective school completion, employment, and postsecondary education participation. This process, known as RENEW (Rehabilitation for Empowerment, Natural Supports, Education, and Work), illustrates how the wraparound philosophy and process can be uniquely tailored to ensure success for even this population of older youth who have suffered the most from system failures and risk factor exposure experienced over time.

Origins of Wraparound

The historically dismal outcomes for youth struggling with emotional and behavioral challenges clearly indicate that not only schools, but also mental health, child wel-

fare, and juvenile justice systems, struggle to meet their responsibilities for supporting them (Cauffman, Scholle, Mulvey, & Kelleher, 2005). The documented poor prognosis for youth with identified EBD is only part of their reality, as these youth are historically underidentified and underserved. For example, the U.S. Surgeon General (U.S. Department of Health and Human Services, 1999) asserted that approximately one in every five children between the ages of 9 and 17 has a diagnosable mental health or addictive disorder; yet special education only identifies 1–2% of students as having EBD, and mental health systems serve even fewer youth (U.S. Department of Education, 2010).

In attempting to change this negative trajectory, our national, state, and local agencies have focused on developing “system-of-care” (SOC) approaches over the past 20 years. This systemic approach for more effectively supporting youth with mental health challenges in the context of their families and communities was first proposed by Jane Knitzer (1982) in her seminal document *Unclaimed Children*. Core features of the SOC approach include a continuum of treatment and support options that are strengths-based and culturally relevant for each youth and family. A key emphasis is the use of natural settings and supports, along with uniquely designed interventions that are responsive to preferences of the youth and family. Coordination of various community-based services across settings and providers is also a critical feature. Since tailoring services to meet needs as defined by the family and the youth is, unfortunately, often inconsistent with traditional service delivery models across mental health, child welfare, juvenile justice, and educational systems, advocacy has to be a key driver within an SOC approach.

As a philosophy of care, wraparound emerged from grassroots efforts as practitioners sought to implement the SOC principles called for by Knitzer (1982) and more distinctly defined by Stroul and Friedman (1986) in their landmark publication *A System of Care for Children and Youth With Severe Emotional Disturbances*. This highly individualized approach for supporting youth with complex mental health needs and their families was embraced by state and local communities attempting to estab-

lish comprehensive SOC. An oft-stated goal was to reduce overreliance on costly, ineffective, and restrictive placements that removed youth from their families/communities and often resulted in a lack of adequate treatment. The wraparound elements (i.e., “community-based services” and “unconditional service delivery”) and process (i.e., “team development” and “strengths discovery”) were refined and operationalized into practice standards consistent with wraparound philosophy and fidelity implementation (Bruns, Suter, Force, & Burchard, 2005; Burchard, Bruns, & Burchard, 2002). The assumption is that a wraparound team, which includes natural support providers (extended family, friends, mentors), is more likely to design a plan that will be embraced by the family and youth. This plan includes realistic and practical strategies to address what the youth and family indicate are desired goals within their normal home, neighborhood, school, and local community settings.

The two theories most compatible with wraparound are “ecological systems theory” (Bronfenbrenner, 1979) and “environmental ecology theory” (Munger, 1998). Both theories stress the influence of various systems (e.g., schools, health care, etc.) on the level of functioning for youth and their families. Two related theories reflect the family-centered (see Allen & Petr, 1998; Saleebey, 2001) and strengths-based approach of wraparound. The consistent underlying philosophy of wraparound, which emphasizes both “voice and choice,” is a change from expert-driven models because it places the youth and family, not a mental health agency or the school, in the leadership and decision-making roles within the wraparound team process. As noted, the wraparound process emphasizes services that are identified and designed according to the stated needs of the family and youth—often a departure from the process an agency or school system routinely offers. The ultimate goal is success for the youth within the context of his or her family, home school, and community. The spirit of wraparound and its core elements encompass 10 guiding principles, as follows: (1) strength-based family leadership, (2) a team-based approach, (3) flexible funding/services, (4) individualized services, (5) perseverance, (6) an outcome-focused

approach, (7) community-based services, (8) cultural competency, (9) natural supports, and (10) collaboration (Burns & Goldman, 1999).

To achieve the hallmark “voice and choice” features of wraparound, a “person-centered planning” (PCP) approach (Wehmeyer, Baker, Blumberg, & Harrison, 2004) is used. Originating in the developmental disabilities field, PCP focuses first on improving quality of life (Risley, 1996) as defined by the family and youth (e.g., having friends, exercising choice and control over activities, feeling accepted by others in the community, etc.). Consistent with the voice and ownership tenets of wraparound, if the team addresses these quality-of-life indicators first, a variety of problem behaviors may be eliminated or significantly reduced (O’Neill et al., 1997). This may also provide the information needed to conduct functional behavioral assessments for addressing behaviors that persist after a team has begun to address quality-of-life outcomes (Kincaid & Fox, 2002). Consistent with PCP, each student’s wraparound team begins with a focus on improved quality-of-life indicators (often referred to as “big needs”) as defined by the family and youth and agreed with by their wraparound team.

Wraparound in Schools

Although wraparound was first introduced through mental health, child welfare, or juvenile justice systems, it is also commonly initiated in schools as an intensive-level intervention in schoolwide positive behavioral interventions and supports (SWPBIS) (see Eber et al., 2009). When wraparound is implemented within a full continuum of behavioral supports, it represents the most complex level of individualized intervention services, which are typically needed by about 2–3% of the school population (including students with EBD). As team members engage in problem solving to determine how to meet these students’ needs, they combine supports for natural activities (e.g., child care, mentoring, making friends) with more traditional interventions (e.g., function-based behavioral interventions, specialized reading instruction, job coaching, medication). These school-initiated wraparound

plans typically include lower-tiered interventions (e.g., high-frequency reinforcers, daily check-in/check-out systems, social skills instruction, function-based behavioral interventions) all integrated through a person-centered wraparound.

Although it is highly consistent with the intent of the federal- and state-level special education mandates, wraparound goes much further than the typical special education or mental health treatment-planning process, as it intentionally builds constructive relationships and support networks among team members, the youth, and his or her family (Burchard et al., 2002). This is accomplished by establishing a unique team partnership with each student and the student’s family that is invested in achieving agreed-upon quality-of-life indicators. Differing from individualized education programs (IEPs) and other typical school-based team processes, the wraparound process defines the detailed conditions for interventions, including specifying the roles each team member will play in specific circumstances. The role of a designated team facilitator is critical, to ensure that the process adheres to a person- and family-centered, strengths-based approach. The wraparound facilitator (often a school social worker, counselor, or school psychologist) guides the team through the wraparound process, ensuring a commitment to “remain at the table” despite challenges and setbacks until the needs of the youth and family are met and can be sustained without the wraparound team.

Wraparound for Older Youth

As various wraparound models and applications have been developed, implemented, refined, and assessed, practitioners and researchers have identified the need for versions of wraparound that meet the unique developmental and transition needs of older youth (Walker & Gowen, 2011). There are numerous reasons why older youth with emotional and behavioral challenges may need a unique version of the family-driven and family-focused wraparound approach. First, older youth are engaging in the natural separation process from their parents and are prioritizing relationships with peers. Older youth are also exhibiting acts of inde-

pendence, many of which can pose a risk to their health and safety—including sexual activity, driving, and abusing substances, among others. Within these natural developmental processes, youth with emotional and behavioral challenges tend to have strained relationships with peers and adults, including family members. Furthermore, these youth typically fare poorly in negotiating natural adolescent developmental tasks, as evidenced by high juvenile and criminal justice involvement, higher-than-average high school dropout rates, low employment rates, low participation in postsecondary education programs, problems with relationships in school, and high rates of substance abuse and mental health disorders (Lane, Carter, Pierson, & Glaeser, 2006; Wagner & Newman, 2012). Finally, transition-age youth with EBD and related challenges tend not to seek help or mental health treatments, in part because the offerings are not attractive to them and in part because of their burgeoning need for independence (Biddle, Donovan, Sharp, & Gunnell, 2007; U.S. Department of Health and Human Services, 2007).

Within this challenging developmental, environmental, and individualized context, there is emerging evidence that wraparound is effective in helping older transition-age youth with emotional and behavioral challenges to remain in their homes, improve their school outcomes, and stay out of the criminal justice system (Carney & Buttell, 2003; Pullmann et al., 2006). The values and core features that wraparound embodies—including a focus on family and youth voice, natural supports, a strengths-based approach, and unconditional care—are consistent with the tenets of positive youth development. These tenets include focusing on building (1) a positive identity and sense of purpose; (2) empowerment and self-determination, including self-knowledge, goal setting, and problem solving; (3) self-efficacy (the belief that one can accomplish one's goals); (4) skills and supports to access resources and seek help effectively; and (5) supportive relationships (Walker & Gowen, 2011). Few interventions have emerged that address the developmental needs of transition-age youth with emotional and behavioral challenges within a positive youth development context (Clark

& Unruh, 2010; Haber, Karpur, Deschenes, & Clark, 2008), and fewer still are consistent with the wraparound process (Walker & Gowen, 2011).

One such approach designed to address the needs of transition-age youth with EBD challenges is the RENEW model, which uses a positive youth development framework and an application of wraparound. RENEW includes a specific focus on school-to-career planning; it supports each youth through completion of high school graduation requirements, career exploration, and employment. Exemplars of the RENEW model are presented throughout this chapter, to illustrate specific applications of wraparound for older youth.

A Growing Evidence Base

A preliminary study of the effectiveness of wraparound has documented 16 studies conducted in nine states (Burns & Goldman, 1999)—including three studies explicitly identified as school-based programs—that produced results indicating that school-based wraparound can effectively retain children in their communities and home schools. Going further with school-based applications of wraparound, a 3-year federally funded demonstration project was implemented in Illinois from 2007 to 2010 to illustrate the efficacy of a multi-tiered approach for supporting students with complex needs. The demonstration project nested the wraparound process within a multi-tiered system of SWPBIS in 39 schools across six districts in Illinois. Outcome data for 70 students showed declines in risk of placement failure and in number of office discipline referrals, along with increases in academic performance (Eber, Hyde, & Suter, 2011).

A recent meta-analysis by Suter and Bruns (2009) further documents the evidence base for the wraparound process. This analysis included seven studies that used control groups, within experimental and quasi-experimental designs, to compare outcomes for youth with significant mental health impairments who were supported within the wraparound process to those who received conventional or usual-care treatment. Effects studied included each youth's

placement, mental health, and behavior; functioning at home, in school, and in the community; and change in strength levels and risk factors. The authors found a modest mean effect size (0.33) for youth supported in the wraparound process compared to those receiving traditional interventions. A small to medium mean effect size was also found for outcomes related to these youth's living situation (0.41), mental health (0.31), and school functioning (0.27). Although the small number of studies involved in this analysis and some methodological issues (e.g., absence of attrition data) constrained the study's conclusions, this study provides some degree of support for the efficacy of the wraparound process for youth with complex needs.

As a unique application of wraparound for older youth, the RENEW model was first implemented in New Hampshire in 1996 with 18 young adults having IEPs for emotional disturbance or mental health diagnoses. Only two students (11%) held paid employment at baseline, and 13 (72%) had been involved with the police within the 3 months prior to the start of RENEW. Using the wraparound application of RENEW, these youth accessed (1) personal futures planning, (2) flexible high school programming, (3) employment support, (4) mentoring, and (5) social skill building (Cheney, Hagner, Malloy, Cormier, & Bernstein, 1998; Hagner, Cheney, & Malloy, 1999). At the end of the 3-year project, considerable percentages of the study youth had achieved positive outcomes: 66% had finished high school; 31% had entered postsecondary education; and 75% of the students were employed 3 months after the project's end, at an average of 27.8 hours per week (Bullis & Cheney, 1999).

Further applications of the RENEW process included Achievement in Dropout Prevention and Excellence (APEX) and the Nashua Youth Reentry Project. APEX, a project funded by the U.S. Department of Education, was implemented from April 2003 to July 2005 in two high schools in the suburban communities of Franklin and Manchester, New Hampshire. The Nashua Youth Reentry Project began in October 2003, targeting 33 youth between the ages of 14 and 17 with IEPs or mental health diagnoses who were at risk of removal from

either school or home due to involvement in the juvenile justice system. The core elements of RENEW (i.e., person-centered planning, multiple pathways to diploma attainment, and mentoring) were implemented to assist these youth in attaining high school diplomas, securing jobs, and avoiding recidivism. The majority of participants (67.7%) rejoined their communities and did not commit subsequent offenses. Nine youth (42.9%) returned to their neighborhood schools; 38.1% studied for the General Equivalency Diploma exam; and (74.1%) were employed, mostly in part-time jobs (Hagner, Malloy, Mazzone, & Cormier, 2008). Finally, RENEW was implemented as the tertiary intervention in a three-tiered model of Positive Behavioral Intervention and Supports (PBIS) in two high schools with 20 students who were at great risk of school dropout and failure in the home and in the community. A cohort of 20 students who received RENEW showed significantly improved clinical functioning with substantial improvements noted in the domains of school/work, home functioning, moods/emotions, and self-destructive behavior (Malloy, Sundar, Hagner, Pierias, & Viet, 2010).

Operationalizing Wraparound

As we have described above, wraparound has a values-based philosophy and approach (family/youth voice and choice) and is an SOC approach applied within communities. Equally important, it is also a clearly defined process that uses a step-by-step progression for developing a uniquely qualified team and an individualized plan of care for youth and their families (Burns & Goldman, 1999). With each youth and family in the driver's seat, the wraparound process organizes, integrates, and blends natural supports, interagency services, and a range of interventions, including specific behavioral and academic strategies as needed. Other life domain needs (medical, safety, cultural, spiritual, social, etc.) may be addressed by wraparound teams as well. Personal futures planning centered around employment and postsecondary transitions is a key feature of wraparound plans for older youth via RENEW. Wraparound distinguishes itself from traditional service delivery in special

education and mental health with its focus on connecting youth/families, schools, and community partners in effective problem-solving relationships. Unique implementation features include the following: (1) family and youth voices guide the design and actions of the team; (2) team composition and strategies reflect unique youth and family strengths and needs; (3) the team establishes the commitment and capacity to design and implement a comprehensive plan over time; and (4) it addresses outcomes across home, school, and community through one synchronized plan.

An essential feature of the wrap-around PCP process is the concept of self-determination. “Self-determination” has been defined as consisting of a right, a skill set (e.g., self-regulation, problem-solving ability), and a disposition (Wehmeyer, 1999). The defining characteristic of self-determination is the ability and opportunity for each individual to exercise his or her own choice, echoing the predominant wraparound theme of “family voice and choice.” Self-determination is deliberately applied through the RENEW process for high school students with EBD by means of “personal futures planning”—a theoretical framework that, like PCP, has its roots in the field of developmental disabilities (see Mount, 1992; Vandercook, York, & Forest, 1989). School-based personnel facilitating RENEW with at-risk students report being surprised by the level of trust established in a short period of time when personal futures planning is used. They hear stories about the students’ history, their dreams, and the fears/barriers the students perceive will get in the way of their success. For example, a RENEW facilitator stated that prior to RENEW, one student had no sense that he could plan his own life. The PCP process helped him identify goals and dreams he had not yet voiced to anyone in his life.

Building a Team

The wraparound process includes specific steps to ensure the development of a cohesive team of natural support providers (e.g., family members, friends, a coach, a mentor), as well as committed professionals whom the youth/family may choose to assist them with the needs and goals they define for

themselves. A critical feature is to establish ownership, and therefore investment, of the people who spend the most time with the student (i.e., family, peers, teachers). Interventions designed and applied within the social context of those closest to the student make it possible for ownership via success to be enjoyed not only by the student, but by family members, teachers, and others participating in the youth’s day-to-day life. This greatly increases the likelihood that interventions will be effectively implemented, monitored, and revised as needed to ensure sustainable outcomes across home, school, and community.

With younger students, the wraparound process includes systematically assessing the needs of the adults who support the youth, and the team can arrange required supports for these adults on behalf of the youth. For example, a wraparound team may solicit involvement from the community to assist a family with accessing stable housing and other basic living supports, as parents may be better able to focus on a home-based behavior change plan for their child if stress about being evicted from an apartment is alleviated. Other examples include facilitating transportation, recreation opportunities, and social supports. Older youth are the primary sources for identifying their highest-priority needs. For example, a high school RENEW facilitator was asked by a youth to join him in a meeting with his public defender. Because this student had a difficult time listening and taking notes, the facilitator assisted with these tasks in the 2½-hour meeting. During this meeting, it became clear that the student did not understand he had rights and did not understand when he had been read his *Miranda* rights. The public defender, now a potential team member, outlined the student’s options to address the felony charge and suggested that the student share his RENEW plan with the state attorney’s office.

Getting to Real Needs

Wraparound is characterized by a deliberate and consistent focus on strengths and needs as defined by the youth and family (VanDenBerg, 1999). This requires significant effort and purposeful techniques by the team facilitator, as team members may

have defaulted into a problem-focused mode with predetermined ideas of “needs” that are often stated as services (e.g., “He needs an alternative placement,” “She needs counseling,” “He needs a one-on-one aide”). A key component in the wraparound process is the development of a rich and deep strength profile that identifies very explicit strengths across settings (i.e., home, school, community) and life domains (e.g., social, cultural, basic living skills, academics). Similar to quality-of-life indicators in the PCP process, “big needs” are defined in wraparound as follows:

1. Each need is big enough that it will take a while to achieve it, such as “James needs to feel respected at school.”
2. There is more than one way to meet the need—for example, “Tiffany needs to feel competent/able about learning,” instead of “Tiffany will complete her assignments.”
3. The identified need is likely to motivate the family to participate on the team. For instance, Maria’s mother needs to feel confident that Maria will get treated fairly at school.
4. If the need is met, it will improve quality of life for the youth or those engaged with the youth on a regular basis (e.g., the family, teachers).

With RENEW, the needs emerge as the student identifies goals through personal futures planning. For example, a student who wanted to be a paramedic talked about needing to feel confident with tasks related to reading. Another high school student had the need to feel safe and secure in his community. This big need was met as the student learned how to ask questions, how and when to approach a police officer, and how to seek out adults for assistance.

Facilitating the Wraparound Process

Within SWPBIS, key personnel need to be trained and positioned to lead the various interventions along the multi-tiered continuum, including the Tier 3 wraparound process. Individuals who perform the function of team facilitation should ideally possess certain skill sets and dispositions as they guide each youth and family through process

engagement, developing their team, ongoing meetings, and eventual transition to lower-level interventions. Facilitation skills include the ability to translate the youth’s, family’s, and teachers’ “stories” and experiences into strengths and needs data that can be used to guide the team. The ability to articulate the youth/family’s vision respectfully and without passing judgment is also essential. Moreover, the identified facilitator must have the skills to facilitate problem solving and decision making in a consensual manner, using data to guide the process. Wraparound facilitators must be adept advocates who are able to address aspects of team functioning or individual team members’ behavior that may circumvent the process. Potential wraparound facilitators, readily available in school systems, include personnel who already lead intervention planning and meetings for students with or at risk of EBD. These include school social workers, school psychologists, counselors, special education specialists, administrators, and others (Eber, 2003).

The identified team facilitator initiates wraparound by using individualized engagement strategies with the family and youth, teachers, and other potential team members. When previously attempted interventions have not resulted in enough positive change, family members may be understandably cautious about engaging in yet another meeting about their child. Therefore, a wraparound team facilitator may need to approach a family carefully to ensure that the family does not feel judged or blamed. Family members who have had considerable contact with school but little success may need to be assured that they are not expected to change the problem behavior of their child at school. For example, a facilitator may use a statement such as this: “At school, we feel we are not being successful enough or positive enough with your child, so we are going to change our approach to make sure he or she is going to have success.” This may be a different message than the parent is used to hearing from the school, and it can set the stage for a different type of process that is more positive and focused. At the high school level, a student might be approached by a RENEW facilitator who would begin the conversation with, “We would like to help you find ways to reach your goals and dreams.”

Youth/family trust, participation, and voice (required elements of wraparound) must be established before the team can proceed to designing interventions or supports. During the initial conversations used to engage and develop the team, the family helps select team members, meeting locations, and other team logistics. Then initial meetings are held at which the team develops consensus about the strengths of the youth and family, and the big needs on which they will focus. Only then does the team begin to develop strategies to ensure an improved quality of life. Progress toward achieving the quality-of-life indicators are assessed continuously in subsequent meetings, as strengths- and needs-based interventions are continuously implemented, monitored, and revised to ensure success across home, school, and community. The focus on natural supports (i.e., people, settings, and resources) ensures cultural and contextual fit (Albin, Lucyshyn, Horner, & Flannery, 1996), so that the youth develops the capacity to function independently with less intense supports and services over time. As the wraparound philosophy of care has evolved into a more in-depth planning process, defined steps and phases of wraparound implementation have emerged (Walker & Schutte, 2004).

RENEW actualizes the wraparound values of voice and choice by emphasizing self-determination, within the wraparound features of unconditional care, flexible resources, natural supports, and full inclusion in natural environments. Furthermore, the RENEW approach is consistent with the tenets of positive youth development, including a focus on strengths and on development of personal futures goals and positive social supports. The youth's choice and control over life's decisions are paramount. Consistent with SOC principles (Stroul & Friedman, 1994), RENEW focuses on coordination of a single plan between multiple and often competing systems. A unique focus of RENEW is its school-to-career emphasis, which stresses the connection between high school teaching and learning and the skills and connections needed by students to be successful in the real world of work and postsecondary education.

RENEW is implemented by a trained facilitator who knows how to provide PCP in a particular form designed to engage adolescents. As described above, this requires

strong group facilitation skills in order to develop and manage team meetings and guide the development of action plans. Additional skills include the ability to implement and monitor the process; knowledge about the resources in the community; and an understanding of how to access and develop natural supports, especially family-based resources and other important social networks. Furthermore, the facilitator assists each youth by demonstrating the RENEW/wraparound values and principles of self-determination, unconditional care, natural support/community inclusion, flexible use of resources, and a strengths-based approach. An example of facilitation of a RENEW plan is provided later in this chapter.

Wraparound Phase I: Engagement and Team Preparation

During Phase I, the facilitator works closely with the family, student, and teacher to build trust and ownership of the process. The first step is for the facilitator to reach out to the youth and/or family, and arrange a time and place to have an "initial conversation." This initial conversation allows the facilitator to hear their stories and begin the process of building a relationship, as well as assisting the youth and family members to identify their team. All family members are encouraged to tell their stories by articulating their perceptions of the youth's and family's strengths, needs, and experiences. This initial contact should be a low-key conversation with the goals of (1) developing a trusting relationship; (2) establishing an understanding of the process and what the youth and family can expect; and (3) seeking information about potential team members, strengths, and big needs. Facilitators should use open-ended questions (e.g., "Tell me about some of your concerns about Denise's progress") and active listening skills to track key information that will help determine high-priority areas for support or intervention.

It is helpful for the family to select the meeting location (a local restaurant, a community building such as a church, etc.), as this can contribute to a sense of neutrality, thus allowing the family to relax and begin to trust the process. Since traditionally most parent meetings take place on school grounds and are led by educators using an

“expert” model, this Phase I approach will seem different, perhaps even awkward at first. However, it is empowering for the family members to be able to share their perspective freely in a meeting place of their own choice. Furthermore, careful listening to the youth/family’s stories may be more effective in identifying their big needs or elements at the root of the problem behavior than using standard school-based approaches may be. Key questions asked of youth and their families and teachers during Phase I of wrap-around often include the following: “What would a good school day for you [or for your child] look like to you?” “What would life at home look or feel like if it was better?” “How would you define success for yourself [or for your child] 5 years from now?”

Older youth are asked to share their hopes and dreams, as well as roadblocks they have encountered or anticipate. During the initial conversations with the family, the facilitator should assist the family to identify natural supports, or persons who are connected to the family by existing relationships (e.g., relatives, friends, coworkers, neighbors), who may be able to participate in the wrap-around process). The focus is on roles, not job titles. For example, an older sibling may be able to assist in ensuring that the student’s voice is heard at meetings. At the high school level, a peer or girlfriend/boyfriend may be chosen who is able to provide an honest view of a stated need. An additional example is that of a high school student who considered it a strength that he was not “like” his gang-affiliated brother, and yet still wanted this brother on his team for support. The brother made it through multiple obstacles to participate on the team and was able to shed light on family struggles contributing to his brother’s difficulties.

The facilitator, after securing permission from the youth and family, should also have individual conversations with other potential team members (e.g., a teacher, a coach, a probation officer) to listen with an impartial ear to their perspective. When the facilitator has a dialogue with the family and other potential team members before the initial team meeting, participants have an opportunity to provide their perceptions, including frustrations, which are validated by the facilitators’ approach/techniques (i.e., nonjudgmental, reflective listening, etc.). When team members’ experiences and emotions are vali-

dated, they are more likely to make positive contributions once the process begins. The facilitator’s role is to translate the family’s (and other team members’) stories, including what has or has not worked in the past, into data that can be used to ensure efficient and effective team meetings. Necessary information organized during Phase I relates to potential team member roles and qualifications, a comprehensive strength profile, a list of two to four big needs, and baseline data to serve as benchmarks for ongoing progress monitoring. Data use during Phase I engagement documents the reality of needs as defined by the youth and family and helps to build consensus about needs.

With transition-age youth, the RENEW facilitator works with each youth during the engagement phase to develop the youth’s futures plan. This is the beginning of the conversation that allows the youth to express his or her views about past experiences, the current situation, and goals and concerns about the future. This process also builds trust, as the youth’s narrative is accepted unconditionally. Family members may or may not be present during this engagement phase, as we have found that older youth often need and want a space to tell their stories without family members present. This represents a significant difference from traditional wrap-around models, where parents or caregivers are typically at the center of the process, and where most problem solving and supports are designed to help the parents or other caregivers to support the youth. Instead, the RENEW process is focused on helping each youth to develop his or her own vision for the future and to outline the specific steps and supports needed to move closer to that vision. On the basis of the futures plan, the youth and facilitator identify the specific objectives and benchmarks that indicate successful progress toward accomplishment of the big vision; the needs for support to overcome barriers and achieve the PCP objectives; and the people who can help the youth achieve the objectives.

Wraparound Phase II: Initial Plan Development

During Phase II, the facilitator moves from engagement and assessing strengths and needs with the youth/family and other potential team members to guiding the team

through the initial wraparound meetings. This shift into team meetings needs to occur as quickly as possible, typically within 2 weeks of the initial Phase I conversations. Baseline data reflecting youth, family, and teacher perceptions of strengths and needs are shared and used to guide team consensus on and commitment to quality-of-life indicators (the big needs). During Phase II, facilitators share the strengths and needs data with the team. Needs are prioritized, and action planning begins as the facilitator guides team members to brainstorm strategies to increase strengths and meet needs. As strategies are developed, tasks and roles for all team members are clarified. A safety plan for school or home is developed if team members feel this to be an imminent need. Facilitators should continue to gather and review the data across settings and from multiple perspectives (examples of wraparound data tools are discussed later in this chapter) to assist the team in continually monitoring progress and refining the plan. Focusing on meaningful data (i.e., data representing their perceptions of strengths and needs that they believe would improve quality of life) allows team members to be productive and practical, while focusing on positive next steps to improve data instead of just reacting to problems.

During Phase II, the wraparound plan should be taking shape, and the team may expand to include representatives from the community—including resource agencies, if needed. For example, a high school student wanted to participate in the RENEW process, but the student was not certain whether he would be continuing school or be sentenced to juvenile detention. Upon further discussion, the student revealed that he did not clearly understand the charges being brought against him and was unsure whether they constituted a misdemeanor or a felony. This student identified “getting out of legal trouble” as his first goal. With the help of his RENEW facilitator, he was able to identify the school police liaison as someone to join his team. During this team meeting, the police liaison taught the student about the Freedom of Information Act and instructed him on how to obtain and complete a form so he could see his police record.

The written plan of care, initiated during Phase II, should include (1) the agreed-on primary big needs and goals to achieve the

needs; (2) detailed strengths for enhancement; (3) specific initial strategies the youth and family want to pursue; (4) persons involved and the timeline for interventions; and, if needed, (5) a safety plan clearly delineating responses for any anticipated challenging behaviors/situations.

During Phase II of RENEW, the youth and facilitator develop criteria for the first team meetings, and the youth and facilitator share the youth’s futures plan. This is when the youth typically asks a parent or caregiver for help to support this vision, and family members begin to see how they can help. The team members offer information that helps with planning, and each person identifies areas where he or she can help; these suggestions are always based on the goals, needs, and contexts expressed in the youth’s personal futures plan. This process results in a plan where all members agree on the goals and outcomes, and understand their respective roles in the process.

Wraparound Phase III: Ongoing Plan Implementation and Refinement

During Phase 3, the plan is implemented and monitored by the core team members, who base their efforts on the criteria for success identified by the family, youth, and other team members in Phase II. Team meetings may occur as often as weekly when the youth requires intensive support (e.g., the youth needs weekly check-ins to ensure that he or she passes a required math course); or the facilitator and youth may meet weekly, and full team meetings may occur less often during times identified as critical (e.g., at the end of a semester). Data-based progress monitoring is used to review initial plans and revise interventions in response to ongoing efforts. The facilitator ensures a regular meeting schedule for the team. Continuous data collection and review of results occur during these meetings, so data-based decision making informs the team when things are not working, thus sustaining more objectivity among team members.

Wraparound Phase IV: Transition from Wraparound

The final phase of the wraparound process marks the formal point of transition, when the youth no longer needs the intensive sup-

port that has been provided by the facilitator and team, and less intensive supports are developed and agreed upon by the youth and team members. During this phase, accomplishments are reviewed and celebrated, and a transition plan is developed. The youth and family may elect at this stage to share their experience with other youth and families who are currently participating in the wraparound process. Older students who have experienced RENEW are often invited to assist the school-based Tier 3 teams in approaching and supporting other students being identified as in need of RENEW.

Integrating Data-Based Decision Making into Wraparound

As an intensive-level intervention, wraparound requires frequent review of progress data to facilitate positive change for students. In addition, measuring the fidelity or integrity of a treatment model is essential to ensuring the efficacy of any intervention such as wraparound. The challenge is for individual family and youth teams to have data tools they can integrate into frequent meetings that produce realistic, useful information for making decisions about effective interventions. Tools that generate data representing multiple perspectives relative to progress (strengths, needs, educational outcomes, etc.) are preferred. Under the guidance of the team facilitator, these data are gathered through conversations and used by the team at regular intervals throughout the intervention. An example of such a tool is the Home, School, Community Tool (HSC-T; Illinois Statewide Technical Assistance Center & Systematic Information Management for Educational Outcomes, 2011b), which is used at all phases of the wraparound process to assess the student's strengths and needs relative to functioning across five domains: health/safety, social, emotional, behavioral, and cultural. In addition to probing for data across multiple life domains, this tool includes ratings in three different settings (home, school, and community), and therefore facilitates information sharing from multiple perspectives as different members of the team (teacher, family, and student) are involved in data gathering. An additional tool used in wraparound is the Educational

Information Tool (EI-T; Illinois Statewide Technical Assistance Center & Systematic Information Management, 2011a), which provides teacher ratings of classroom functioning in academic and social-emotional domains. Sample items rated by a teacher on a Likert scale (1 = "never," 4 = "always") include "passes quizzes and tests," "participates in classroom discussions/activities," "has friends," and "engages in appropriate classroom behavior with adults." Generating information from different informants provides an opportunity to present situation- or setting-specific data from team members and to present information on different areas of functioning (behavior, academics, etc.) observed by different team members. The wraparound process thus embraces the richness and uniqueness of differing viewpoints, which offer the team the opportunity to learn from strategies and techniques used by different individuals in different situations with a student who has complex needs. Training and coaching support for team facilitators focuses on how to use the data to engage team members, to keep them engaged over time, and to continually refine and monitor interventions.

Several attempts within the field of child and family services have been made to measure the fidelity of wraparound (Bruns, Burchard, Suter, Leverentz-Brady, & Force, 2004). Findings from recent literature are starting to support a positive relationship link between treatment fidelity and youth and family outcomes. In particular, Bruns and colleagues (2004) have been instrumental in continuing to refine the measurement of wraparound fidelity with the Wraparound Fidelity Index-4 (WFI-4; Wraparound Evaluation and Research Team, Bruns, & University of Washington, 2006). This measure provides a post hoc measure of fidelity as reported by the youth, caregiver, and team members, but does not provide the opportunity for self-assessment of wraparound during the active team process. Although not yet tested for efficacy, the Wraparound Integrity Tool (WIT; Illinois Statewide Technical Assistance Center, 2011c) is available for team members to apply a quick process for self-assessing wraparound fidelity on a regular basis (at the start of the team process and every one to three team meetings thereafter). It thus allows team members to "self-

correct” as they work toward maximum adherence to the wraparound principles. A RENEW Integrity tool is also available (Malloy, Drake, Abate, & Cormier, 2010).

A RENEW Example

As previously described, the RENEW application of wraparound for older youth emphasizes career exploration and work experiences through team support and follow-along. The RENEW team facilitator and each youth create the youth’s futures plan by using graphic facilitation or personal mapping. The facilitator asks the youth who he or she would like to be at the first mapping meetings; this process includes a set of structured questions and a recording of the ideas on flip chart paper (many youth often record their own ideas). The facilitator also meets with the youth as needed to prepare for maximizing participation in the planning. This may include helping develop meeting agendas, or preparing what to present to the group via notes, photographs, or a PowerPoint presentation. This highly structured PCP approach using graphic facilitation is based on approaches designed to increase choice, control, and support for people with disabilities (Cotton, 2003; Mount, 1992). The points covered in the mapping process include (1) “your history,” (2) “your situation today,” (3) “what works/what doesn’t work,” (4) “accomplishments and strengths,” (5) “the people in your life,” (6) “dreams—long-term goals,” (7) “barriers, concerns, fears,” (8) “intermediate goals (1 year out),” (9) “short-term goals,” and (10) “next steps—the help you need.” The mapping process results in a list of next steps that are used to develop each youth’s individual team. The use of flip charts to record the youth’s narrative makes the information public and allows the participant to make connections and to generate new ideas. The youth can focus on the flip chart paper, which seems to have the effect of opening up the issues and building trust.

For example, one young man we call “Manny” was almost 16 years old when he first began the mapping process with a school para-educator who had been trained to facilitate RENEW. Manny was living in a group home, was on probation, and was

failing all of his classes during the first half of his third year in high school. Manny was tense and made no eye contact during the first meeting. When he was asked to tell his story, it was as if the floodgates opened: Manny described a history filled with trauma and family discord, and noted how he had responded by stealing cars and drinking alcohol, beginning when he was 13 years old. So too, when asked to talk about what worked for him, Manny shared a long list of interests and passions, including his love of music, rap, dancing, and the occult (he said he had read the *Twilight* books). He also listed the situations in class when he was not successful, including “being treated like I’m dumb” and others’ having “low expectations” of him. Figure 21.1 provides a picture of Manny’s “What Works/Doesn’t Work” map. The futures planning process using these graphic techniques clearly engaged Manny, and he attended meetings faithfully for the remainder of the school year.

Facilitators use structured and proven processes for preparing individuals and for facilitating participation in each meeting (Cotton, 2003; Malloy, Drake, Cloutier, & Couture, 2010). A facilitator and youth develop a list of individuals who should be invited to become a member of the youth’s team. This list includes at least one family member or other primary caregiver, unless the youth refuses to have his or her family participate. In those cases, the youth and facilitator develop an alternative process for including family members. The facilitator prepares each youth for the first team meeting and gives the youth the choice about how and what parts of the plan to share. The selected individuals are invited to the meeting and are given information about the PCP approach. Ground rules are developed by the youth and facilitator and are shared at the beginning of each meeting. The comments and ideas of participants are documented at each meeting and the resulting plans are documented and shared with all participants, emailed as meeting minutes, and retained for project records. Facilitators ensure that all participants contribute to the plan, that the youth participates fully, and that the planning proceeds at the youth’s pace.

Manny and his facilitator invited his group home manager to his meetings and she

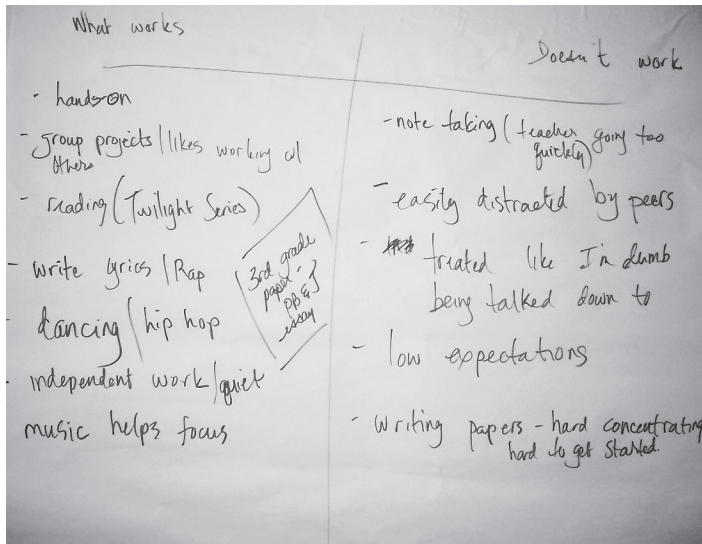


FIGURE 21.1. Manny’s “What Works/Doesn’t Work” graphic organizer.

helped him complete his math homework (since core math classes had become a concern) and look for a job as identified in his futures plan. Manny said that he wanted to be a barber and he identified a particular barber shop in town as a place he liked because it was “hip and funky,” with a pool table in the back. His facilitator used her social network to help Manny get a job as a cleaner in the barber shop—a job he kept until he was discharged from probation 6 months later. During the second half of the school year, Manny passed four out of his five classes, with consistent help from the team based on his expressed needs and goals.

During the mapping process, each youth is asked to identify his or her dreams for the future (typically within a post-high school time frame). This part of the conversation always leads the youth to share vocational goals and passions. Youth generally identify mainstream vocational interests that are based on their family histories and what they know (e.g., working in construction, in a parent’s business, or in child care), on their social desire to help others (e.g., being a police officer, nurse, or social worker), or on a passion or interest that a youth engages in outside of school (e.g., computer gaming, graphic art, music). If the youth is having difficulties with classroom behavior and academic expectations, the facilitator

engages school counselors or behavior specialists to develop a plan that allows the youth and teacher to work together more effectively. In addition, if the youth is not able to complete course requirements in the traditional manner, the facilitator and youth use creative options such as extended learning opportunities, internships, independent study, and work-based learning experiences; they work with the youth’s school counselor to negotiate credit for these.

The facilitator and youth may agree that there is a need for vocational assessments and counseling, but in all cases the team supports pursuit of the youth’s interests. The facilitator and team members work together to support the youth’s vocational goals unconditionally. For Manny, this included helping him get a job in a barber shop. The benefits of this were substantial, in that Manny felt heard and affirmed; he was more interested in doing well in high school; he gained confidence; and he expressed interest in exploring other options as he learned that working in a barber shop was not what he wanted to do over the long term.

Clearly, there are reasons to use different wraparound-based engagement strategies in working with older youth from those we use with families of younger children. A majority of youth and families struggle through the transition from adolescence to

adulthood. For youth with emotional and behavioral challenges, there is an additional layer of complexity to this transition process. The goal is to engage and motivate the target youth to persist in school and to develop and maintain positive relationships that will make it possible to move forward. The futures planning process engages each youth to tell his or her story, reflect on his or her needs, and express his or her dreams and goals, thus increasing the youth's investment to work on what can be very challenging tasks (such as passing a class or asking a parent for help). This process builds feelings of self-efficacy, hope, and self-worth, and helps the at-risk youth to construct a positive view of the future. As Manny said after turning in his math homework after months of failure, "I felt better . . . I do my work, I pass it in . . . I felt better."

Summary

The wraparound intervention process for students with or at risk of EBD that is described in this chapter has roots in mental health, child welfare, juvenile justice, and special education. Bringing these various service sectors together through one process, team, and plan is a desired goal, regardless of which agency initiates the process for a youth and family. For this reason, wraparound is perhaps best embodied by the interagency SOC framework. Yet wraparound is also highly compatible with the PCP process associated with special education; this is especially true of the RENEW application of wraparound, in which school completion, postsecondary education, and employment are the key drivers for effective transition. Regardless of the labels, the process required for effectively supporting our most vulnerable youth involves a complexity that is commensurate with their level of need. This requires deliberate engagement and team development techniques, strategic planning to weave together a variety of supports and interventions, and rigorous progress monitoring. A skilled facilitator guides the process to ensure that it is always strength-based and driven by the voices of the youth and family. In addition to schools, wraparound facilitators also need to be nested in (or at least to have contacts within)

mental health, child welfare, and juvenile justice, as different youth will need different agencies to be in the lead, depending on their most pressing life issues.

Adhering to the core features and stages of wraparound necessitates diligence from partnering systems, including comprehensive training, technical assistance, coaching, supervision and evaluation. Building this highly complex intervention process from a platform of SWPBIS increases the likelihood of success as the positive school culture provides the necessary host environment for these individualized plans and encourages active collaboration with community partners and families. This can help ensure that educators have the confidence and competence to effectively support *all* youth who reside within their geographic boundaries, including those with complex emotional/behavioral needs.

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The Role of School Mental Health Models in Preventing and Addressing Children's Emotional and Behavioral Problems

Steven W. Evans, Tiffany Rybak, Holly Strickland, and Julie Sarno Owens

Approximately 80% of children who need mental health services do not receive them, with even higher rates of unmet need among Latino populations and the uninsured (Kataoka, Zhang, & Wells, 2002). The most common disorders among youth are depression, anxiety disorders, oppositional defiant disorder, conduct disorder, and attention-deficit/hyperactivity disorder (ADHD) (Friedman, 1999). However, to expand the focus beyond diagnosable mental disorders, even larger numbers of young people (over 20% of youth) experience psychosocial problems and/or impairments that place them at risk for negative outcomes in adulthood. Despite the high prevalence of emotional and behavioral problems among youth, only a minority of those youth with a diagnosable disorder and serious impairment actually receive mental health care from any service-providing sector (Burns et al., 1995). In response to this need for services, federal policies have been developed to integrate mental health and education services in schools. The history of these efforts dates back decades (e.g., the Community Mental Health Centers Act of 1963 included providing mental health consultation and training to schools; see Caplan, 1970). Since then, and especially in response to various policy and funding initiatives (e.g., the Education for All Handicapped

Children Act of 1975), the education system has become the largest provider of mental health services to children and adolescents. A population-based community survey by Burns and colleagues (1995) found that schools provided 70–80% of the services to children and adolescents who received any services, and for the majority of those students this was their only source of care. More recently, additional federal initiatives and laws have continued to promote the expansion of research-based mental health services in U.S. schools, including a report of the Surgeon General (U.S. Department of Health and Human Services, 1999), a report of the President's New Freedom Commission on Mental Health (2003), and the No Child Left Behind Act of 2001 (see Atkins, Hoagwood, Kutash, & Seidman, 2010, for a review).

The pace of the development and expansion of school mental health (SMH) services has increased rapidly in the past 20 years. In addition to the federal policies noted above, there has been considerable activity in both SMH research and practice. For example, many federal agencies (e.g., the Institute of Education Sciences and the National Institute of Mental Health) award research grants targeting SMH, and two interdisciplinary research journals now focus on SMH (*School Mental Health*, pub-

lished by Springer, and *Advances in School Mental Health Promotion*, published by Taylor & Francis). National registries of evidence-based practices now allow educators and administrators easy access to evidence-based practices in schools (e.g., the Substance Abuse and Mental Health Services Administration's National Registry of Evidence-based Programs and Practices [NREPP]; www.nrepp.samhsa.gov/Index.aspx). In addition, an annual national conference on SMH, sponsored by the Center for School Mental Health at the University of Maryland School of Medicine (<http://csmh.umaryland.edu/Conferences/AnnualConference/index.html>), has been held for almost 20 years. School-based practices have changed as schools adopt models that include important implications for the provision of SMH services (e.g., schoolwide positive behavioral interventions and supports [SWPBIS] & response to intervention [RTI]). All of this activity has advanced our knowledge of how to enhance SMH services, and it has placed increasing pressure on our education and mental health systems to continue to improve the quality and quantity of SMH care for students with emotional and behavioral problems.

Although the focus on SMH has rapidly intensified, many problems and obstacles are encountered when a system designed to educate children and adolescents is asked to broaden its scope to address emotional and behavioral problems that interfere with learning. Because of limited funding from federal, state, and local sources, the challenges of integrating mental health services into the education system have been plentiful. One method for overcoming obstacles and advancing both the science and practice of SMH is to adopt a model that provides an infrastructure and decision-making process for evidence-based services. SWPBIS (www.pbis.org) has provided such a model, and it has had considerable influence over the field for the past decade. In addition, many practice guidelines and statements of best practices from various professional organizations have offered guidance to the field. Recently, another model of care, the "life course model of children's behavioral health care," has been proposed that includes specific implications for school and community-based behavioral health services

for children and adolescents (Evans, Owens, Mautone, DuPaul, & Power, in press). In many ways, this model is complementary to SWPBIS. The goals of this chapter are to briefly describe these two models, compare and contrast the implications of the two models for SMH services, and discuss how SMH professionals¹ (SMHPs) can overcome common obstacles to using the models to improve care in their own schools.

Overview of Two Models of Care for Children and Adolescents

Although research has been conducted on the SWPBIS model, the majority of the studies have focused on the effects of providing services within one tier of that model, rather than on specifically testing the effects of the framework or decision-making aspects of the model. Similarly, because the life course model of children's behavioral health care has only recently been proposed, specific tests of that model are not yet available. As a result, the research conducted on either model is not covered in this chapter; rather, the focus is on the models' implications for SMH practices.

Schoolwide Positive Behavioral Interventions and Supports

SWPBIS (see Figure 22.1) is best defined as "a decision making framework that guides selection, integration, and implementation of the best evidence-based academic and behavioral practices for improving important academic and behavior outcomes for all students" (www.pbis.org). SWPBIS is designed to help educators and administrators organize their services, manage the flow of students across services, and evaluate and revise services according to students' needs. The SWPBIS framework is highly collab-

¹For the purposes of this chapter, we are defining an SMHP as a person with a graduate degree in a mental health field (e.g., counseling, social work, psychology) who is employed by a school system (either directly or contracted). Certainly other professionals contribute to the mental health mission in schools, including teachers and nurses; however, we restrict the term to those for whom the delivery of SMH services is central to their professional training.

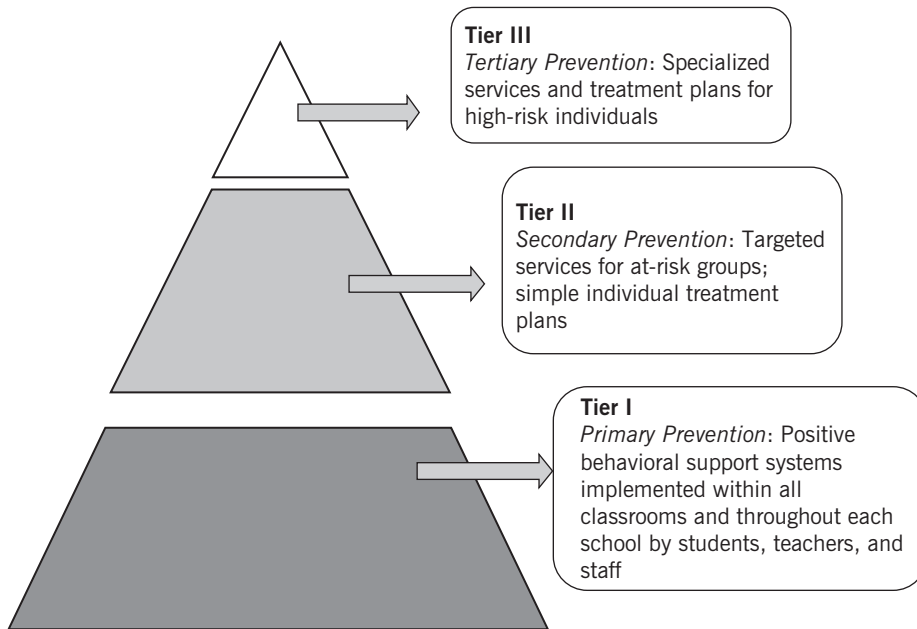


FIGURE 22.1. Illustrative depiction of the SWPBIS three-tiered approach to prevention and service delivery. Based on *www.pbis.org*.

orative in nature. Its aims are to build the capacity of schools, families, and communities to (1) effectively teach and promote positive behaviors, academic achievement, and life skills; (2) reduce the prevalence and severity of problem behaviors; and (3) identify and provide evidence-based services to all students with particular needs. SWPBIS emphasizes a preventive approach to enhancing outcomes for students by cultivating a prosocial and proactive school culture that is intended to allow students access to services they need (Sugai, Horner, & Lewis, in collaboration with U.S. Department of Education, 2009).

SWPBIS utilizes a three-tiered, needs-based approach to prevention and service delivery. Tier 1 provides positive behavioral support systems to all students and staff as a form of primary prevention. Ideally, this tier is manifested as a pervasive shift in school culture; it teaches, recognizes, and praises positive behavior, while deemphasizing and socially rejecting problem behaviors. Tier 2 provides targeted support systems to at-risk groups or designates simple individual plans for students who have not sufficiently responded to Tier 1 services. This form of

secondary prevention aims to reduce the number of existing problem behavior cases and prevent or decrease individual needs for Tier 3 services. Lastly, Tier 3 provides highly individualized and specialized support systems for high-risk students, with the goal of reducing the severity and intensity of individual problem behaviors (Sugai et al., 2009). The SWPBIS model includes teams of professionals involved in the decision-making process that support and manage the provision of these services within a school.

Life Course Model of Children's Behavioral Health Care

The comprehensive life course model of children's behavioral health care (see Figure 22.2; hereafter referred to as the "life course model") is an innovative model that was designed to enhance the outcomes of children with ADHD, but is also applicable to students with a variety of emotional and behavioral problems (Evans et al., in press). Like SWPBIS, the life course model is best defined as a decision-making framework. Specifically, the life course model is intended to inform service providers and parents how

to prioritize care that enhances the individual competencies and skills necessary for a specific child or adolescent to become an independent and successful adult. The life course perspective, which informs the model and the approach, emphasizes the long-term implications and outcomes of early life experiences on the health and developmental outcomes of individuals across the entire life span (Braveman & Barclay, 2009). In order to achieve such long-term outcomes, the model emphasizes a systematic, sequenced approach to developing individualized care plans; collaboration among parents, school professionals, medical providers, and mental health professionals; and adherence to a set of principles that define high-quality care.

The life course model has two major components: (1) four layers that guide the sequencing and selection of evidence-based services, and (2) seven principles of care constituting guidelines for the provision of services. Because teachers and parents manage the two primary environments in which children develop, Layer 1 involves providing foundational assessment and psychoeducational services to ensure that these settings are supportive, well managed, and nurturing. Therefore, at Layer 1, SMHPs help teachers and parents use tools and strategies that are necessary to establish and maintain caring, supportive, and safe environments for all children. If Layer 2 services are needed, implementation of these Layer 1 tools and strategies should continue, and Layer 2 strategies should build upon them. At Layer 2, evidence-based psychosocial services are selected and implemented according to the presenting problems of the child referred for services. These services may be provided by SMHPs or professionals in any other child-serving agency, and may range in intensity from minimal to intensive. Furthermore, various psychosocial services may be provided at this layer, and revisions to service should be made on the basis of children's responses to interventions. Layer 3 involves pharmacological treatment and is provided by physicians or psychiatrists in the community. Services provided as part of the first two layers should usually continue when a child is moved to medication treatment, as movement to the next layer in the life course model does not include the termination of services at earlier layers. Finally, Layer 4 involves

the use of accommodations and modifications to help children participate in educational and other activities with their peers. In accordance with the life course model's goal of increasing individual competencies and achieving long-term life outcomes, accommodations and modifications are viewed as a last resort because they frequently involve lowering expectations and passively supporting low functioning (see Harrison, Bunford, Evans, & Owens, in press, for a review). Furthermore, most services at this layer do not promote the development of competencies that enhance independent functioning. Therefore, Layer 4 services are generally reserved for children who have failed to respond adequately to combinations of services from Layers 1, 2, and 3. To a large degree, sole reliance on these services represents "giving up" on attempting to help a child become an independently functioning individual who can meet the age-appropriate demands of school and society.

The seven principles of care in the life course model dictate best practices for service delivery across all four layers. These principles detail seven crucial elements for tailoring treatment and eliciting engagement, responsiveness, and adherence from all key stakeholders. Broadly, the seven principles of care are as follows: (1) attending to cultural and contextual factors, (2) engaging families, (3) considering children's developmental level, (4) planning according to individualized needs, (5) utilizing progress monitoring tools, (6) coordinating efforts among systems of care, and (7) employing practice supports. Together, these principles allow children, families, teachers, and professionals to communicate effectively, plan efficiently, and implement comprehensive services across providers and with consideration of cultures and individual differences. For a detailed description of the model, see Evans and colleagues (in press).

Similarities and Differences between the Models

SWPBIS and the life course model represent two distinct frameworks for approaching school-based health service delivery; however, they are not mutually exclusive and may be complementary, as there are

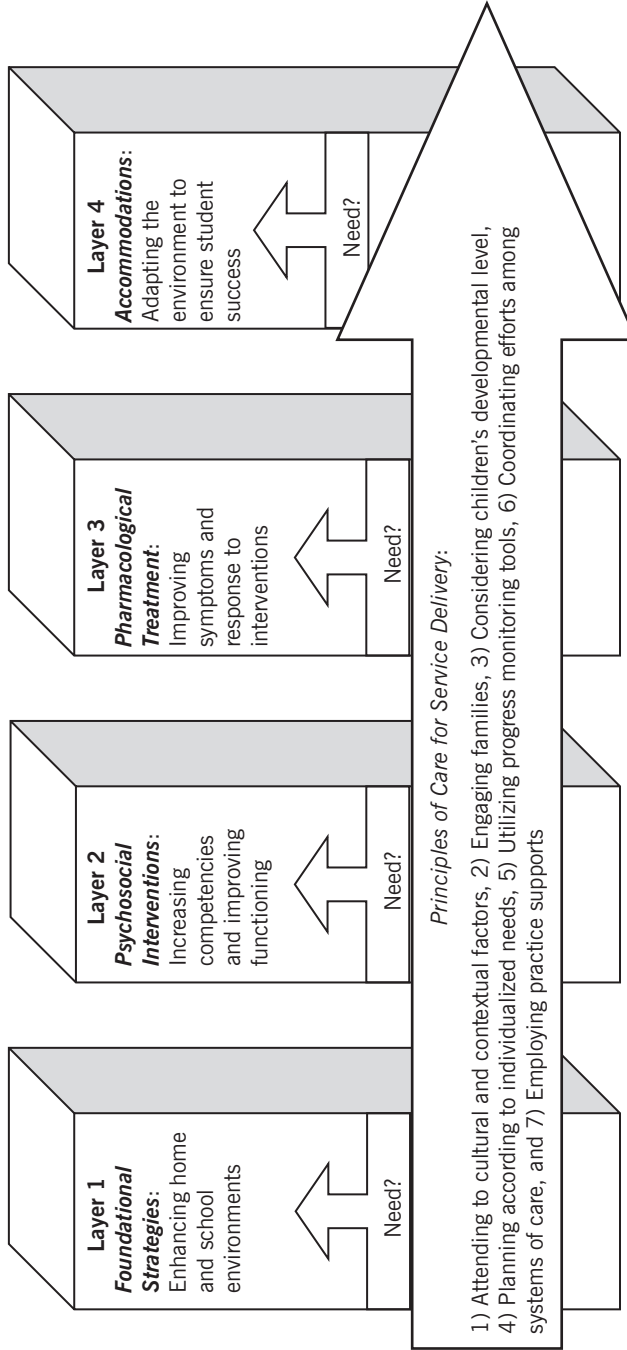


FIGURE 22.2. Illustrative depiction of the life course model, including sequence of services, description of layers, and list of principles of care. The relevance of each layer is assessed on a case-by-case basis; thus layers may be skipped, exclusively endorsed, or variously combined to best address individual needs. Based on Evans, Owens, Mautone, DuPaul, and Power (in press).

some similarities between them. First, both frameworks apply an RTI-guided decision-making system. When providing services in any of the SWPBIS tiers or the life course model's layers, service providers are supposed to measure outcomes and make modifications to the services if those outcomes indicate the need for changes. Second, in both frameworks, each tier or layer does not consist of just one service, but instead may include multiple services concurrently or services that follow one another as goals are achieved or outcomes indicate that a modification to services is warranted. Third, in neither model is a child or adolescent restricted to receiving services in only one tier or layer. For example, in SWPBIS, a student should continue to receive schoolwide prevention services (reinforcement of prosocial behavior during hallway transitions) while receiving a Tier 2 intervention (an individual behavioral plan to address aggression). In the life course model, a student may receive temporarily reduced expectations for completing homework (Layer 4) while he or she and the parents are learning to implement a homework management plan (Layer 2). As the student masters the homework management plan, the expectations for homework completion should return to normal. Lastly, both models articulate the order in which services should be considered and ideally attempted, although both models recognize that some students may require modifications to the proposed sequences.

Despite these commonalities, there are several distinctions between the models. Below, we highlight four important differences, followed by their implications for SMHPs.

Intended Clients

A main difference between the two models is the clients for whom they are intended. SWPBIS is a model that is intended for educators and school administrators to help them organize their services efficiently—that is, in a manner that minimizes cost while attempting to meet the needs of all students. The life course model is intended for parents and service providers (both within and outside schools) to help them determine the best sequence and process for providing services to a child or adolescent with emo-

tional and behavioral problems. This distinction is important to consider as schools or other organizations attempt to implement these models, as this distinction may guide (1) the composition of a committee that may advocate for or develop the plan to implement the models, (2) the personnel needed to implement the models, and (3) the financial structure needed to implement the models.

Specificity of Interventions

Because SWPBIS is solely a decision-making framework, the particular interventions or modalities of interventions that are used in each tier are not specified by the model. Instead, each school team's members use the framework to evaluate their local resources, as well as available resources (e.g., registries of evidence-based practices) to select the services that will be provided in each level. As such, the tier-based services offered within schools in one district may differ from those offered in a second district. In contrast, the life course model offers more specificity about the evidence-based interventions at each layer and stipulates the intended sequence in which each service modality (i.e., interventions, medication, accommodations) should be considered. For example, for problematic school behavior, helping parents address their child's basic sleep and nutritional needs (Layer 1) should be considered before an individualized behavior plan (Layer 2) is selected. Similarly, because many classroom behavior interventions (Layer 2) can produce benefits in following classroom rules and academic productivity that are comparable to those achieved with medication alone (Fabiano et al., 2007), evidence-based psychosocial interventions should be considered before medications (Layer 3).

Prevention

Although both models include implications for universal prevention, these services play a much larger role in SWPBIS than in the life course model. A key distinction related to this difference is that SWPBIS precedes the recognition of a problem and includes an extensive emphasis on prevention. In SWPBIS, universal prevention is a fundamental element because it frames the schoolwide cultural reform necessary for the effective

implementation of SWPBIS. Furthermore, the efficacy of universal prevention services determines the number of students who are designated to higher, need-based tiers, resulting in a strong emphasis on prevention in order to conserve resources. Much of the literature on SWPBIS is focused on prevention services, and this is an area of emphasis in describing the model. In contrast, the life course model begins at the point of problem recognition and addresses specific problem behaviors, as well as the environment in which the child with these problems lives and learns. The life course model includes implications for universal prevention in Layer 1; that is, services intended to help teachers and parents maintain supportive and well-managed environments can be beneficial to the target child, as well as to other at-risk students. Nevertheless, the primary emphasis of the life course model is on services following a referral, whereas SWPBIS places extensive emphasis on school-based prevention services.

Outcomes

A person reading descriptions of SWPBIS and the life course model would find that the desired outcomes are described similarly. The difference between the two models' outcomes is that specific services commonly provided to students in Tiers 2 and 3 in SWPBIS and in special education are expressly contraindicated in the life course model *until after* many other services are found to be inadequate. For example, a review of services provided to students with ADHD who were in special education or were receiving Section 504 plans indicated that extended time on tests, reduced expectations for independently completing assigned work, and preferred seating were three of the most common services provided (Spiel, Harrison, Evans, & Owens, 2012). These services could be considered to fit under Tier 2 or 3 of SWPBIS, but because these services do nothing to enhance the competencies of the students receiving them, they would not have been provided in the life course model until all else failed, including extensive psychosocial services (Layer 2) and medication (Layer 3). The legislation governing special education services and Section 504 plans encourages the use of accommodations

and modifications, in spite of their lack of empirical support with students having emotional and behavioral problems (Harrison et al., in press). Thus students assigned to Tier 2 or 3 in SWPBIS may receive services that would be withheld in the life course model. Although the desired outcomes of the two models are described similarly (due to greater specificity of acceptable services within the layers of the life course model), there are important differences in how services may be provided to students, particularly those in special education.

It can be difficult to implement many aspects of both models, due to time demands on school professionals and the well-intended advocacy of other professionals and some parents. Some of these challenges are described below, followed by specific recommendations for how an SMHP can implement aspects of both models.

Limitations and Obstacles to Implementing the Models

Although there are numerous ways that SMHPs can implement key aspects of the SWPBIS and life course models to help students with emotional and behavioral problems, there are also many limitations and obstacles to be addressed. Below, we discuss common obstacles related to SMHP expertise, time, and supervision, and make recommendations for surmounting these obstacles.

Expertise

Although evidence-based practices are the "gold standard" for treatments and interventions, there is evidence that many SMHPs are not aware of or not implementing such interventions, and that preservice professionals are not being trained in them. For example, results from 345 surveys completed by mental health professionals in schools and communities revealed that almost half of these professionals in both settings were unfamiliar with *any* evidence-based practices for substance use prevention (Evans, Koch, Brady, Meszaros, & Sadler, 2013). Kelly and colleagues (2010), describing the results of a large survey of school social workers, reported that a majority of the children referred to the school social

workers were referred for behavioral issues (57.8%), and that over 60% of the respondents reported providing individual counseling all or most of the time. Because individual counseling is rarely a best practice for helping students with behavioral issues, this suggests that students may not be receiving evidence-based practices. In addition, a survey of directors of graduate-level school psychology programs (Shernoff, Kratochwill, & Stoiber, 2003) revealed that fewer than half of the directors surveyed were familiar with the majority of evidence-based programs listed on the survey. Furthermore, the investigators reported that for the majority of interventions listed, fewer than one-quarter of the directors reported that their students received any direct experience with their implementation. Collectively, these studies suggest not only that practitioners need better access to evidence-based practices, but that both preservice and inservice training in evidence-based practices for SMHPs are greatly needed. Without the requisite skills necessary to provide the prevention and intervention services described in the two models reviewed, students are not going to receive best practices from school-based providers.

Time

Providing evidence-based practices in schools requires that SMHPs spend a considerable amount of time training, consulting, implementing, troubleshooting, and assessing. This can be a challenge when the time of these professionals is allocated to other tasks. Two independent studies have indicated that SMHPs spend an average of one-third of their time performing administrative tasks (Evans et al., 2013; Kelly et al., 2010). It has been our experience that many of these tasks are focused on activities unrelated to addressing the emotional and behavioral needs of students. For example, one of the most common tasks often assigned to school counselors is scheduling. Although creating schedules can be a complex task, it is not one that requires the expertise of someone with a graduate degree in mental health. In fact, it is likely that someone without any college education could complete such a task. Similar arguments could be made for many of the other tasks often

expected of SMHPs. Even career guidance is unlikely to require someone with the education and training of an SMHP, yet it is often an expected responsibility for SMHPs. These tasks take SMHPs away from work that they are uniquely trained to accomplish at schools (consultation with teachers, direct intervention with students) to meet the needs of students with emotional and behavioral problems.

The reassignment of SMHPs to tasks unrelated to mental health diminishes the resources not only of the school, but also of the community. The dearth of available mental health services for children and adolescents has been reported extensively in the literature (Kataoka et al., 2002). However, the reported lack of qualified service providers may not actually exist, even in rural areas. SMHPs have training equivalent to that for the majority of mental health professionals in community clinics and hospitals (master's-level counselors and social workers). If the time of SMHPs was prioritized for addressing the emotional and behavioral problems that interfere with student learning in their schools, then the lack of available services might be markedly improved. In fact, given some of the advantages of SMH services over community services that are described in the literature (Evans, 1999), both the quantity and quality of care may be enhanced.

Supervision

There is ample documentation regarding the need for training and supervision for the effective delivery of evidence-based practices. Not simply initial training, but continual supervision and performance feedback, appear to be required (e.g., Beidas et al., 2012; Lochman, Boxmeyer, Powell, Qu, & Wells, 2009; Sheridan, Salmon, Kratochwill, & Carrington Rotto, 1992). For example, in a study on the outcomes of the Coping Power program, Lochman and colleagues (2009) reported improved student outcomes for participants who received the intervention from clinicians with greater degrees of training and support than for participants receiving it from clinicians with less. Research shows that removing close supervision results in practitioners' drifting from procedures; this leads to the pro-

vision of services that are inconsistent with evidence-based practices, even after extensive training (Henggeler, Melton, Brondino, Scherer, & Hanley, 1997). The importance of training and continual support cannot be understated or simply attributed to lack of time. In fact, the lack of time was found to be unrelated to the use of evidence-based practices (Evans et al., 2013), suggesting that it may be secondary to training and support.

Unfortunately, many schools are not structured to provide SMHPs with training and support because many SMHPs are not supervised by professionals with mental health training. They frequently report to principals or special education administrators, who are often unable to provide the ongoing supervision and performance feedback necessary to provide evidence-based interventions with integrity. In fact, the common reliance on principals to provide SMHPs with supervision may also help explain the extensive use of SMHPs' time for administrative tasks. Finding ways for SMHPs to receive the type of training and support necessary to provide high-quality services may require some creative arrangements between school districts and universities or high-quality mental health provider organizations in the community.

In spite of the limitations described above, there is still a great deal that an SMHP can do to improve the care provided to students within the framework of either the SWPBIS or life course model. Expertise and supervision can be obtained, and priorities for one's time can be negotiated. Furthermore, simply optimizing the time that is available for providing the services outlined in these two models is an important first step toward improving the outcomes for students. Local, regional, and national meetings are excellent resources for learning how others approach this work and for becoming trained in evidence-based techniques. The limitations of expertise, time, and supervision are real obstacles to implementing these two models, but creative and persistent SMHPs have found ways to limit their negative impact. Below are some examples of how SMHPs can bridge the gap between science and practice within the context of both models to improve the outcomes for students.

Implications for School Mental Health Professionals

Universal Prevention (Tier 1 and Layer 1)

There are many roles for SMHPs in the implementation of universal prevention services. SMHPs can participate in screening, the direct provision of services, and consultation. In addition, SMHPs can review available programs and services that address issues related to emotional and behavioral health. They can also evaluate their research base, using research journals, books, or resources such as the NREPP (www.nrepp.samhsa.gov/Index.aspx) and the What Works Clearinghouse (WWC; <http://ies.ed.gov/ncee/wwc>) to ensure that they are familiar with the most effective treatments and programs for children and adolescents. Furthermore, SMHPs can advise administrators on the allocation of resources related to student services and training that may be beneficial to the educators and SMHPs in the school. Following are some specific examples of universal prevention services that SMHPs could initiate and coordinate.

One of the most thoroughly studied classroom-based universal strategies to improve classroom behavior and to prevent future substance use and delinquent behavior is the Good Behavior Game (GBG; Embry, 2002; www.air.org/focus-area/education/?id=127). There may be no other teacher practice that has the same level of evidence for short- and long-term benefits for elementary school children than the GBG. This is a fairly simple teacher practice based on behavioral techniques. SMHPs' training and background in behavioral practices make them ideal candidates to learn the GBG and provide training and support for teachers. Large-group training sessions, followed by individual meetings to support teachers in implementing the program, are recommended practices to initiate and sustain this technique. Follow-up observations accompanied by performance feedback (Mortenson & Witt, 1998) can be used to maintain treatment integrity. If an SMHP is looking for how to make the biggest difference in student behavior in an elementary school with the least cost, then the GBG certainly warrants consideration.

A teacher practice that may help improve the peer relations of students in young ele-

mentary school classrooms involves the use of teacher strategies that complement the GBG and other behavior management techniques. The teaching approach is called MOSAIC (Making Socially Accepting Inclusive Classrooms) and has been studied in a randomized trial with students with and without ADHD (Mikami et al., 2013). The approach requires teachers to spend some individual time with each student, value the strengths of each student, avoid comparisons and public criticism, and make positive statements about all students in the classroom. The results of the trial indicated that the social status of boys was much better in classrooms where teachers used the MOSAIC practices than in control classrooms, although girls received little benefit. A smaller study evaluating some of the MOSAIC techniques was evaluated in a middle school and showed promising results related to peers' social relations (Mikami, Boucher, & Humphreys, 2005). The training that many SMHPs receive in graduate school pertaining to active listening and to establishing and maintaining supportive relationships with students could provide a strong foundation for learning this approach and sharing it with teachers, in a manner similar to that described for the GBG.

There are also many universal prevention programs for secondary schools. One that is comprehensive and has been used throughout Australia, Germany, and other countries is MindMatters (see www.mindmatters.edu.au/default.asp). The goals of the program, according to its website, are:

- Embed promotion, prevention, and early intervention activities for mental health and well-being in Australian secondary schools.
- Enhance the development of school environments where young people feel safe, valued, engaged, and purposeful.
- Develop the social and emotional skills required to meet life's challenges.
- Help school communities create a climate of positive mental health and well-being.
- Develop strategies to enable a continuum of support for students with additional needs in relation to mental health and well-being.
- Enable schools to better collaborate with families and the health sector.

The curriculum incorporates many components that include programs intended to improve students' and staff's understanding of mental illness, enhance resilience, address bullying, and help students cope with loss and grief, among other topics. Individual MindMatters programs may be selected according to the needs of the school, and many of the materials needed to implement this universal prevention program can be downloaded for free from the website. Given the focus on emotional and behavioral issues in most components of the program, SMHPs are ideally suited to take the lead at initiating it within a school district. Although MindMatters has not been widely used in the United States, an initial feasibility study has been completed and indicated that, with a few small revisions, the program is well suited for secondary schools in this country (Evans, Mullett, Weist, & Franz, 2005).

These three universal interventions are examples of programs that SMHPs could help to implement in their schools to meet the goals of Tier 1 in SWPBIS. There are many other universal prevention programs, including some that have been well established for many years, such as the Primary Mental Health Project (Cowen et al., 1996) and the Second Step program (Committee for Children, 1992). Most of these programs address the emotional and behavioral needs of children as they progress through school and are thus well suited for involvement by SMHPs. In fact, it is hard to imagine many of these programs operating successfully without the involvement and leadership of SMHPs in the school.

One of the key aspects of universal prevention programs involves the home setting. A supportive and healthy home environment can reduce the likelihood of learning and behavioral problems at school (Pianta, 1997). Although there are education and parenting programs for parents of school-age children, one of their limitations is a lack of outreach to parents in many communities by school professionals. This area of study has received considerable attention, and Kathleen Hoover-Dempsey and her colleagues have contributed much of the outstanding work in the area. After initially developing a model of parent engagement in schools, based on the research available at the time (Hoover-Dempsey & Sandler, 1995), they

have continued to test and develop the model (Hoover-Dempsey et al., 2005). In addition to advancing our understanding of parent engagement, this work has also generated specific practices by educators, administrators, and SMHPs that can enhance parent engagement. Some of the engagement strategies offered in the Hoover-Dempsey and colleagues (2005) publication include:

- Empower teachers for parental involvement; create dynamic, systematic, and consistent school attention to improving family–school relationships.
- Learn about parents’ goals, perspectives on their child’s learning, family circumstances, and culture.
- Offer a full range of involvement opportunities, including standard approaches and new opportunities unique to school and community (e.g., first-day-of-school celebrations, parent workshops, social/networking events).
- Give parents specific information on how their involvement in activities will influence learning.
- Create and support parent and parent–teacher networks in the school.

Parent engagement in schools will increase SMHPs’ ability to disseminate general information and training about parenting, and to screen for home situations that may warrant attention. Indeed, parent engagement in schools may be the primary prerequisite for all other universal prevention efforts targeting parents and families in the community.

Psychosocial Interventions (Tiers 2–3 and Layer 2)

Numerous psychosocial interventions for youth of all ages exist, and many of these have considerable empirical support. Some intervention programs are designed to be implemented in schools and have been evaluated in schools. Some of these include the First Step program (Walker, Severson, Feil, Stiller, & Golly, 1998) for young children, the Coping Power program (Lochman & Wells, 2004) for children in upper elementary grades, and the Challenging Horizons program for adolescents in middle and high schools (Evans, Schultz, DeMars, & Davis, 2011; Evans, Serpell, Schultz, & Pastor, 2007). These examples focus on

reducing or preventing problems related to disruptive behavior disorders. Other programs have been modified from clinic-based techniques to match the resources and schedules of schools. One such program is the Cognitive-Behavioral Intervention for Trauma in Schools (CBITS) program, designed to reduce the symptoms of post-traumatic stress disorder (PTSD) in middle school children (Jaycox, 2004). In a randomized trial, the CBITS program was provided to middle school students by trained SMHPs (Stein et al., 2003) and produced significant decreases in symptoms of depression and PTSD. CBITS has a user-friendly published manual that SMHPs could use to provide the intervention in their school (see Jaycox, 2004). Finally, other psychosocial interventions have been developed for clinics, but SMHPs have been trained to implement them in school settings (e.g., Beidas et al., 2012). These authors trained SMHPs to provide the Coping Cat program (for which a treatment manual is also available; Kendall, 2000), which was developed to treat anxiety disorders in elementary school-age children. All of these intervention programs are appropriate for Tiers 2–3 in the SWP-BIS model and Layers 1–2 in the life course model.

These and other evidence-based interventions for children and adolescents are the key tools that mental health practitioners intending to practice in schools need to be taught in graduate school. For those who are not, training opportunities are available for some of these programs at the NREPP and WWC websites provided earlier in this chapter. Other training opportunities exist at conferences, such as the annual meetings of the National Association of School Psychologists (NASP; www.nasponline.org/conventions/2013/index.aspx), the Association for Behavioral and Cognitive Therapies (ABCT; www.abct.org/Members/?m=mMembers&fa=Convention), and others. Access to evidence-based interventions through SMHPs is likely to make a big difference in the availability and quality of care in many communities.

Medication Treatment (Layer 3)

Medication treatment is an option frequently selected by parents to help a child or adolescent with emotional and behav-

ioral problems. As a result, it is an important part of the life course model and one that has implications for SMHPs. Although there are concerns about the liability that a school district assumes if staff members recommend medication treatment for a child, SMHPs are often the conduits for providing parents with information about the variety of options available to help their child. As a result, it is the responsibility of SMHPs to stay informed about medication treatments and help parents understand how they should be considered in relation to other interventions.

The creators of the life course model propose that medication treatment should not be considered until after psychosocial interventions have been tried (Evans et al., in press). They argue that the primary goal of any services provided to children and adolescents with emotional and behavioral problems is to help them function independently without supports to meet society's (and school's) expectations for them. The benefits experienced while taking medication require a dependence on that medication. The creators of the life course model do acknowledge that important steps toward independence may be facilitated by medication, and thus it remains an important option in the layers of their model. Furthermore, there are many individuals who achieve much greater independence and fulfillment in their lives due to continuous use of medication than they might have achieved without medication. As a result, medication is certainly an important tool for the treatment of acute and chronic emotional and behavioral problems for many youth; however, in the life course model, initiating this course of treatment is recommended for most children after interventions at the first two layers have been attempted.

It should be noted that the sequence of interventions proposed in the life course model—specifically, putting medication treatment after psychosocial interventions—is inconsistent with some practice guidelines proposed by other professional organizations. For example, the guidelines for treating children and adolescents with ADHD from the American Academy of Pediatrics (e.g., Subcommittee on ADHD, Steering Committee on Quality Improvement and Management, 2011) suggest that medication should be considered as an ini-

tial treatment for some children, and the guidelines from the American Academy of Child and Adolescent Psychiatry (e.g., 2007) recommend that medications should be the first step in treatment for children with some disorders. A well-informed SMHP should know the diverse opinions related to the sequencing of interventions and take these into account when educating parents.

Although SMHPs may be hesitant to recommend medication treatment to parents, they can provide parents with information about where to obtain medication treatment, the risks and benefits of taking medication to treat emotional and behavioral problems, and the rationale for various recommendations regarding the sequencing of interventions and the role of medication. Providing information to all interested parents about medication, in the context of disseminating information about all services that may be helpful to parents of children with emotional and behavioral problems, is unlikely to constitute a referral or recommendation for any individual parent to have a child take medications. (Note that this is not a legal opinion.) However, helping parents make informed choices about services available to them at school and in the community is an important service that is consistent with both the SWPBIS and life course models.

Accommodations (Layer 4)

The decision to place accommodations at Layer 4 in the life course model, and only to consider them as a last resort for helping children with emotional and behavioral problems, is also somewhat controversial. Accommodations are required for children eligible for special education services (Individuals with Disabilities Education Improvement Act Regulations of 2006) and are some of the most frequently provided services for children with emotional and behavioral problems (Spiel et al., 2012). To understand the rationale for providing accommodations only as a last resort, it is important to start with a definition of “accommodations.” A definition gleaned from the literature on accommodations has been proposed by Harrison and colleagues (in press). In order to understand their definition, it is important also to consider the definitions they have proposed for two other frequently used

terms to describe services for children; therefore, these definitions also appear below.

1. *Modifications* are changes to practices in schools that alter, lower, or reduce expectations to compensate for a disability.
 - *Example:* A student with a reading disability is allowed to take an alternative English class that includes only literature and exams written three grade levels below the student's actual grade level.
2. *Accommodations* are changes to practices in schools that hold a student to the same standard as students without disabilities (i.e., grade-level academic content standard), but provide a differential boost to mediate the impact of the disability on access to the general education curriculum ("level the playing field").
 - *Example:* The same science test taken by all students in the class is read to the student with a reading disability. The student is accountable for all of the same grade-level science content, but is not required to read the test items independently.
3. *Interventions* are changes made through a systematic process to develop or improve knowledge, skills, behaviors, cognitions, or emotions.
 - *Example:* A student with a reading disability receives remedial reading instruction in addition to the rest of the grade-level curriculum to improve his or her reading skills to grade-level expectations.

From these definitions, it becomes apparent that neither modifications nor accommodations help the student to meet age-appropriate expectations independently, without supports. In fact, accommodations and modifications may eliminate the need for interventions by alleviating the short-term problem at the cost of sacrificing the long-term goal of independent self-sufficiency. Due to the fact that long-term independent functioning is the metric against which all services were measured to establish the sequence of the layers in the life course model, accommodations (and modifications) were considered a last resort.

Many SMHPs are involved in the design and implementation of services for children

and adolescents with emotional and behavioral problems. To the extent that they can help others understand the benefits of withholding accommodations and modifications until the techniques in Layers 1–3 have been tried, the SMHPs may help enhance the long-term outcomes of these students. In addition to proposing the definitions above, Harrison and colleagues (in press) also reviewed the evidence for accommodations and modifications for students with emotional and behavioral problems, and found that there are none with empirical support that meet the definition of an accommodation. So in addition to the rationale described above for beginning with Layers 1–3 in the life course model, many services that are part of the first three layers are the only ones with evidence indicating that they are effective. As a result, we believe that it is in the best long-term interests of the students to designate accommodations as a last resort, to be offered only after the evidence-based interventions in Layers 1–3 have been provided.

SMHP Practices That Enhance Care

SMHPs face the previously described limitations of expertise, time, and supervision, as well as many others; nevertheless, they also have an incredible opportunity to increase the quality and quantity of care provided to students with emotional and behavioral problems. In our work in dozens of elementary, middle, and high schools in urban, suburban, and rural communities, we have witnessed many SMHPs overcome these limitations to make important differences in the lives of children and adolescents. Although there is no single set of steps that an SMHP can take to achieve this goal, some common factors characterize those who do this. The first may be that they believe they can make a difference and they prioritize their mental health provider role accordingly. They also advocate with administrators for the opportunity to prioritize the provision of services for students, instead of the administrative tasks that they are often assigned. They describe SMH as a goal for all school professionals and one that will enhance the learning and behavior of all students. In addition, many of these SMHPs find allies and support with other mental health professionals in the commu-

nity (e.g., at universities and mental health agencies). Often these collaborators can help SMHPs access resources and materials that can help the SMHPs meet the needs of students. These may include training opportunities, lines of communication that can help with the coordination of care for students, and members of the community who can echo their message that meeting the needs of students with emotional and behavioral problems is important. Many of the SMHPs who manage to overcome the limitations they face also reach out to parents. We have found that the likelihood that SMHPs reach out to parents tends to decrease as the age of the students increases. We understand the many challenges associated with successful parent outreach with adolescents, which are beyond the scope of this chapter; however, we have also seen SMHPs who do this well. In addition to enhancing the likelihood of being successful in efforts to help the students, active outreach to parents also frequently yields important advocates for the importance of the work of SMHPs.

Finally, some of the most effective SMHPs we have observed across all levels gather data and use these data to inform their practices and advocate for resources to advance their mission. Both SWPBIS and the life course model encourage the use of measurement. Being able to document that services improve behavioral and academic performance can be a powerful tool when SMHPs are arguing for time to work with students. Understanding the problems that challenge teachers and other school staff allows SMHPs to develop Tier 1 services to problems most concerning to colleagues. Knowing which students are not responding to current schoolwide prevention strategies can help SMHPs identify and implement new Tier 1 services, and be prepared with individual services for the types of problems students who need individual interventions are likely to exhibit. Data help SMHPs work smarter and more efficiently than they often can do without carefully measuring the need for and benefits of their work.

Conclusions and Future Directions

SWPBIS and the life course model provide frameworks that can help SMHPs improve

the quality of care to students; however, there is still a great deal to learn about both. Although many of the interventions within both models have been empirically studied, there is little to no evidence that the frameworks and decision-making implications themselves make a positive difference for students. In addition, numerous important questions remain about the effect of the sequence in which interventions are provided; the relative benefits and side effects of interventions, accommodations, and modifications; and the role of individual differences in students' responses to interventions. In addition to offering an example of how to organize and understand services, an important purpose of such models is to raise important questions that can be studied and the results used to advance our models of understanding. Both of these models accomplish these purposes.

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Improving Transition Outcomes for Students with Emotional and Behavioral Disorders

Deanne K. Unruh and Christopher J. Murray

Along history of research in education and psychology suggests that youth and young adults with emotional and behavioral disorders (EBD) have poorer long-term adult outcomes than do other youth, including youth with other types of disabilities (Frank, Sitlington, & Carson, 1995; Wood & Cronin, 1999). Youth with EBD have poorer grades during high school, are less likely to graduate from high school, and are more likely to have some involvement with the juvenile justice system during adolescence (Newman et al., 2011; Zabel & Nigro, 1999). Although such youth are difficult to follow into adulthood, results of early follow-along studies have indicated that young adults with EBD were less likely to be employed, less likely to attend postsecondary school or training, and more likely to be “unengaged” than were young adults with and without disabilities (Frank et al., 1995; Neel, Meadows, Levine, & Edgar, 1988).

Recent findings from the National Longitudinal Transition Study–2 (NLTS2; Newman et al., 2011), described by Wagner in Chapter 5 of this volume, are consistent with these early findings. For example, up to 8 years after high school, approximately two-thirds of young adults with learning disabilities (LD), speech–language impairments, hearing impairments, visual impairments, and other health impairments have

attended some form of postsecondary school or training, whereas only half as many students with EBD have attended postsecondary school. At the same time point, approximately 50% of young adults with EBD were employed, compared with 67% of youth with LD and 64% of youth with speech–language impairments who were employed. Moreover, compared with students in all other disability categories, youth with EBD had the highest number of jobs and the lowest duration of employment, indicating high rates of job turnover. Perhaps most disturbing is the finding that up to 8 years following high school, *two-thirds* of youth with EBD reported having had some involvement with the criminal justice system (Newman et al., 2011).

Longitudinal research has been instrumental in helping to explain the stability of deviant behavior across developmental periods for students with EBD, particularly among so-called “early starters” (Robins, 1978; Stattin & Magnusson, 1991). Gerald Patterson and his colleagues (Patterson, DeBaryshe, & Ramsey, 1989; Patterson, Reid, & Dishion, 1993) proposed a developmental/family interaction model to account for these behavior patterns. According to this model, ineffective parent management during childhood contributes to antisocial behavior, which in turn leads to peer

rejection and poor academic performance, including school failure and dropout during adolescence. Peer rejection and poor academic performance, in turn, contribute to deviant peer group affiliations, delinquency, and long-term chronic difficulties (Patterson et al., 1989, 1993; Reid, Patterson, & Snyder, 2002). Patterson, Forgatch, Yoerger, and Stoolmiller (1998) provided compelling evidence in support of this model by showing that high levels of problem behavior during childhood predicted early arrests during adolescence, which in turn predicted chronic offending during early adulthood. Moreover, whereas ineffective parent management practices were shown to be highly predictive of antisocial behavior during childhood, this effect diminished across time; other variables—mainly deviant peer affiliations—were shown to predict early arrests and chronic offending. A similar model was proposed by J. David Hawkins and his colleagues (Hawkins, Catalano, & Miller, 1992; Hawkins & Weis, 1985), who identified a similar set of negative social and contextual experiences (risks) as well as a lack of positive developmental experiences (promotive and protective factors) as contributing to cascading chains of negative developmental events, such as deviant behavior, poor social bonds, school dropout, and poor adult adjustment (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999).

The Patterson and Hawkins/Catalano models are important because they move beyond individual, deterministic explanations for developmental outcomes. Instead, these models are consistent with ecological models (Bronfenbrenner & Morris, 1998) and developmental systems theories (Ford & Lerner, 1992), in that they highlight the developmental significance of transactional experiences within multiple contexts (i.e., families, peer groups, schools, and communities), and they show how experiences within these contexts affect the long-term outcomes of youth. Although ecological models and developmental systems theories have not been applied extensively to research in the area of transition, features of these models are clearly evident in research on EBD. Hobbs (1982)—in his description of the defining features of Project Re-ED (reeducation of emotionally disturbed children), originally implemented in the

early 1960s and based on social-ecological frameworks—noted that “Emotional disturbance is a symptom not of individual pathology but of a malfunctioning human ecosystem” (p. 9).

Consistent with these perspectives, a recent literature review in secondary special education and transition (Test, Mazzotti, et al., 2009) identified individual skills (Gresham, Sugai, & Horner, 2001; Wehmeyer & Schwartz, 1997), as well as family-based (Shandra & Hogan, 2008), school-based (Halpern, Yovanoff, Doren, & Benz, 1995; Shandra & Hogan, 2008; White & Weiner, 2004), and community-based (Bullis, Davis, Bull, & Johnson, 1995; Repetto, Webb, Garvan, & Washington, 2002) factors, that may be predictive of positive postschool outcomes. Test, Mazzotti, and colleagues (2009) identified a total of 16 categories of predictors that were found to be correlated with improved postsecondary education, employment, and/or independent living. These predictors can be grouped under the following major categories: (1) individual skills (e.g., social skills, self-advocacy/self-determination, career awareness, and functional skills); (2) family factors (e.g., parental involvement); (3) school factors (e.g., exit exam requirements/high school diploma status, inclusion in general education, occupational courses); and (4) community factors (e.g., paid work experience, interagency collaboration, occupational coursework, community experiences, and work-study).

The goal of the current chapter is to examine the evidence-based practices that have emerged to date for improving the long-term outcomes of students with EBD. In doing so, we focus mainly on the postschool outcomes described in the pioneering work of Halpern (1985, 1994) and later stipulated in the Individuals with Disabilities Education Improvement Act (IDEA) of 2004 (§ 300.1(a)), which include employment, postsecondary education and training, and independent living. We agree that postschool outcomes are not easily understood in terms of unitary predictors or simple explanations, so our review of promising practices focuses on the development of transition-related competencies in multiple ecological contexts (i.e., at the individual, family, school, and community levels). We also examine the coordination of

these systems within multicomponent interventions. We conclude with a brief discussion of the policy implications of such an agenda for those who have a stake in ensuring that children and youth with EBD have opportunities to experience successful life outcomes.

Evidence-Based Practices and Predictors of Postschool Success

We organize the discussion of evidence-based practices for youth with EBD around the recent work of Test, Mazzotti, and colleagues (2009), who identified in-school predictors of postschool success in the areas of employment, education, and independent living as described above. Table 23.1 provides an overview of school-based predictors for postschool success, organized across the ecological contexts of the individual, school, family, and community, along with brief strategy implementation considerations (further described below).

Individual Skills

Social Skills

Students' social skills are predictive of their adjustment status across a broad developmental spectrum and have been specifically linked to grade promotion and retention (Agostin & Bain, 1997), academic achievement (Konold, Jamison, Stanton-Chapman, & Rimm-Kaufman, 2010; Miles & Stipek, 2006), and emotional and behavioral adjustment (Segrin & Flora, 2000; Strahan, 2002). Social skills have also been shown to be associated with transition-related competencies, such as adolescents' capacity and opportunities to use self-determined behaviors (Pierson, Carter, Lane, & Glaeser, 2008). Social skills are likewise critical to success in the workplace, as demonstrated by the finding that adequate interpersonal skills on the job are a primary consideration of employers related to hiring, promotion, and retention (Carter & Wehby, 2003). Benz, Yovanoff, and Doren (1997) reported that parent- and teacher-rated social skills during high school were predictive of postschool employment among young adults with disabilities 1 year after graduation. Finally, youth's social

skills may influence their capacity to recruit needed supports and services and to advocate effectively for their own needs throughout adolescence and adulthood.

Social skills deficits represent a prominent characteristic of youth with EBD (Marder, Wagner, & Sumi, 2003). These youth typically experience considerable difficulty in establishing and maintaining satisfying and positive relationships with peers and adults (Cullinan, 2004). Research indicates that high school students with EBD have low levels of social competence, as well as higher levels of problem behaviors and disciplinary contacts than youth with LD and other high-incidence disabilities (Cullinan & Sabornie, 2004; Lane, Carter, Pierson, & Glaeser, 2006). These and other findings point to the need for providing students with EBD with opportunities to further develop their social skills.

Assessing social skill growth is an integral part of the management plan of a student with EBD. In a secondary setting, both general education and special education staff would participate in monitoring the behavior management plan. One social skills progress monitoring measure with a long history of development and refinement is the Social Skills Improvement System (SSIS) Rating Scales (Gresham & Elliott, 2008). This measure can be used by teachers, students, and parents to triangulate behavioral needs across the school and home setting. A 5-point Likert scale enables teachers, students, and parents to report how the item behavior statements are like or unlike the student, along with the level of importance of various behaviors. Subscales measure social skills in Communication, Cooperation, Assertion, Responsibility, Empathy, Engagement, and Self-control. There are also subscales for competing problem behaviors, such as Externalizing, Bullying, Hyperactivity/Inattention, Internalizing, and Autism Spectrum Disorder.

Although several excellent social skills curricula are commercially available, few focus specifically on the transition-related needs of students with disabilities. One exception is the Working at Gaining Employment Skills (WAGES) curriculum (Johnson, Bullis, Benz, & Hollenbeck, 2004). WAGES is a job-related social skills curriculum consisting of 33 comprehensive lesson plans in four

TABLE 23.1. Overview of In-School Predictors of Postschool Success across Ecological Contexts

In-school predictors	Overview of strategies
<u>Individual skill-related predictors</u>	
Social skills instruction	<ul style="list-style-type: none"> • Utilize social skills progress monitoring measures to support behavior management plans • Target social skill instruction to specific contexts (e.g., employment sites)
Self-advocacy/self-determination	<ul style="list-style-type: none"> • Arrange for student-directed instruction in self-determination skills • Initiate student-led IEP/transition-planning meetings
Career awareness	<ul style="list-style-type: none"> • Explore youth’s strengths, interests, and preferences • Assess appropriate work environments for youth’s EBD manifestations
Self-care/independent living	<ul style="list-style-type: none"> • Target instruction to basic functional skills to maintain community stability (e.g., housing, personal finance, etc.)
<u>Family-related predictors</u>	
Family involvement in school	<ul style="list-style-type: none"> • Define family/support network for youth • Involve family in IEP/transition-planning process • Assess family needs for “stability” maintenance and provide appropriate referrals
<u>Structural school-based predictors</u>	
Inclusion in general education	<ul style="list-style-type: none"> • Ensure that appropriate RTI frameworks are in place to provide supports for maintaining enrollment in general education coursework • Use data-driven behavior management plans to measure progress of student behavior across contexts
High school completion document/exit exam status	<ul style="list-style-type: none"> • Implement school engagement strategies (e.g., Check and Connect)
Occupational coursework	<ul style="list-style-type: none"> • Ensure access to occupational coursework based on youth’s strengths, interests, and preferences
<u>Community-based predictors</u>	
Work–study and competitive employment	<ul style="list-style-type: none"> • Provide support interventions to help youth with EBD maintain work–study and competitive employment opportunities
Interagency collaboration	<ul style="list-style-type: none"> • Support youth with EBD in determining eligibility and access to community agencies aligned with youth’s needs (e.g., vocational rehabilitation, behavioral health) • Utilize services that are culturally competent and chronologically/developmentally appropriate

domains: (1) self-regulation/locus of control, (2) teamwork, (3) communication, and (4) problem solving. This curriculum focuses on the essential skills needed to *maintain* a job, as compared with how to *get* a job. According to the WAGES manual, the curriculum is guided by a cognitive-behavioral framework and seeks to explicitly develop students’ skills in identifying situations and problems, generating solutions to problems, and acting

on problems through application of contextually appropriate social skills. In WAGES, these skills are taught through activities that focus on “real-life” social interactions in competitive work settings. Results of a recent randomized trial of this curriculum among high school students with disabilities (including students with EBD) indicated that students exposed to the WAGES curriculum for approximately 5 months had greater

gains in self- and teacher- reported social skills than did students with disabilities in the control condition (Murray & Doren, 2013).

In an effort to provide evidence-based social skills curricula for extremely challenging youth, Unruh, Johnson, Waintrup, and Alverson (2012) recently revised the WAGES curriculum for use with youth involved in the juvenile justice system. The revision, READY for WAGES, includes lesson plans to support these youth's problem-solving strategies pertaining to disclosure about their involvement in the juvenile justice system (i.e., how, when, and to whom to disclose or not) (Unruh et al., 2012). Also included are prescriptive role plays, which follow a cognitive-behavioral framework and utilize scenarios that youth involved in the juvenile justice system may face on the job (e.g., stigma of having a past record, how to explain meetings with a parole officer that may conflict with work time, etc.).

In general, to support work-related social skills instruction, transition staff members may need to provide targeted employer-employee interventions for youth with EBD and/or for students and employers simultaneously (e.g., methods to mediate a problem situation between employer and employee, ways to ask for time off, etc.). These contextual situations are designed to help youth practice and generalize the social skills taught in schools or other settings (e.g., juvenile detention) to real-life situations such as the workplace.

Self-Advocacy/Self-Determination

As adolescents approach adulthood, they are expected to assume greater responsibility for managing their own behavior, learning, and decision making relating to educational and transition planning. "Self-determination," which provides a conceptual framework for this task, refers broadly to having the capacities and opportunities to steer one's own life in ways and directions that are personally satisfying (Field, Martin, Miller, Ward, & Wehmeyer, 1998). The promotion of self-determination and self-advocacy skills is highly relevant for youth with EBD, many of whom may be reluctant to disclose their disabilities within employment, postsecondary, or other community contexts (Newman,

Wagner, Cameto, & Knokey, 2009). In addition, as youth with EBD move from child services (to many of which they are entitled) to adult services (which often require evidence of eligibility), self-determination and self-advocacy skills become increasingly important.

Unfortunately, recent findings indicate that many youth with EBD demonstrate limited self-determination and self-advocacy skills relative to peers with other high-incidence disabilities (Cameto, Levine, & Wagner, 2004). Youth with EBD may have less knowledge about self-determination and the specific skills it requires, a diminished ability to engage in self-determined behavior, and limited confidence about the efficacy of their efforts to be self-determined (Cameto et al., 2004; Carter, Lane, Pierson, & Glaeser, 2006). For youth served within alternative programs or juvenile justice facilities, opportunities to learn self-determination skills may be even more diminished (Houchins, 2002; Van Gelder, Sitlington, & Pugh, 2008).

Although the availability of self-determination curricula and resources has expanded considerably, secondary teachers often report having limited training and professional development opportunities related to promoting self-determination, which in turn limit opportunities for youth to learn these skills (Thoma, Nathanson, Baker, & Tamura, 2002). Moreover, students' individualized education programs (IEPs) infrequently contain instructional goals addressing self-determination (Powers et al., 2005; Carter, Lane, Pierson, & Stang, 2008), and as greater emphasis is often placed on access to the general curriculum, less time may be allotted for self-determination instruction.

Although empirical evidence regarding the effects of self-determination curricula among youth with EBD is still evolving, recent findings from a randomized controlled trial of *Whose Future Is It Anyway?* (Wehmeyer, Palmer, Lee, Williams-Diehm, & Shogren, 2011) are promising. *Whose Future Is It Anyway?* is a student-directed curriculum, written for students as end users. The curriculum includes 36 sessions designed to enable students to self-direct instruction related to (1) developing self- and disability awareness; (2) making decisions about transition-related outcomes;

(3) identifying and securing community resources to support transition services; (4) writing and evaluating transition goals and objectives; (5) communicating effectively in small groups; and (6) developing skills to become an effective team member, leader, or self-advocate. In a recent randomized controlled trial of this program, Wehmeyer and colleagues (2011) evaluated its effects on self-determination among adolescents with disabilities, including youth with EBD. Findings revealed that students with disabilities participating in the intervention had greater gains in self-determination and other transition-related skills than students in the control condition had.

Youth with EBD will require ongoing support and meaningful opportunities to take an active and leading role in designing and working toward their transition plans. Youth-driven educational planning is important to ensure that transition programs reflect the individualized interests, preferences, strengths, and needs of students with EBD, and carefully constructed curricula are particularly well suited to enhance these types of self-directed behaviors among youth. Through their active involvement in the transition-planning process, students may be more likely to “buy into” this process, be motivated to work toward achieving goals, and perceive that transition services and supports are meeting their needs (Seiler, Orso, & Unruh, 2009).

Career Awareness

A third important skills cluster for youth with EBD is career awareness. Career preparatory experiences offer youth with EBD opportunities to explore and discover their career interests, learn essential work and collaborative skills, establish relationships in their community, and define expectations and goals related to college and careers. Particularly important for youth with EBD is providing the opportunity to assess their interests, skills, and environmental contexts, to ensure an appropriate job match to their identified skill sets. Helping youth with EBD assess their career-related skills can support the identification of appropriate work environments (Bullis & Fredericks, 2002). Appropriate employment settings matched to the needs of youth with EBD should be

defined purposefully and with care (Waintrup & Unruh, 2008). Bullis and Fredericks (2002) have provided guidelines for selecting employment sites based on various needs manifested by youth with EBD. For example, students with anger management difficulties may need support in identifying work environments that are less likely to exacerbate their anger triggers. Students also need assistance in implementing strategies that minimize specific stressors related to their behaviors. Job matching and supervision for specified problem behaviors are particularly important for students who may have a history of theft, aggression and/or assault, inappropriate sexual behaviors, fire setting, suicide, drug and alcohol issues, prior abuse, attendance problems, or hygiene problems (Bullis & Fredericks, 2002).

Independent Living Skills

In addition to social skills, self-determination, and career awareness, it is also critical that students with EBD possess basic functional skills, such as the ability to use transportation (driving or public); to acquire and retain a stable living situation; and to manage basic finances needed for transportation (e.g., gas, insurance) and living situations (e.g., rent, utilities, phone, food). The ability to apply these basic functional skills to daily living tasks and demands is critical for adolescents and young adults with EBD because stability in these areas can have a direct impact on their ability to attain and maintain employment, participate in postsecondary education, and become productive members of communities (Carran, Kerins, & Murray, 2005).

Recent data from the NLTS2 suggest that students with EBD are relatively successful in the area of residential independence. For example, up to 8 years after high school, 63% of young adults with EBD reported living independently. These rates of independent living were similar to independent living rates for students with LD (65%) or speech-language impairments (51%), and all were considerably higher than comparable rates reported for students with intellectual disabilities (36%) or orthopedic impairments (31%). However, the same study reported that only about 50% of students with EBD had savings or checking accounts

(two indicators of financial independence) after high school, and that approximately 40% of youth with EBD who reported living independently were receiving food stamps up to 8 years after high school.

Together, these findings suggest that adolescents and young adults with EBD could benefit from additional opportunities to develop their functional skills. Alwell and Cobb (2009) recently published a systematic review of functional life skills interventions related to transition and found that research in this area focused almost exclusively on students with low-incidence disabilities. However, they noted a need for additional research focused on independent living skills interventions for students in high-incidence categories.

Families

Family involvement in the transition process is a predictor of successful transition to adulthood for all youth with disabilities, including students with EBD (Clark & Hart, 2009; Lane & Carter, 2006; Wagner & Davis, 2006). Families provide a natural source of support for youth during and beyond high school. For many youth with EBD, “family” is a broadly defined concept and may include foster care parents, residential care providers, relatives, or other key individuals identified by these youth who provide a positive influence in their lives. To facilitate a youth-driven transition-planning process, transition staff should query youth to identify these key individuals (Clark & Hart, 2009). Developing collaborative relationships between family members (or other key individuals) and school-based personnel is essential to supporting long-term planning and outcomes among youth with EBD (Osher & Osher, 2002).

Despite the importance of school–family partnerships and involvement, teachers and parents often have differing views regarding their relationships, with teachers generally reporting more negative views of parents than the reverse (Redding, 2008). Moreover, by the transition age, some family members may be worn down and negative about their prior involvement with school personnel or may feel blamed for their youth’s problem behavior. Secondary transition staff should recognize that parents may bring

prior expectations—both positive and negative—to their interactions with the school staff.

School-based personnel can utilize several strategies to encourage family involvement in the transition process. First, basic family-specific structural barriers that prevent parental involvement must be identified and removed. For example, schools might define meeting times around parental work constrictions, or help arrange for child care needs (Anderson & Matthews, 2001). Second, schools should embrace the opportunity to draw upon the family’s experiences and perspectives to identify a youth’s interests, strengths, and future goals (Clark & Hart, 2009). Hoover-Dempsey, Walker, and Sandler (2005) have developed a proactive model to encourage parent–school involvement that includes specific actions teachers and other school personnel can take to maximize opportunities for parental input regarding their children’s needs, desired school supports, and active participation in the educational process. Steps in the model include (1) influencing parental role construction (e.g., communicating clearly with parents about the importance of their active involvement); (2) increasing parents’ sense of self-efficacy for involvement (e.g., communicating with parents about the positive influence of parental involvement on student success); and (3) supporting parents’ perceptions of invitations to participate (e.g., actively and consistently encouraging and seeking involvement). Although this model was not designed specifically for students with disabilities, each of the steps described above has been shown to affect active teacher–parent collaboration in schools (Hill & Tyson, 2009; Hoover-Dempsey & Sandler, 1997; Hoover-Dempsey, Walker, Jones, & Reed, 2002). Finally, assisting parents in identifying and utilizing community support systems (e.g., child and/or adult behavioral health services, vocational rehabilitation, etc.) is particularly important for families of students with EBD, since many of these youth require multisystemic intervention approaches.

In addition to encouraging active school–family partnerships and parental participation in the transition-planning process, families of youth with EBD may at times benefit themselves from access to a set of

additional stabilization resources (Unruh, Waintrup, Canter, & Smith, 2009). Almost one-third of families of youth with EBD live in poverty—a higher proportion than for families of youth served under any other disability category (Wagner & Davis, 2006). Resources such as housing and access to food banks may be required to support some families' stability. In addition, depending on the unique needs of each family, referrals to community agencies (e.g., substance abuse treatment) for family members may support a youth's maintained stability in the community by adding to the strength of the overall family. Knowledge of a broad range of community resources (e.g., housing, emergency food distribution, respite care) for referral sources can strengthen the transition services provided to youth with EBD, while also strengthening collaborative relationships and trust between families and school personnel.

Schools

School-based predictors of postschool outcomes among youth with disabilities include (1) access to the general education curriculum, (2) receipt of a high school diploma, and (3) participation in occupational coursework. Although transition programming should ideally be initiated during elementary school, such programming is more often initiated at the age of 16, as required by IDEA 2004. Therefore, most transition services are delivered within the context of secondary school settings. Cheney, Cumming, and Slemrod, in Chapter 19 of this volume, fully describe the difficulties of educating youth with EBD in a secondary school setting and the limited evidence available to support the benefits of schoolwide efforts for youth with EBD in secondary settings. However, these investigators provide strategies and recommendations for how special education and general education can cooperate to improve programming for youth with EBD.

Access to General Education/ Increased Graduation Rates

Providing adolescents with EBD access to core academic curricula in the least restrictive environment is critical for promot-

ing positive outcomes among this student population. Multi-tiered models within the frameworks of schoolwide positive behavioral interventions and supports (SWPBIS) and response to intervention (RTI) are providing new opportunities for students with EBD to receive essential supports and services in school settings. Although neither approach is currently widely implemented within secondary schools, the prevention and intervention features of these models hold promise for secondary youth with EBD. In both models, access to the general education environment is promoted through schoolwide behavior management (SWPBIS) and the systematic implementation of evidence-based core instruction for all students (RTI). Moreover, in both frameworks, student progress is monitored frequently, and behavioral and academic programming are intensified according to the needs of individual students and their responsiveness to behavioral and instructional interventions at each tier (Bradley, Danielson, & Doolittle, 2007; Fuchs & Fuchs, 2006, 2007). Thus, in environments where SWPBIS and RTI are implemented with integrity, all students have opportunities to receive evidence-based instruction in environments where principles of effective classroom and behavior management and instruction are implemented on a schoolwide basis. Moreover, student progress is closely monitored to allow for "real-time" modifications and the implementation of additional interventions to support student development as needed (Sugai & Horner, 2007).

Efficiency, effectiveness, and real-time progress monitoring of interventions are especially relevant for students with EBD, who require individualized plans due to the complexity of their needs and/or high-risk behaviors. Close monitoring allows school-based teams to determine, on a daily basis if necessary, whether students are responding to interventions and to modify implementations as needed (Sugai & Horner, 2007). For students with EBD, individualized plans typically involve multiple interventions that span multiple domains (home, school, after school, work). Such efforts require school-based personnel to be knowledgeable about various types of assessment and intervention options (Eber, 2005; Fuchs & Fuchs, 2006). Team-based problem solving allows multiple

groups in the school to weigh in on intervention decisions for students. High schools in various states are beginning to include non-school personnel (e.g., transition specialists, behavior specialists, mental health professionals) on school-based problem-solving teams to provide comprehensive individualized supports to students with EBD (Eber, Wade, & Tores, 2008).

Occupational Coursework

Although a strong and consistent focus on academic skills development is prioritized within current accountability movements, a secondary curriculum that concurrently emphasizes access to occupational coursework is also clearly needed for youth with EBD. Yet high-quality adolescent career development experiences remain elusive for many youth with EBD. During high school, youth with EBD typically have limited involvement in vocational coursework, school-based enterprises, job shadowing, internships, work-study programs, and out-of-school jobs (Carter, Trainor, Ditchman, Swedeen, & Owens, 2011; Wagner & Davis, 2006). Moreover, concerns about the quality of existing experiences and their alignment with students' needs and goals for the future have frequently been raised. However, early work and career development experiences can provide youth with an engaging and effective context for acquiring and refining an array of important social, self-determination, and functional skills. Furthermore, students with disabilities who participate in both academic and occupational coursework during secondary school are more likely to be engaged in postschool employment (Heal & Rusch, 1995). Finally, occupational coursework often emphasizes experiential and contextual (e.g., hands-on) learning—strategies that often promote engagement, bonding, and a commitment to school among students with EBD.

Community

School and community collaboration and partnerships are an important component of successful transition programming for youth with EBD. The community-based experiences defined as predictive for postschool success for youth with disabilities include (1)

work-study and competitive employment, and (2) interagency collaboration.

Work-Study and Competitive Employment

Early work experiences during high school constitute one of the most prominent predictors of improved postschool employment outcomes (Test, Mazzotti, et al., 2009). Youth with EBD who take part in school-sponsored or after-school work experiences, have internships, enroll in vocational classes, or hold after-school and summer jobs demonstrate higher rates of postschool employment (Benz et al., 1997; Rabren, Dunn, & Chambers, 2002). Connecting youth with EBD to community-based work experiences offers an important avenue for teaching essential work-related skills, attitudes, and expected behaviors. Indeed, supported work opportunities in the community may provide more authentic contexts for enhancing students' career-related competencies, facilitating generalized learning, and creating community connections. Community-based work experiences, however, need to be individually designed to reflect students' interests to enhance these students' rate of success in the work experience. In cases where youth with EBD are reluctant to receive individualized support at the workplace from a job coach or school staff, it may be necessary to explore alternatives for providing work-related instruction and ongoing feedback about their work performance (e.g., job clubs, mentor relationships, off-site meetings).

Interagency Collaboration

Although evidence of interagency collaboration as a predictor of postschool success for students with disabilities is lacking, we identify this collaborative process as essential for youth with EBD. Wagner and Davis (2006) reported that many youth with EBD do not receive the community services they may be eligible to receive. Moreover, in addition to those services and supports provided by the school system, an array of community-based services may be required to address the needs of students with EBD (Wagner & Davis, 2006). Addressing these needs requires active involvement by youth, families, and additional service partners—which may include

child welfare, child and adult behavioral health services, substance abuse treatment, and juvenile justice services. Unfortunately, navigating these multiple service systems can be quite difficult for youth with EBD and their families, resulting in considerable gaps between services required and services received (Davis, Green, & Hoffman, 2009). For example, although youth may continue to receive special education services through age 21, eligibility for some community support services ends at age 18, and some child services (e.g., special education, child welfare) have no adult counterparts. The new adult-serving programs that do begin at age 18 or 21 often have different eligibility requirements. Moreover, these adult and community-based services often have philosophies and service approaches that differ substantially from those of schools and other child-serving agencies, requiring transition staff to negotiate successful delivery of these services. To compound this problem, age and eligibility requirements often differ within and across agencies.

Transition staff working with youth who have EBD should be knowledgeable about the diverse array of community-based supports in their community. School-based professionals also need to help these youth access and navigate needed services. To support this process, a thorough understanding of the eligibility requirements for each of the local agencies is needed, to ensure that appropriate matches are made between youth needs and service agencies. Developing procedures that facilitate sharing of information across multiple agencies is important for coordinating efforts and addressing gaps in services. Knowledge of the various evaluations or assessments used by agencies to define eligibility is most helpful. Schools and local service agencies can review and potentially align the eligibility evaluations used to define service eligibility for transition-age youth. Having up-to-date and available evaluations of this type may assist in the timely access to and services delivery of community services for youth with EBD.

BEHAVIORAL HEALTH. Access to and receipt of behavioral health services has historically been low for students with EBD (Wagner et al., 2006), even though many of these youth would benefit substantially from these ser-

vices during their secondary school years. Access to such services, however, is hampered by the lack of coordination across child and adult mental health services (Davis et al., 2009). For example, a school transition team may face challenges in serving youth with EBD when mental health services change dramatically from child-serving to adult-serving at the age of 18. Special education staffers need to be aware of multiple obstacles to helping youth with EBD access needed mental health services. For example, eligibility for child mental health services may not transfer to adult services in some states because states have varying eligibility definitions and requirements. In addition, services in these child and adult service agencies may not always be developmentally appropriate. For example, child mental health services may not include practices that can support a youth to work toward the goal of adult independence. On the other hand, adult-serving agencies may provide services that target older adults. If transition-age youth attend group sessions with adults in this age range, their needs are dramatically different because of their developmental age, and these services are neither appealing nor appropriate for them. Behavioral health specialists should be sought out that provide transition-age group sessions, instead of sessions solely for adults (whose age can range from 18 to 65 or older). In more populated areas, youth-focused Alcoholics Anonymous groups may be found. Differing philosophies between child and adult mental health care providers may also have an impact on the school's transition team. For example, a child-serving agency may readily include the family and school in the service coordination process. When adult services are provided, the behavioral health care provider may not as readily include the school and family in the treatment process.

In summary, school-based transition services for youth with EBD should support access to behavioral health services, whether these services are accessed in the school setting or the community. These services need to be (1) continuous across varying definitions and eligibility requirements for child or adult services, (2) appropriate for the youth's chronological and developmental age, and (3) culturally appropriate (Davis et al., 2009).

VOCATIONAL SUPPORTS. Connecting youth with EBD to competitive employment experiences has long been identified as an essential feature of transition services (Bullis & Cheney, 1999; Cheney & Bullis, 2004). Competitive or paid employment provides natural consequences—both positive and negative—for learning the social and employment skills needed to find and maintain a job. Connections to community-based support services, such as vocational rehabilitation and Workforce Investment Act agencies, can be made in order to support the employment-related goals of students with EBD. These agencies may provide additional monetary support to enable career assessments, defray training costs, provide job coaches, pay tax credits to employers to hire individuals eligible for either vocational rehabilitation or Workforce Investment Act funds long-term, and provide additional individual supports based on those needs for the job.

It is in the interests of students with EBD for secondary school transition staff members to develop strong, collaborative relationships with these vocational partners. Strategies for developing such relationships have been described previously, but understanding the eligibility and assessment requirements of the target agency and those services the agency can provide in aligning the needs of the youth with the appropriate employment-related agency is essential. Perhaps equally important, school personnel may need to educate personnel in employment-related agencies about the profiles of youth with EBD when the groups are working together to align the employment goals requisite for these agencies and the specific needs of the youth with EBD. It should be noted that youth with EBD typically may be on a caseworker's caseload for longer periods of time than other clients, due to the intensity and length of services necessary to work toward a positive service outcome.

JUVENILE JUSTICE. Between 40 and 70% of all incarcerated juvenile offenders have some type of disabling condition—either an IDEA classification, a mental health disorder, or both—as compared to about 11% in the general population (Wolford, 2000). The NLTS2 found that by the time youth with

emotional disturbances were 1 year out of high school, 75% of the sample had been stopped by police for an offense other than a traffic violation, 59% had been arrested at least once, and 43% had been on probation or parole (Newman et al., 2011).

Students involved in the juvenile justice system benefit greatly from a strong relationship between school personnel and parole or probation officers. School personnel and juvenile justice personnel need to learn the policies and procedures that guide their respective agencies (Unruh, Gau, & Waintrup, 2009). For example, special education personnel need to inform the juvenile justice staff about special education law specifically related to transition programming. School personnel can invite and encourage juvenile justice caseworkers (often called “parole officers”) to attend IEP meetings, as these individuals may have pertinent information that may be important for transition planning (e.g., transportation restrictions, restrictions on persons these youth can interact with, etc.). School personnel also need to utilize the juvenile justice staff as a resource for the laws and regulations relative to young offenders in their state, as these regulations vary greatly across the nation. It is imperative that both agencies work consistently together to ensure that IEP transition plans and parole plans are aligned.

SUPPORTIVE SOCIAL NETWORKS. Youth with EBD may need additional supports to develop prosocial networks that enhance or facilitate successful transitions. Research has shown that individuals who exhibit high-risk behaviors may increase their risks further with continued access and/or exposure to peers who exhibit inappropriate or maladaptive behaviors (Thornberry & Krohn, 1997). Concern has been raised that providing educational or treatment programming in groups of individuals with challenging behaviors may actually increase an individual's propensities for engaging in negative behaviors, as opposed to reducing the targeted behaviors—a major goal of the group-based intervention (Dishion, McCord, & Poulin, 1999). Assisting individual youth to develop prosocial networks in their community helps support healthy social development. Prosocial networks may naturally occur through the implementation

of other transition goals (e.g., employment or postsecondary education). For example, youth who become involved in work experiences outside the school setting may develop friendships through the workplace, which can transfer to additional positive activities extending to the school and the community (e.g., going to the gym together, attending local concerts). If such prosocial networks do not naturally emerge, transition personnel can work with the youth and family to encourage participation in positive activities, to increase the likelihood of developing healthy and supportive social supports.

Peer mentoring is an additional strategy that may support youth with EBD throughout the transition process. Peer mentors who have similar experiences and who have successfully made the transition to young adulthood may provide positive encouragement and modeling to youth with EBD. Incorporating peer mentoring as part of a transition program, however, needs to be done purposefully and with care. Peer mentors should be trained and monitored to ensure that they do not cross personal boundaries with their mentees. In addition, purposeful activities with common goals need to be structured to develop meaningful mentoring interactions.

Case Example

The following case example provides a composite description of a middle-sized high school and its special education staff as they participated in a data-based decision-making model for drawing upon evidence-based strategies to improve services for youth with EBD (Test, Mazzotti, et al., 2009). We first present basic descriptive information about the data provided by this state's department of education and used for federal reporting, and then describe how special education personnel aligned services in their district with the identified gaps in services for youth with EBD (see Table 23.2).

What Did the Data Say about Students with EBD?

The state department of education, as part of its work to improve services for all youth with disabilities, began sharing data used for

federal reporting that measured accountability to IDEA for planning and programmatic improvement. In a stakeholder meeting, the members of the special education staff were presented with data specific to the school's youth with EBD. These accountability data included the number of youth who graduated (Indicator 1), the number who dropped out (Indicator 2), the number who were in compliance with the postschool goals on their IEPs (Indicator 13), and the numbers for postschool outcomes of employment and postsecondary education/training (Indicator 14). The data were presented across disability status, and the teachers responsible for EBD programming closely examined the data for youth with EBD. The staff members examined the last 3 years' worth of data, saw the same themes throughout, and were confident that they could make sound decisions about transition programming for students with EBD based on these data. The staff identified the following themes in the data:

- Youth with EBD were dropping out at higher rates than their peers with other disabilities.
- Youth with EBD had lower rates of engagement (i.e., employed or enrolled) than the youth with other disabilities.
- Upon closer review, the data revealed that youth with EBD were employed in the year after leaving school, but never accumulated the 90 days of employment necessary to be counted as engaged.
- In addition, although some youth with EBD appeared to enroll in higher education, the majority did not complete an entire term of enrollment.
- On a positive note, when the teachers reviewed what youth were doing 1 year after high school (Indicator 14) and compared outcomes to students' postschool IEP goals (Indicator 13), they found that the approximately 75% of students with EBD were attempting to pursue areas targeted in their IEPs (i.e., postschool outcome goals were aligned with postschool outcomes).

In regard to high school completion for students with EBD, a districtwide dropout prevention initiative already existed in which special education staffs were par-

ticipating; the staff members decided that they would rely on this districtwide student engagement initiative to help decrease the number of youth with EBD leaving school without a completion document. The staff was particularly concerned about the number of youth who were not counted as engaged in employment or postsecondary education 1 year after leaving high school. They did note that 75% of the 20 youth had been employed at some point after exiting, but still did not meet the minimum requirement for employment (e.g., employed for 90 days) as defined by the federal Office of Special Education Programs. In addition, teachers noted that another group of students had enrolled in higher education or other types of training opportunities, but had not completed a full term at any of these. The teachers were curious about these two groups of students and decided to further explore their identified barriers to employment and postsecondary enrollment. They decided to split up the groups of students and see whether they could connect with them and ask them specific questions about their postschool experiences related to holding a job or pursuing educational experiences. For example, in what type of job/school were youth employed/enrolled? What were difficulties in staying employed/enrolled? What led the youth not to be employed/enrolled?

After several weeks, the teachers met again and shared what they had found. Surprisingly, they noted some common themes across the students. First, for students who had been employed for a short period of time, they found that these youth were often employed multiple times but for very short amounts of time. Students described some type of “event” that led to their not being employed. These “events” included common themes such as (1) “I blew up at my boss, so I just walked out and didn’t come back,” (2) “My coworkers accused me of stealing because they found out I had a parole officer,” (3) “I needed to go to an appointment to see my X [e.g., behavioral health counselor/parole officer], and it was during work time; what else was I supposed to do?,” and (4) “The customers really pissed me off, and I got angry on the job.” They also found that the youth who had enrolled in postsecondary education and training opportunities had liked these opportunities. The primary

barriers for the few reporting that they were unable to complete a term, however, were that they were hospitalized for mental health issues during their enrollment, had transportation issues to and from class, or lacked child care; such barriers proved to be insurmountable obstacles to continuing their coursework.

Upon reviewing these outcome data and deriving meaning from them, these teachers decided to examine how each of the predictors for postschool success, as defined by Test, Mazzotti, and colleagues (2009), was being implemented in their school specifically for students with EBD. Table 23.2 provides a summary of how the special education staff further examined the alignment of the current transition services with the postschool predictors of success, and then describes how the staff members planned to improve services in their school and district for students with EBD.

Future Directions

In this section, we provide suggestions for future directions for all essential stakeholder groups to improve life outcomes for youth with EBD. The picture we have attempted to paint here is that youth with EBD require a host of individuals, beyond just school personnel, to support their successful transition into adulthood. Therefore, our suggested future directions focus on implications for a broad spectrum of stakeholders, including (1) researchers; (2) federal, state, and local policymakers; (3) district and school administrators; (4) transition-related/special education school personnel; (5) parents and advocates; and (6) youth with EBD.

Researchers

Because the evidence base of transition practices for youth with EBD remains somewhat limited, it is imperative that future researchers focus increased attention on the unique needs of this segment of the at-risk youth population. To help guide future research endeavors, Clark, Koroloff, Geller, and Sondheimer (2008) have recommended a research emphasis focusing on the transition-related needs of youth and young adults with EBD that includes the following:

TABLE 23.2. One High School's Current Practices and Plans for Improved Practices for Students with EBD

Predictor	Current practices in school	Plans for improved practices in school
Social skills instruction	Social skills instruction was conducted on a one-on-one basis through an individualized behavior management plan.	<p>Plans for improved practices in school</p> <p><u>Individual skill-related predictors</u></p> <p>Based on data indicating that students with EBD were able to get jobs, but unable to maintain their jobs, the teachers decided to begin implementing an employability social skills curriculum in the career awareness class that all students with EBD were enrolled in. These skills would help youth practice the skills of self-regulation, communication, teamwork, and problem solving in the context of their jobs. The teachers planned to continue the targeted individualized social skills instruction already in place.</p>
Self-advocacy/self-determination	Self-advocacy/self-determination skills were taught on a one-on-one basis, with the emphasis on a self-directed IEP.	Based on data demonstrating that EBD manifestations interfered with employment and postschool enrollment, the teachers identified a need to increase students' ability to navigate postschool barriers related to their EBD. The teachers chose to include strategies for students to make decisions and practice disclosing their EBD/mental illness to their employers or postschool instructors. These structured activities would help the students improve their ability to work with employers/instructors to develop strategies to deescalate specific behaviors (e.g., anger issues) and provide support for other behaviors (e.g., absences due to counseling sessions).
Career awareness	Students with EBD were enrolled in a half-credit career awareness course for all special education students.	The teachers decided to maintain the current practice.
Self-care / independent living	The teachers noted a deficit of any special instruction in this area. These skills were taught in the general curriculum in an elective personal finance (PF) course. The teachers reviewed the transcripts of former students with EBD and noted that these students were rarely enrolled in the PF class.	<p>The teachers met with the PF instructor to review the curriculum and provide training in how to monitor a behavior management plan for a student with EBD. The PF instructor shared that she was beginning to add instruction for accessing various government benefits often needed by young workers who may qualify for low-income benefits. It was decided that students with EBD would be enrolled in this class; the teachers decided to initiate quarterly meetings with the PF instructor to assess progress during the first year and to provide any needed support to the instructor.</p>

(continued)

TABLE 22.2. (continued)

Predictor	Current practices in school	Plans for improved practices in school
Family involvement in school	Family members were included in IEP meetings.	<p><u>Family-related predictors</u></p> <p>The teachers decided to increase family involvement by pursuing two distinct strategies. (1) To provide familial “stability” support if needed, the teachers downloaded a guide to various resources in the community (housing support, behavioral health, emergency food box access, etc.) for families’ use. (2) To increase family awareness of students’ postschool experiences, the teachers decided to host a meeting to share the data and transition practices on youth with EBD in their school; they were excited that they could pair the data with strategies that families could use to support their youth with EBD at home and to support instruction (e.g., independent living, etc.).</p>
Inclusion in general education	Students with EBD were included in general education coursework, but this was predominantly elective coursework.	<p><u>Structural school-based predictors</u></p> <p>The teachers decided it was imperative to participate in how the Common Core State Standards were being implemented in their school, and to get more youth with EBD enrolled in the core courses (English, math, science). They became involved in the school initiative to improve these courses, as well as the RTI framework newly implemented in their school. They first asked the RTI leaders to help them implement the administration of the SSIIS (a social skills measure) to core course teachers who had youth with EBD enrolled in their courses. The youth’s behavior management plans were then based on the results from this measure that were specific to the content of the core courses.</p>
High school completion/exit exam status	A schoolwide initiative was being implemented to decrease dropout rates and to initiate dropout prevention and school engagement strategies.	Teachers ensured that their students were involved in these activities and folded them into the larger structure of dropout prevention. The teachers also stayed abreast of the school engagement strategies and ensured that special education personnel were involved in all interventions.

Occupational coursework	Very few students with EBD were enrolled in any occupational coursework. Upon further review, it was noted that often the occupational coursework was offered at the same time as their career awareness course.	Teachers examined their schedules and realized they could change the period in which career awareness was taught, in order for more students to be enrolled in various occupational coursework classes. Balancing enrollment in core classes, classes specific to EBD/special education, and occupational coursework was tricky, but the teachers identified this as a priority and took the time to develop student schedules that met all three requirements.
Work-study and competitive employment	Students with EBD were not participating in the school-based work-study program. The teachers again noted that the special education course schedule conflicted with the students' participation in this opportunity.	<p><u>Community-based predictors</u></p> <p>First, the teachers adjusted the special education course schedules to align with participation in the work-study programming. Second, teachers met with the work-study coordinators to develop a plan to fully integrate students with EBD. The teachers informed the instructors that students with EBD were to receive employability social skills instruction elsewhere. In addition, the teachers worked with the work-study employers to implement the same behavior management plans used by the general curriculum teachers, in order to provide targeted support when a student was experiencing a behavioral deficit.</p>
Interagency collaboration	The teachers had been proud of their work with multiple agencies in which their youth were involved (e.g., vocational rehabilitation, behavioral health, workforce investment), although they did agree that this work was done with individual students and was not a systematic program. The teachers noted that agency participation in students' IEP meetings was sporadic; they realized that because there were multiple meetings per student across the year, it was impossible for agency personnel (e.g., vocational rehabilitation, behavioral health) to break away from their work and attend these meetings.	The teachers decided to implement strategies to ensure more systematically that involvement with the agencies needed by each youth would be initiated during high school, to improve the transition to postschool activities. The teachers decided to hold a quarterly "agency" meeting in which designated agency personnel (e.g., vocational rehabilitation, behavioral health) could attend to develop plans on multiple students at one meeting, instead of having to come to multiple meetings across time.

- *Research examining the population characteristics, service utilization, and developmental trajectories of youth and young adults with EBD.* Relatively little is known about the developmental trajectories and experiences of youth with EBD as they move from early adolescence, through adolescence, and into adulthood. Developing further understanding through the lens of an ecological model about these trajectories, including comparisons with normative peer groups, would provide valuable information for developing targeted interventions to promote long-term positive outcomes among youth with EBD.

- *Research on the development and adaptation of interventions specifically for youth with EBD.* As noted by Test, Fowler, and colleagues (2009), rigorous research is needed to evaluate new and existing interventions so that we can clearly define a set of evidence-based practices for youth with disabilities in general, as well as specifically test theoretically relevant interventions for youth with EBD to see whether the same or differing benefits are achieved.

- *Research evaluating the impacts of educational and adult system services and supports on the in-school and postschool achievements of youth with EBD.* Service coordination across schools and multiple agencies appears to be critical for the transition process for youth with EBD, but little sound evidence in this area has yet been provided. To understand the impacts of service coordination components (e.g., vocational rehabilitation, mental health services) on outcomes among youth with EBD, we need to evaluate these potential intervention components both individually and within ecological systems intervention packages, to better understand the effects of school-community programs on the long-term outcomes of employment, education, and independent living skills for youth with EBD.

- *Research on the implementation of effective program or transition service systems.* Research on the dissemination, implementation, and sustainability of evidence-based practices in transition for students with EBD is in its initial stages. We need to test new and existing programs, but we also need to evaluate how various policies, coordinated service efforts, and interdepen-

dencies between policies and coordinated efforts will affect implementation and outcomes. Understanding the impacts of various policies and coordinated service systems (or the lack thereof) on the fidelity of implementation of transition practices can provide essential guidance for needed policy change(s).

Research of this nature will provide opportunities to develop further understanding about the unique developmental processes of youth with EBD, along with a core set of evidence-based practices within the context of transition from school to work and adult living.

Policymakers

Local, state, and federal policymakers can initiate actions that support the alignment of transition services across multiple agencies for transition-age youth with EBD from the school system to adulthood. First, federal and state agencies need to align divergent service definitions. For example, common definitions are needed for (1) the age to access services (e.g., 14–26); (2) eligibility for services (e.g., emotional disturbance for special education vs. various mental diagnoses across both child and adult behavioral health); and finally, (3) exit outcomes (e.g., employment, enrollment in postsecondary enrollment). Second, local and state agencies can initiate and require “memoranda of understanding” (MOUs) across agencies serving transition-age youth with EBD. MOUs can address important topics for aligning service delivery, which may include guidelines for sharing of information in a secure manner. MOUs can also address the roles and responsibilities of each agency, to ensure that no duplications of service or service gaps occur across agencies for youth with EBD who are attempting to navigate between child-serving and adult serving agencies. Third, state education agencies (SEAs) and local education agencies (LEAs) can implement data-based decision making, using special education data from the required federal reporting to the Office of Special Education Programs as part of the state performance plan and annual performance report. As described in our case example, the data for youth with EBD

can be disaggregated to examine the policies and programmatic improvements that can be made to improve services for these youth. Using these data, SEAs and LEAs can identify which evidence-based practices, as described in this chapter, are currently being implemented and which ones may need to be implemented to improve the postschool outcomes of youth with EBD. Finally, policymakers can mandate and encourage the use of evidence-based practices used across agencies targeting transition-age youth with EBD.

District and School Administrators

District and school personnel, such as LEA special education directors and building principals, can value, support, and conduct data-based decision making for improving programs and ensuring the high-fidelity implementation of evidence-based practices and services for youth with EBD. In addition, these personnel need to ensure that hiring practices result in the recruitment of staff members who are committed to transition-age youth and are focused on using evidence-based practices to support the developmental needs of youth with EBD. Moreover, administrators need to ensure that these program staffers have the resources and training to work effectively with youth with EBD (e.g., access to ongoing training with technical assistance, and access to the community to conduct community-based education as needed for youth with EBD).

Transition-Related/Special Education School Personnel

Secondary special education staff and transition specialists can strongly influence the outcomes of youth for EBD. As noted above, these staff members need to embrace and implement evidence-based practices, and they must also tailor these practices to the individual needs of students with EBD and their families. In addition, these staffers can actively participate in data-based decision making by examining the effectiveness of intervention efforts and students' responsiveness to modified intervention efforts. Secondary transition personnel working with youth with EBD need to forge strong collaborative relationships with the multiple

local service providers (e.g., parole officers, behavioral health, vocational rehabilitation) and the families of youth with EBD. These working relationships can ensure that auxiliary services and supports are available to adolescents, but will also provide opportunities to assist youth in making the transition to adult-serving agencies.

Parents and Advocates

Parents and youth advocates can be active participants and partners with school personnel *and* youth in the development and implementation of IEPs and transition plans. Activities can include assisting youth with EBD to advocate for and clarify their strengths, interests, and preferences during the transition-planning process. Also, family members can assist these youth in selecting and accessing the appropriate community-based support services. Family members can support youth in developing key transition skills related to self-care and independent living during the developmental pathway from adolescence to adulthood. It is also important, when possible, for family members to promote students' autonomy, choice, and ownership over transition goals and activities. Finally, family members can advocate with state- and local-level policymakers for evidence-based transition practices and services that are developmentally, culturally, and age-appropriate for youth with EBD.

Students with EBD

We would be remiss if we did not address the roles and responsibilities of youth with EBD in their own transition processes and in improving outcomes for this group in general. First, youth with EBD need to participate fully in the transition-planning process, where one of the first steps is articulating their strengths, preferences, and goals to program transition staff. In addition, youth with EBD need to collaborate with transition staff members to identify appropriate service needs for themselves, identify potential service gaps in the community, and actively seek new experiences within schools and communities that will provide them with the skills and opportunities to make successful adult transitions.

Conclusion

Identifying and promoting school-based services and supports that will enhance the long-term outcomes of youth with EBD require a holistic perspective on youth development opportunities. The developmental needs of adolescents with EBD are complex, and school-based efforts to promote positive adjustment and outcomes among these youth must be comprehensive in scope. In this chapter, we have provided strategies to improve transition programming across the ecological contexts of the individual, school, family, and community. Intervening at all these levels offers the best hope for improving the long-term outcomes of youth with EBD, but there continues to be a need for additional research focused on understanding the developmental needs of adolescents with EBD during important life transitions, as well as the effectiveness of coordinated intervention efforts during these transitions.

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Improving Engagement and Implementation of Interventions for Children with Emotional and Behavioral Disorders in Home and School Settings

**Wendy M. Reinke, Andy J. Frey, Keith C. Herman,
and Charlos V. Thompson**

Numerous barriers interfere with the uptake and impact of evidence-based interventions for students with emotional and behavioral disorders (EBD) (Herschell, McNeil, & McNeil, 2004; Kratochwill, 2007). This chapter addresses motivational strategies to overcome two of the most prominent barriers to the delivery of effective service in home and school settings: (1) engaging participants in services, and (2) implementing practices with fidelity. With regard to engagement, many caregivers and teachers have low motivation to initiate participation in interventions (see Herman et al., 2012; Reinke et al., 2012). “Fidelity,” or the extent to which an intervention is implemented as intended, was once believed to be a unidimensional construct related to compliance of essential components. However, it is now widely recognized as a complex and multidimensional construct including adherence, exposure (i.e., dosage), quality, participant responsiveness, and program differentiation (Dane & Schneider, 1998). It is well documented that fidelity of implementation, even in rigorous research trials, is often not observed or inadequate (Becker & Domitrovich, 2011; Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005). Motivational issues

can have a major impact on implementation fidelity.

The purpose of this chapter is to review the current intervention literature addressing motivational strategies for implementing and coordinating interventions for children with EBD across home and school settings. First, we provide a brief overview of the impact of EBD on children, families, and society. Second, we discuss the known and possible reasons for why low engagement rates and poor implementation fidelity are barriers to effective service delivery. Third, we review current practices for school-based interventions employing strategies to overcome these barriers. Finally, we provide a summary of the active ingredients of motivational strategies to address engagement and implementation fidelity, and we discuss future directions.

Impact of EBD on Children, Families, and Society

Children with serious EBD are at risk for a range of detrimental outcomes, including truancy, teacher/peer rejection, low academic achievement, numerous school disci-

pline contacts, and association with deviant peers (Walker, Zeller, Close, Webber, & Gresham, 1999). These short-term outcomes can in turn lead to school failure and school dropout (Wagner et al., 2006). Fifty-eight percent of youth with EBD who drop out of school are arrested at least one time within 5 years of leaving school (Wagner, 1995). Hence further negative long-term outcomes often include delinquency, gang membership, adult criminality, drug/alcohol use, incarceration, and in some cases violent acts (Reid, Patterson, & Snyder, 2002). The difficulties associated with children with EBD constitute a significant public health burden, comprising major educational, psychological, economic, and social problems.

Research on the developmental pathways to EBD has identified a variety of ecological contributors (Dishion, McCord, & Poulin, 1999; Patterson, 1982; Reinke & Herman, 2002). For instance, families and caregivers strongly influence children's risk for aggressive and antisocial behavior (Hawkins et al., 1998). Research indicates that poor parenting practices, such as harsh parenting and discipline, account for 30–40% of the variance in poor child behavior during preschool and early elementary years (Patterson, DeBaryshe, & Ramey, 1989). School personnel are also important participants in the socialization of children, providing opportunities for positive modeling and reinforcing appropriate behaviors. However, many of the same behavior management practices and interpersonal patterns (e.g., coercive processes) that foster early aggressive behaviors at home with caregivers are replicated with adults in the school setting; this serves to maintain and exacerbate child conduct problems (see Reinke & Herman, 2002).

Given that ineffective parenting and school practices are malleable risk factors associated with the development of EBDs, many effective interventions target caregiver and teacher behavior to alter the ecology and interactional patterns in home and classroom settings (Greenberg, Dmitrovich, & Bumbarger, 2001). Dozens of empirically supported programs have been shown to reduce present and future risk for EBD in randomized clinical trials (see National Research Council & Institute of Medicine, 2009). Yet, despite the many

evidence-based options available, we have not reduced the population prevalence or social burden of these conditions (Carr et al., 1999; Mrazek & Haggerty, 1994; Sugai, Horner, & Gresham, 2002). It is reasonable to conclude that the promising findings for EBD interventions observed in research settings are not being transported effectively to applied settings. It is important to note that without caregiver and teacher involvement, it is unlikely that adequate supports can be developed at home and school to avert the long-term negative outcomes for students with the most serious and persistent behavior problems.

Engagement and Implementation Fidelity as Barriers to Effective Practices

Engagement and implementation fidelity are two critical factors that determine the effectiveness of school-based practices. Adherence and implementation quality are dimensions of fidelity that are particularly susceptible to motivational issues.

Research has documented factors that influence family engagement and ongoing participation (i.e., adherence and implementation quality) in services to support the emotional and behavioral health of children (McKay, McKernan, Atkins, Hawkins, & Lynn, 2003; Morrissey-Kane & Prinz, 1999). Socioeconomic disadvantage, ethnic minority status, severity of child dysfunction, caregiver stress and depression, lack of support (including caring for children and elderly caregivers), family member resistance, lack of parenting knowledge and skills, and lack of confidence all play significant roles in determining whether a family engages in and makes use of services (McKay et al., 2004; Nock & Kazdin, 2005). These characteristics are likely to be mediated by the structural and cultural contexts in which the intervention is delivered, and understanding these contexts is critical to our ability to design and deliver interventions decreasing the likelihood that these characteristics will exacerbate motivational issues affecting engagement and implementation fidelity. For example, negative perceptions of school personnel affect engagement and implementation fidelity (Stormshak, Dishion, Light, & Yasui, 2005), and are likely to be amplified

when families do not feel supported by the school or educational institution. In addition, each family is unique, and families are less likely to participate and continue involvement in an intervention when they do not believe the intervention is responsive to their needs (Dishion & Patterson, 1992; Sue, Bingham, Porche-Burke, & Vasquez, 1999).

Schools also have unique contextual factors that can influence teacher and school personnel engagement and implementation fidelity (Ringeisen, Henderson, & Hoagwood, 2003). These include contextual factors operating at (1) the macro level, such as federal policies; (2) the school level, such as resources and administrative support; and (3) the individual level, such as the characteristics, perceptions, and attitudes of staff (Domitrovich et al., 2008). In addition, at the macro level, school personnel's emphasis on academic standards may reduce the perceived importance placed on addressing the mental health and social behaviors of students. This in turn reduces teacher motivation to maintain high levels of adherence to interventions targeted for EBD. Maximizing positive outcomes for children with EBD requires strategies that are attentive to the potential barriers associated with caregiver/teacher engagement and ongoing participation in interventions.

Current Practices and Evidence for Home- and School-Based Interventions

As schools continue to adopt evidence-based practices for children with EBD, the need to identify strategies for increasing motivation to engage in an intervention, adhere to intervention procedures, and implement important features of the intervention with integrity is critical to improving student outcomes. Efforts to improve the reach and delivery of services for children with EBD by attending carefully to motivational issues are expanding quickly. In this section, we provide a brief overview of tactics to overcome engagement and implementation fidelity as barriers to service delivery, including general strategies, stand-alone interventions, approaches to augment existing interventions, and a consultation model that can be grafted onto any behavioral or academic intervention.

General Strategies

There are several general strategies for improving engagement and implementation fidelity for interventions targeting caregivers and teachers. At a very broad level, these strategies emphasize the importance of relationships, typically between caregivers or teachers and school-based service providers. Although service providers represent a variety of roles (e.g., resource teachers, coaches, consultants, specialists) and disciplines (e.g., psychology, social work, counseling, education), we refer to them as "consultants" from this point forward. The importance of creating collaborative relationships between caregivers/teachers and school-based consultants is now well understood (Carr, 2009). Increasingly, careful consideration has been given to developing positive relationships, and thereby reducing the likelihood of provoking defensive or passive partnerships (Scott & Dadds, 2009).

McKay and colleagues (2004) have conducted several innovative studies on removing barriers to low-income families' participation in mental health services for their children. As previously noted, many caregivers from low-income or diverse racial/ethnic backgrounds who have children with EBD often encounter repeated negative interactions with the educational and health care systems. Thus many come to expect social or racial discrimination, blaming, and poor treatment outcomes from future involvement with services. McKay and colleagues' model confronts this challenge by having consultants engage in direct conversations with caregivers about their prior experiences and perceptions. For instance, during an initial phone call to a caregiver, a practitioner asks questions to identify the caregiver's attitudes about previous experiences with mental health care, and collaboratively identifies ways of overcoming obstacles to engaging in the intervention. McKay and colleagues' work demonstrates the importance of integrating evidence-based engagement strategies in service delivery by using supportive phone techniques from the very first contact and clarifying the role of the interventionist. The model targets parental efficacy levels, attendance, and completion rates (McKay et al., 2004). Several researchers have leveraged the knowledge base regarding these

motivational strategies to create stand-alone interventions.

Stand-Alone Interventions

Some stand-alone interventions have been created to proactively address caregiver motivation to engage in and continue participation in interventions for children with EBD. While some rely on the generic motivational strategies discussed earlier, more recent efforts have adopted strategies from “motivational interviewing” (MI), a counseling approach that has been highly effective in addressing similar issues in the substance abuse and health fields (Miller & Rollnick, 2013).

Interventions Employing Generic Motivational Strategies

A number of stand-alone interventions using motivational strategies have been developed. For example, Hoagwood and colleagues have built upon the McKay and colleagues (2004) framework and developed the Parent Empowerment Program (PEP) (Olin et al., 2009; Rodriguez et al., 2011). PEP involves training caregiver liaisons (family peer advocates) from the community in the methods of family advocacy, communication/listening skills, and motivational enhancements. The model is grounded in the “unified theory of behavior” (Jaccard, Litaro, & Wan, 1999) and targets proximal determinants of caregivers’ intention to participate in services for their children. These include perceived norms, attitudes toward participation, self-efficacy, and expectancies of success. Research to date has focused on the development and evaluation of the family peer advocate training. PEP training has been shown to have a positive impact on peer advocate self-efficacy and empowerment over a 6-month period (Rodriguez et al., 2011).

Parent Connectors is another program that utilizes caregivers of children with EBDs to improve adherence to intervention protocols. This school-based caregiver-to-caregiver support program links Parent Connectors (caregivers who have children receiving services) to caregivers of children with EBD. The intervention is delivered through weekly telephone calls to families of youth,

with caregivers as the driving force behind the process and with support from teachers who have received training and resources to increase caregivers’ involvement in the education of their children. Implementation of the Parent Connectors intervention is associated with improved parent–child engagement, increased use of mental health services, and reduced suspension rates (Kutash, Duchnowski, Green, & Ferron, 2011).

Interventions Employing MI

MI has recently been leveraged by several research groups in the field of EBD (Frey et al., 2011). Pioneering work in this area began with Nock and colleagues’ implementation of strategies to enhance motivation, as well as the creation of stand-alone interventions modeled on the Drinker’s Check-Up (Miller, Sovereign, & Krege, 1988).

PARENT ENHANCEMENT INTERVENTION. Nock and Kazdin (2005) developed the Parent Enhancement Intervention (PEI), a model that assesses caregivers’ perception of readiness and that attempts to improve engagement and adherence (i.e., attendance). PEI is a brief, adjunctive intervention incorporating selected motivational enhancement techniques based on MI, and designed to increase caregivers’ motivation to engage in services as well as to identify and problem-solve potential barriers to participation. Consultants elicit self-motivational change statements by asking caregivers which changes (if any) they would like to see in their children’s behavior, and regarding their plans for various intervention-related actions, such as attending sessions and adhering to the treatment protocol sessions. The consultants work with the caregivers to develop very specific plans of action to encourage ongoing motivation and attendance. PEI has been shown to increase caregiver treatment motivation, attendance behavior, and adherence to treatment (Nock & Kazdin, 2005).

SCHOOL-BASED CHECK-UP MODELS. The Family Check-Up (FCU; Dishion & Kavanagh, 2003) and the Classroom Check-Up (CCU; Reinke, Herman, & Sprick, 2011) are stand-alone intervention models developed for flexible use with caregivers and teachers, respectively. The FCU was developed

to engage caregivers of students with or at risk for EBD, whereas the CCU was modeled after the FCU as a consultation model to improve teacher engagement in and fidelity to implementation of effective classroom practices. Both follow a similar framework guiding the development of collaborative and individualized intervention plans. Both also infuse MI strategies throughout the intervention process as a way to increase motivation, initially and after a caregiver or teacher has committed to participating in the intervention. Table 24.1 provides the step-by-step framework and motivational enhancement processes embedded within the general check-up model.

The FCU intervention (Dishion & Kavanagh, 2003; Dishion & Stormshak, 2007), which is a component of the same authors' multicomponent EcoFIT intervention, includes three brief, family-centered sessions to motivate caregivers to change parenting practices and use intervention services addressing their specific needs. The FCU draws on MI principles (Miller & Rollnick, 2013) to help caregivers adopt and effectively implement well-established parenting practices to address child behavioral concerns. In the first session, consultants interview caregivers about their goals, concerns, and motivation for change. Then caregivers, teachers, and youth complete assessments to identify the key ecological, family, and youth dimensions that contribute to student risk or resilience in the school and community setting. In addition, consultants arrange, video-record, and code family discussions around topics designed to elicit family problem-solving actions. The data from the

observations, interviews, and surveys are compiled into a single-page report. The consultants then provide feedback based on this information to the caregivers, describing the assessment results in a way that supports their motivation to change and that helps identify appropriate evidence-based supports for the students and families in school and community settings. Families can elect to receive more intensive family support as well. The FCU has been applied with children from 2 years of age to secondary school age, and is regarded as a well-established intervention for promoting effective parenting behaviors and reducing problematic youth behaviors (Connell, Dishion, Yasui, & Kavanagh, 2007; Stormshak et al., 2005).

The CCU was modeled after the FCU for intervening with teachers. It is an assessment-based consultation intervention that provides classroom-level support for teachers struggling with classroom management (Reinke, Herman, & Sprick, 2011; Reinke, Lewis-Palmer, & Merrell, 2008). The CCU utilizes MI techniques in order to engage teachers in the behavior change process. The purposes of the CCU are to (1) target teachers' motivation to utilize current practices that are important for student success, (2) reduce teacher-student interactions that are likely to exacerbate problem behaviors, and (3) increase teacher behaviors that promote student competence and success. Specific motivational enhancement strategies included in the CCU include giving personalized feedback to teachers on classroom behaviors, encouraging personal responsibility for decision making (while offering direct advice if it is solicited), developing a menu of

TABLE 24.1. Framework of the General Check-Up Model

Step	Procedure	Motivational enhancement
1	Initial interview	Relationship building; Connecting to client values
2	Ecological assessment of key risk and protective factors	Linking personalized data to the intervention
3	Personalized feedback	Providing specific personalized feedback about areas of strength to build upon and areas of need for intervention focus
4	Developing menu of options	Allowing clients to focus on areas identified as important to them
5	Tailored intervention	Individualizing intervention and developing it in a collaborative manner toward increasing client buy-in

options for improving fidelity, and supporting teacher self-efficacy by identifying existing strengths and times when teachers have successfully changed classroom behaviors in the past (Miller & Rollnick, 2013).

Several studies have evaluated the efficacy of the CCU via rigorous single-case designs and daily, real-time data collection of key study variables, indicating changes in teacher and student behavior (Mesa, Lewis-Palmer, & Reinke, 2005; Reinke et al., 2008; Reinke, Lewis-Palmer, & Martin 2007). Although the CCU is not an intervention directly aimed at students with EBD, the model is promising for increasing teacher engagement in implementing practices that support the success of students with EBDs. Furthermore, the CCU provides a useful structure that can be readily adapted to support teacher engagement in and implementation of school-based interventions and strategies targeting students with EBD.

Using Check-Up Procedures with Existing Interventions

Recently, check-up procedures have been grafted onto existing school-based interventions. The structured yet flexible use of the check-up model provides a useful foundation to enhance engagement in and effective implementation of existing interventions known to be effective.

In one study, Herman and colleagues (2012) integrated the FCU with the Coping Power (CP) program. CP is an evidence-based group social skills intervention for aggressive elementary school students (Lochman & Wells, 1996, 2004). Prior studies of this intervention indicated that the effects of CP on child behavior problems were enhanced with greater caregiver participation, but that caregiver involvement with the program was generally low (Wells, Lochman, & Lenhart, 2008). Herman and colleagues recently used the FCU as an alternative platform for delivering the parenting component of CP. Rather than having caregivers meet as a group for 16 sessions as in the original model, the FCU/CP model uses assessment and feedback to tailor the CP program to the specific needs and desires of each caregiver. After an assessment and feedback session, the caregiver decides which one of four modules (i.e., stress management, parenting

tool kit, family cohesion, or academic supports) to complete. Feasibility data indicated that caregivers and clinicians in an urban school district liked the model, thought that it was culturally relevant and feasible, and noted positive changes in parenting behaviors. Notably, caregivers who completed the FCU component finished more modules than caregivers who participated in the group format without the supplemental MI or engagement strategies.

The CCU has recently been adapted to augment teacher implementation of a universal evidence-based social-emotional and classroom management intervention, PATHS to PAX (Reinke et al., 2012). The CCU PATHS to PAX (CCU P2P) model was used to support teachers struggling to implement PATHS to PAX with high levels of adherence or quality. Following fidelity observations, teachers were identified to receive additional support through the adapted version of the CCU. The CCU P2P process included classroom observation and a teacher interview with a consultant. Next, areas of strength or high implementation were identified, as well as areas for improvement. The consultant and teacher then worked to develop a plan to improve implementation of PATHS to PAX in the classroom. The initial pilot of the adapted CCU showed promise, in that teachers who received the CCU P2P model improved their implementation and found the model helpful (Reinke et al., 2012).

In addition, Reinke (2013) recently developed and pilot-tested the School-Enhanced FCU (SE-FCU) for implementation in elementary schools with students having EBDs. The SE-FCU builds upon the standard FCU model by strengthening the components of school assessment and behavior support planning. In this model, the school assessment component includes a thorough classroom observation and development of a behavior support plan with the school behavior team. In addition, the family and school team meet to develop a joint school-home intervention plan. A menu of options for the SE-FCU may include (1) academic supports for home and school, (2) development of a home-school communication plan in conjunction with a behavior support plan resulting from a functional based assessment at school, or (3) parenting training for

the caregiver and school-based social skills training for the student.

In the pilot test of this model, six students from two elementary schools were identified by the school as having high levels of disruptive behavior problems and received the SE-FCU. Results indicated significant decreases in teacher-reported externalizing problems. Interestingly, half of the children were experiencing significant depressive symptoms via self-report at baseline. Results at a 3-month follow-up indicated significant decreases in self-reported and teacher-reported depression.

Hill Walker and colleagues initially set out to graft the FCU procedures onto the front end of the home component of the First Step to Success intervention. At the end of a 3-year development and innovation grant (No. R324A090237) from the Institute for Education Sciences in the U.S. Department of Education, they found it more helpful to develop a revised home intervention in which MI strategies are infused into all interactions with consultants and parents,

and to use an adapted version of the check-up procedures to supplement the classroom component. In the process, they developed a consultation model that can be grafted onto any behavioral or academic intervention, or be used to develop new interventions when motivational issues are critical to successful implementation. This model, the Motivational Interviewing Navigation Guide (MING; Lee et al., in press), is described in the next section, followed by a description of how it was used to inform enhancements of the First Step to Success intervention.

Motivational Interviewing Navigation Guide

The MING is a five-step process to increase motivation for teacher and caregiver engagement and implementation of evidence-based practices, or to develop new interventions based on an MI approach. As can be seen in Figure 24.1, the MING’s five steps are as follows: (1) engage in values discovery; (2) assess current practices; (3) share performance feedback; (4) offer extended consultation, education and support (optional); (5) provide closure.

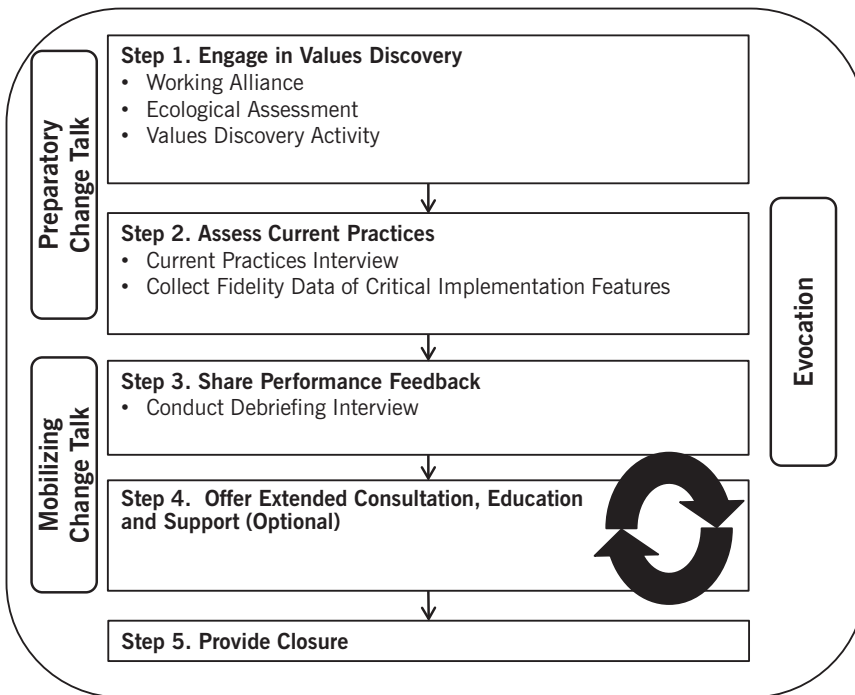


FIGURE 24.1. Motivational Interviewing Navigation Guide (MING). Copyright 2013. Reprinted by permission of Positive Behaviour Management.

mance feedback; (4) offer extended consultation, education, and support; and (5) provide closure.

Procedurally, the MING is very similar to the FCU and CCU interventions, in that all contain assessment, performance feedback, and intervention-planning procedures. However, the MING presents a broader systematic consultation process for delivering MI strategies to improve engagement in and fidelity to any academic or behavioral intervention for which the essential components defining effective implementation are known. Importantly, not only does the MING guide the process, but it was designed to assist consultants to acquire and use evocation to increase caregiver and teacher motivation. “Evocation” embodies the consultant’s elicitation of the caregiver/teacher’s motivation and commitment to change (Miller & Rollnick, 2013), and is a critical concept in an MI-based consultation model. The training and procedural details (i.e., the manual; Frey, Walker, et al., 2012) based on the MING provide support so that consultants can effectively recognize, elicit, and respond to differing forms of “change talk.” To recognize and respond to change talk, the consultant must understand evocation and when it is best applied. During MING Steps 1–4, caregiver/teacher speech favoring movement in the direction of engagement or strong implementation is change talk. Alternatively, “sustain talk” favors behaviors that maintain the status quo. A primary task of the consultant using an MI approach is to increase the probability that change talk will emerge spontaneously in the conversation. Thus the consultant’s role is to facilitate conversations with caregivers and teachers that direct (i.e., evoke) them to discuss the disadvantages of the status quo, along with the advantages of engaging in the intervention process and implementing effective practices. Evoking change talk requires the consultant to listen intently, avoid taking an “expert role,” and recognize change talk when it occurs. At the same time, the consultant supports autonomy and relegates the choice and responsibility for implementing the universal principles to each caregiver/teacher, who remains the expert.

In this respect, the MING can be considered a more robust application of MI methods for use with caregivers and teachers in

the context of school-based consultation. The process can be used as a guide for creating procedures, resources, and tools to help consultants use MI techniques to increase engagement and improve intervention fidelity. The MING was used in this fashion to infuse MI into the existing First Step to Success early intervention for children with EBD, as described below. The application of the MING within the First Step to Success enhancements is described below.

First Step to Success Enhancements

The five-step MING process was used as a guide to create procedures, resources, and tools to help consultants engage caregivers and teachers in, and improve teacher and caregiver implementation of, the five universal principles of positive behavioral support that are central to the First Step to Success intervention: (1) establish clear expectations; (2) teach the expectations directly; (3) reinforce the display of expectations; (4) minimize attention for minor inappropriate behaviors; and (5) establish clear consequences for unacceptable behavior (Golly, 2006).

First Step to Success (Walker et al., 1998) is a collaborative home and school intervention to help students with or at risk for EBD get off to a good start in school. Teachers, caregivers, and the First Step coach work together to teach these children school success skills, such as following directions, completing work, and getting along with peers. The First Step to Success program is implemented in regular K–3 classrooms and is applied as part of a regular classroom teacher’s classroom routines. The First Step intervention teaches the following school success skills to children in both school and home settings: (1) communication, (2) cooperation, (3) limit setting, (4) problem solving, (5) friendship making, and (6) confidence building. No explicit components of the original First Step intervention address caregiver or teacher motivation, yet this program provides an excellent example of an evidence-based intervention that coordinates caregiver and teacher efforts. In Chapter 29 of this volume, Walker and colleagues provide an overview of the evidence base for, and adaptations to, First Step to date.

Enhancements to the First Step intervention were designed to improve engage-

ment and implementation of the universal principles in home and school settings. It was expected that improving engagement and implementation would result in better maintenance after the intervention period of the changes typically observed after initial implementation, thereby reducing the dependency on monitoring and booster sessions. Two enhancements, Tertiary home-Base and the First Step CCU (FS-CCU), are described below.

During the initial step of the MING (engage in values discovery), a brief and informal ecological assessment allows the consultant to learn more about the family or classroom environment (see Frey, Walker, et al., 2012). Furthermore, the Values Discovery Activity, based on the works of Rokeach (1973), reveals caregiver/teacher values that are relevant to parenting and teaching. Through the Values Discovery Activity, the coach develops an understanding of what is important to the caregiver or parent, and the standards they wish to guide their parenting and teaching practices. The identification of values promotes a working alliance, and the consultant can also use this throughout the consultation process either to affirm actions that are consistent with caregiver/parent values or to explore possible changes in parenting/teaching practices that would yield greater consistency with these values.

During the second step of the MING process (assess current practices), data are collected in relation to caregiver/teacher use of the five universal principles of positive behavioral support. For both the caregiver and teacher, this assessment has two main components: the Universal Principles Interview and the Observation of the Universal Principles (see Frey, Walker, et al., 2012). The Universal Principles Interview assists the consultant in learning about existing practices that are consistent with—or potentially in conflict with—the universal principles. Throughout the interview, the consultant evokes change talk by differentially responding to caregiver/teacher talk, so that the advantages of adopting the principles and disadvantages of existing practices that are not consistent with these principles are amplified, and further elaboration from the caregiver/teacher is encouraged. During the interview, the consultant carefully monitors the working alliance while supporting the

caregiver/teacher's control, autonomy, and choice to freely consider change and make decisions consistent with his or her own values and goals. The consultant guides the conversation by asking open-ended questions about the universal principles, and resisting the urge to promote the principles as "the answer." The interview procedures and tools associated with this step are also designed to help the consultant increase caregiver/teacher confidence about making behavioral changes consistent with these principles, as well as to emphasize the importance of the principles.

The Observation of the Universal Principles consists of an observation procedure, one for caregivers and one for teachers. In the home, the Observation of the Universal Principles consists of a video-recorded caregiver-child interaction, which is then reviewed with the caregiver from a strengths-based perspective and as a means of reflection. In the classroom, the Observation of Universal Principles includes quantitative coding of Universal Principles 3 (reinforce the display of expectation) and 4 (minimize attention for minor inappropriate behaviors), as well as qualitative coding of observations related to Principles 1, 2, and 5.

In the third step of MING (provide performance feedback), the Debriefing Interview structures the delivery of performance feedback (see Frey, Walker, et al., 2012). This interview is designed to encourage the caregiver or teacher to reflect on his or her implementation of the universal principles and increase mobilizing change talk (an indicator of belief that implementing the principles is important and of high confidence in being able to do so). At the end of the interview, caregivers and teachers are given two options: (1) participating in Step 4 (extended consultation, education, and support) or (2) bringing the consultation to a close (Step 5). The consultant's focus in the Debriefing Interview is dependent upon the caregiver/teacher's implementation of the universal principles during Step 2, as well as his or her motivation to change teaching/parenting practices.

In MING Step 4 (provide extended consultation, education, and support), the consultant simply repeats Steps 2 (assess current practices) and 3 (provide performance feedback) with a goal that is articulated by the

caregiver/teacher. While providing extended support, the consultant may deem it appropriate to take an educational stance, more freely offering advice and teaching skills through discussion, modeling, and role playing. In addition, the consultant can work to prevent implementation problems by exploring barriers to implementation.

Whether the consultant is successful in increasing motivation to implement one or more universal principles better than is currently the case, the interview should end on a positive note (Step 5, closure): The consultant summarizes their work together, with a focus on identified strengths, and affirms the caregiver/teacher's commitment to his or her values. For a caregiver, the process is also concluded by helping the caregiver access community resources that may be useful in removing barriers to school success.

Feasibility testing of Tertiary homeBase and the FS-CCU suggests that caregivers and teachers (1) adhered to the MING steps, (2) believed the goals of the intervention were important, (3) perceived the procedures as acceptable, and (4) thought participation produced desirable outcomes (see Frey, Lee, et al., 2013; Lee et al., in press). Furthermore, the FS-CCU was associated with strong teacher-consultant alliance, increases in teacher praise statements, reductions in attention to challenging behavior, and improvements in the quality of teacher-child relationships. The Tertiary homeBase component was associated with strong parent-consultant alliance, increases in parental efficacy, and reductions in parental distress. As a multicomponent intervention, the First Step intervention plus the enhancements described here have resulted in impressive increases in social skills and academic engaged time, as well as decreases in problem behavior. These results are described in forthcoming reports. Finally, the training and manualization effort, guided by the MING, resulted in consultants' implementing MI with proficiency (Frey et al., in press).

Summary of Active Ingredients of Motivationally Based Consultation Models

There are several active ingredients in all consultation models designed to increase teacher or caregiver motivation for engag-

ing in an intervention and improving implementation fidelity. Specifically, they must emphasize relationship building, promote autonomy, and utilize interviewing strategies to evoke change talk. Conceptually, relationship building and evocation are the foundation for all MI-inspired consultation models. Research over the past half-century has confirmed the importance of the quality of the relationship in setting the stage for virtually any consultation or counseling relationship (Henry, Strupp, Schacht, & Gaston, 1994). MI research conducted in settings outside schools has shown the importance of the amount and type of change talk in influencing change behavior. For instance, a series of studies found that commitment language (essentially saying, "I'm going to do this") during the final 5 minutes of meetings predicted changes in substance use for those seeking support (see Amrhein, Miller, Yahne, Knupsky, & Hochstein, 2003; Amrhein, Miller, Yahne, Palmer, & Fulcher, 2004). The parallel to this work in family consultation comes from a study by Patterson and Forgatch (1985). They found that teaching behavior on the part of the consultant increased the likelihood of sustain talk in families, whereas supportive or listening responses were more likely to elicit change talk. In turn, change talk was associated with a greater likelihood of change behavior. The final conceptual element of effective family consultation models is the need for explicit structures and frameworks. The FCU and CCU provide concrete steps within brief consultation visits to guide the actions of consultations, and the MING approach provides an overarching framework for guiding MI-related consultations within the context of existing interventions.

Future Directions

Although this chapter's review of motivation-based strategies to improve caregivers' and teachers' engagement with and high-quality implementation of effective practices is encouraging, this line of research is still in an early phase of development. For example, while Herman and colleagues (2012) and Reinke and colleagues (2012) have demonstrated that motivational procedures result in increased family/teacher compliance with

implementation of intervention practices, these results require replication with larger samples. And while initial studies suggest that these procedures are effective for altering teacher (Lee et al., in press; Reinke et al., 2008), caregiver (Frey, Lee, et al., 2013), and student (Connell et al., 2007; Reinke, 2012) behavior, the outcomes of these studies require replication with additional groups of teachers and parents, and with other interventionists. Moreover, while there is some evidence that caregivers and teachers find the MI approach to be socially valid (Frey, Lee, et al., 2013; Lee et al., in press), considerable work remains to be done in order to understand how caregivers and teachers with different characteristics and operating in different home and school contexts view the goals of this approach, the acceptability of the procedures, and outcomes associated with these practices. Although it seems logical that these approaches would increase engagement, no studies to date have examined this aspect specifically. Furthermore, little is known about the minimal elements of MI-based approaches to achieving success in these relationships, or about how MI approaches are perceived by teachers, caregivers, or consultants. Common across most models is the idea that an effective alliance, feedback, and language (i.e., evocation) are key contributors to changing motivation. Future research will need to examine aspects of consultant behaviors that facilitate motivation in teachers and caregivers.

In addition, work has only begun on how to train future practitioners and current school personnel in these methods. The Motivational Interviewing Network of Trainers has developed guidelines covering the process and steps involved in learning MI. The MING incorporates these ideas and steps. Future research will need to determine the success of traditional learning, distance learning, and web-based supports in leading to high-quality implementation of MI-related skills and models. Other research will need to find ways to improve the impact of even these successful MI approaches.

Exciting research from social marketing has begun to be applied in school and community settings to help foster engagement in student services and supports. For instance, Winslow, Poskolov, Begay, and Sandler (2012) have described their work in using

basic social marketing principles to engage low-income Latino families in school-based services. These strategies include training teachers to endorse the targeted school-based services in brief conversations with families, using social norming information to expand influence, and infusing social marketing principles into first contacts (in person or over the phone) with families. These efforts were successful in fostering participation among these families. Future work will be needed to infuse the principles into standard practice and evaluate their impact.

Finally, future intervention development and evaluation are needed to extend these efforts upward to the school district or community levels. For instance, consultants for school districts could deliver District Check-Ups to superintendents and boards, centering around data-based issues they deem to be most important. The models advocated in this chapter hold considerable promise for working with larger social systems to enhance motivation for change and provide needed information to make valuable policy decisions.

Conclusion

Motivational approaches have provided a more sophisticated lens through which school-based practitioners and researchers can attend to engagement and implementation issues related to school-based interventions for children with EBD. Specifically, motivational enhancement and MI-based strategies provide a framework and set of specific interviewing skills that have the potential for effectively addressing the greatest challenges to interventions delivered to caregivers and teachers. Rather than waiting for such individuals to want to change their behavior, MI assumes that the consultation context provides a critical leverage point for altering motivational barriers. The MI-related interventions described in this chapter represent important progress in applying this research-based model in schools. We believe that the aspects of the implementation process that will increase transportability to practice settings should be considered during the earliest phases of intervention development (see Cappella, Reinke, & Hoagwood, 2011).

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Treatment Integrity within a Three-Tiered Model

Frank M. Gresham

Treatment integrity is a topic that has generated increasing interest in the area of evidence-based practices and scientific research. It is an important methodological concern in both research and practice because treatment integrity data are essential in drawing valid conclusions regarding treatment outcomes (Sanetti & Kratochwill, 2009). Unfortunately, treatment integrity has often been assumed rather than assessed across the diverse fields of general education, special education, clinical psychology, school psychology, and applied behavior analysis (Gresham, MacMillan, Beebe-Frankenberger, & Bocian, 2000; McIntyre, Gresham, DiGennaro, & Reed, 2007; Perepletchikova & Kazdin, 2005; Peterson, Homer, & Wonderlich, 1982). Despite a growing consensus concerning the need to address treatment integrity, there has been relatively little empirical attention to the construct. To paraphrase Mark Twain, treatment integrity is like the weather: Everybody talks about it, but nobody does anything about it.

The U.S. Department of Education's Institute of Education Sciences (IES) apparently values treatment integrity and requires that applicants attend to treatment integrity issues in their grant applications. In fact, IES states the following about treatment integrity:

Applicants should specify how the implementation will be documented and measured. Investigators should make clear how fidelity measures capture the core components of the intervention. . . . In strong applications, researchers describe how fidelity data will be incorporated into analyses of the intervention. (pp. 50–51)

Nothing in the IES document, however specifies what methods are to be used to measure treatment integrity; nor is there any guidance regarding the minimal levels of treatment integrity required for specific interventions. There is also no guidance for applicants concerning how often treatment integrity should be assessed or what the appropriate course of action is when integrity falls below a given level. In short, IES talks about the vital importance of treatment integrity in efficacy studies, but is silent about critical questions regarding best practices in treatment integrity measurement.

There is reasonable justification for IES's silence on these issues. There is simply no comprehensive, reliable, or valid database to guide policymakers or researchers in deciding the optimal levels of treatment integrity for specific treatments for specific types of problems. For some treatments for some problems, a treatment integrity level of 70% may be sufficient. For other prob-

lems, a 90% level may be required. These levels most certainly would vary by the type of measure used to quantify treatment integrity. Treatment integrity as measured by teacher self-report might be 80%; the same treatment implemented by the same teacher using direct observation might yield only 60% integrity; and the same treatment implemented by the same teacher using measurement of permanent products might yield only 50% integrity. How should one interpret these widely disparate indices of treatment integrity? As Perepletchikova, Treat, and Kazdin (2007) have noted,

Implementation of treatment integrity procedures is costly and resource intensive, which almost certainly has deterred researchers from adequately addressing integrity. It is imperative to conduct the necessary cost-benefit analysis for determination of which integrity procedures must be implemented to ensure the validity of our conclusions. (p. 840)

Over 30 years ago, Peterson and colleagues (1982) aptly pointed out that a “curious double standard” exists between the reliable and accurate measurement of the dependent variable and that of the independent variable. That is, evidence for the reliable measurement of the dependent variable is always required in research, but the same standard is not required for the independent variable (i.e., the treatment). This observation continues to be made by various task forces and organizations in the fields of education, psychology, and mental health. For example, the Task Force on Evidence-Based Practices in Special Education of the Council for Exceptional Children stated that the integrity of intervention implementation is critical in single-case designs because the independent variable is implemented continuously over time (Horner et al., 2005). Similarly, other task forces on evidence-based treatments within the American Psychological Association, such as those of Division 16 (School Psychology), Division 17 (Counseling Psychology), Division 53 (Clinical Child and Adolescent Psychology), and Division 54 (Pediatric Psychology), have called for the assessment and monitoring of treatment integrity. These recommendations have also been made by the National Institutes of Health (Bellg et al., 2004).

Despite these clarion calls for enhanced attention to treatment integrity assessment and facilitation, the literature on the best ways to measure integrity and on the relationships between integrity levels for different treatments and outcomes remains minimal and inconclusive. In fact, treatment integrity suffers from substantial conceptual and measurement problems in terms of reliability, validity, and accuracy. Addressing treatment integrity is expensive and laborious, and in large part hinges on the trade-off or balance of the costs and benefits of attending to integrity. Treatments differ in their theoretical orientations, operational definitions, components, and requirements for accurate implementation. This may mean that integrity measures may have to be developed for each treatment, or it may mean that more general measures for a variety of treatments could be developed. Finally, we do not know at this point the incremental utility of evaluating various aspects of treatment integrity.

Historical Context of Treatment Integrity

The concept of treatment integrity cuts across a diversity of fields involved with providing treatments or interventions to individuals. In medical treatments, the concept of “treatment compliance” or “treatment adherence” is an important and problematic issue. In the field of nutrition, the concept of “dietary adherence” is important for successful outcomes. In the fields of rehabilitation and substance abuse, the term “program implementation” captures the concept of treatment integrity. In clinical psychology, a common term for this concept is “treatment fidelity.” Finally, in the field of applied behavior analysis, the concept of “procedural reliability” is commonly used to refer to treatment integrity. Despite the variations in terminology across these diverse fields, the concern that treatments or interventions are delivered as prescribed or intended is of utmost importance to document that changes in individuals’ functioning (medical, nutritional, psychological, or behavioral) are due to those treatments and not to extraneous variables.

Historically, treatment integrity has been conceptualized as involving three dimen-

sions: (1) “treatment adherence,” or the degree to which a treatment is implemented as planned or intended; (2) “interventionist competence,” or the interventionist’s skill and experience in implementing a particular treatment; and (3) “treatment differentiation,” or the extent to which treatments differ on critical dimensions (Nezu & Nezu, 2008; Perepletchikova et al., 2007). Conceptually, treatment adherence represents a quantitative dimension of treatment integrity because it can be measured or quantified by the number of critical treatment components that are implemented. Therapist competence can be conceptualized as more of a qualitative dimension of treatment integrity because it reflects how well treatment procedures are implemented or delivered. Finally, treatment differentiation represents theoretical distinctions among different aspects of various treatments.

The relationship between treatment adherence and interventionist competence is not bidirectional because competence presupposes adherence, but adherence does not presuppose competence (McGlinchey & Dobson, 2003). For example, one can adhere to a particular treatment with perfect integrity, yet may do so in an incompetent manner. A breakdown in treatment integrity in this case would dictate training and performance feedback for the competent implementation of the key components of the treatment (see Noell et al., 2005).

It appears from numerous intervention studies that the assessment and reporting of treatment integrity data are uncommon in the intervention literature. Perepletchikova and colleagues (2007) reported that fewer than 4% of randomized controlled trials in psychotherapy research reported treatment integrity data. In the field of autism interventions, only 18% (11 studies) out of 60 studies reported data on treatment integrity (Wheeler, Baggett, Fox, & Blevins, 2006). McIntyre and colleagues (2007) found that 30% (46 studies) out of 144 studies published in the *Journal of Applied Behavior Analysis* reported integrity data. This represents only a slight improvement over the findings of two earlier reviews (Gresham, Gansle, Noell, Cohen, & Rosenblum, 1993; Peterson et al., 1982), which found that 20% and 16%, respectively, of studies published in the *Journal of Applied Behavior Analysis*

reported integrity data. It is quite clear from all these reviews that the state of treatment integrity assessment and reporting has not appreciably improved in the intervention literature over the past 30 years. This finding holds true across diverse fields, ranging from psychotherapy to applied behavior analysis.

Conceptual Issues in Treatment Integrity

As noted above, the construct of treatment integrity is a complex, multidimensional one that various researchers have conceptualized in different ways (Sanetti & Kratochwill, 2009).

These authors identified four aspects or dimensions of the treatment integrity construct: competence of the interventionist, quality of intervention delivery, quantity of the intervention, and process of intervention delivery. Other authors have argued that two additional dimensions of treatment integrity should be considered: “treatment receipt,” which reflects the participant’s knowledge and understanding of the treatment, and “treatment enactment,” which reflects the degree to which a participant uses or applies the treatment in naturalistic settings (Lichstein, Riedel, & Grieve, 1994). In this conceptualization, it is entirely possible for a teacher to know and understand a given treatment, but the teacher may never enact the treatment during the course of the school day.

Yet another conceptualization of the treatment integrity concept is the distinction between “consultation procedural integrity” (CPI) and “treatment plan implementation” (TPI). Most interventions in schools, particularly Tier 1 (universal) and Tier 2 (selected) interventions, are developed via the consultation process and are delivered by teachers. The consultant has no direct control over the integrity of the intervention; rather, the intervention is under the complete control of the consultees (teachers). Noell (2008) has suggested that CPI refers to the degree to which consultation procedures are implemented as designed in research or applied contexts. In this sense, CPI might be conceptualized as an independent variable because it is under the direct control of the researcher or consultant. In contrast, TPI describes the degree to which a treatment plan developed

in consultation is implemented as designed or planned. TPI is not necessarily an independent variable, at least experimentally, because it is not under the experimental control of the consultant. In this view, TPI might be better conceptualized as a dependent variable because it is the most immediate and direct outcome of the consultation process (Noell, 2008). In school-based interventions, student behavior change might be considered a second-order effect or outcome of consultation that may be moderated by a host of variables, including TPI. In this sense, TPI can be viewed as a *moderator* of treatment outcome that is due to a host of factors (to be described later in this chapter).

This discussion highlights the fact that the field is still a long way from developing a consensus on the definition and conceptualization of treatment integrity. Sanetti and Kratochwill (2009) have discussed several reasons for the current absence of consensus. First, various service delivery models dictate different conceptualizations of the treatment integrity construct. In schools, school professionals (e.g., school psychologists, teachers, counselors) deliver interventions through both *direct* and *indirect* service delivery models (Gutkin & Curtis, 1990). As noted above, CPI describes how a consultant provides consultation and training to the consultees (e.g., teachers), and TPI describes how the consultees deliver the intervention plan in their classrooms. In contrast, direct service delivery models do not depend on the consultation process to develop and deliver an intervention. For example, a counselor providing cognitive-behavioral therapy to a child with anxiety and depression is involved in direct service delivery.

Second, many professionals rely on treatment integrity assessments that have poor psychometric properties and that may not be capturing the construct of interest (Sanetti & Kratochwill, 2009). A survey of nationally certified school psychologists indicated that 36.9%, 25.3%, and 20.8% used teacher self-reports, direct observations, and observer posttreatment ratings, respectively, to assess treatment integrity (Sanetti & Kratochwill, 2009). In addition, only 1.9% and 40.4% of these respondents “always” or “sometimes” assessed treatment integrity, respectively. Over two-thirds of interventions developed by school-based problem-

solving teams included no documentation of treatment integrity.

Third, the variables that moderate or mediate treatment integrity have received limited attention. Recall that a “moderator” variable is one that influences the direction or strength of a relationship between an independent variable and a dependent variable (Baron & Kenny, 1986). For example, the complexity of a classroom-based intervention and the time required to implement it may moderate the relationship between the intervention and its outcome. A “mediator” variable describes the process responsible for the relationship between an independent and a dependent variable (Baron & Kenny, 1986). For example, the delivery of contingent reinforcement for appropriate classroom behavior may mediate the relationship between the independent and dependent variable.

Putative Variables Influencing Treatment Integrity

The foundation of treatment integrity can be traced to Yeaton and Sechrest’s (1981) seminal paper, which provided a clear conceptualization of treatment integrity and outlined several key issues involved in its definition, measurement, and evaluation. These authors hypothesized reciprocal relationships among the *strength*, *integrity*, and *effectiveness* of treatments. In this view, the strength of treatments implemented with poor integrity is decreased (i.e., active treatment ingredients are diluted), and therefore the effectiveness of those treatments is reduced. As such, treatment integrity is important for evaluating the strength and effectiveness of treatments for different behaviors, in different settings, for different individuals, and across different treatment implementers.

Elsewhere, I (Gresham, 1989, 1997) have hypothesized several factors or variables that appear to be related to the integrity of treatments, according to a logical or intuitive analysis of the literature. It should be noted, however, that empirical moderator and mediator analyses (Baron & Kenny, 1986) of these variables have received scant attention in the research literature (Sanetti & Kratochwill, 2009). These variables can be broadly classified into two categories: (1)

variables related to the intervention (e.g., complexity, materials/resources, ease of implementation); and (2) variables related to the interventionist (e.g., motivation to implement, skill proficiency, self-efficacy).

It should be noted that there are currently no empirical data suggesting the degree to which each of these putative variables affects treatment outcomes. No researcher has systematically varied the complexity of different treatments and evaluated their differential effects on treatment outcomes. Similarly, there is little evidence in the literature that longer treatment or more frequent treatments (dose effects) are more effective than briefer treatments for a particular problem. An exception to this is the Lovaas (1987) study that claimed to produce “autistic recovery” in about half of the children receiving an intense behavioral intervention. In this study, some children received 40 or more hours of treatment per week, and other children received 10 hours of treatment per week. Lovaas concluded that strong treatment effects were observed in the 40-hour-per-week group and that weak effects were produced in the 10-hour-per-week group. On the basis of these data, Lovaas concluded that children with autism require at least 40 hours of intense behavioral intervention per week, and that anything less would be ineffective. This study, although widely cited, suffered from numerous threats to internal, external, and statistical conclusion validity; collected no treatment integrity data; and has enjoyed only partial replication since its publication (Gresham & MacMillan, 1997).

There is also currently little empirical research addressing the relationship between treatment effectiveness (actual and perceived) and treatment integrity. Witt and Elliott (1985) suggested that treatments that are perceived to be more effective are likely to be more acceptable, and therefore will be implemented with higher integrity. Practitioners currently lack knowledge concerning how effectiveness data (actual or perceived) influence the subsequent integrity of these treatments.

In summary, although a number of potential variables may moderate or mediate the integrity of treatments, no systematic empirical research has been conducted to investigate this topic. In investigating treatment integrity, one could conduct empirical

research to investigate whether intervention complexity, “dose” of intervention, ease of intervention implementation, or rate of behavior change either moderates or mediates levels of treatment integrity. This appears to be a fruitful area of investigation in future research on treatment integrity.

Measurement Issues in Treatment Integrity

There have been relatively few developments in the construction of feasible and efficient measures of treatment integrity that have adequate psychometric properties (Sanetti & Kratochwill, 2009). Assessment of the treatment adherence dimension of treatment integrity requires that treatment components be objectively specified and measured. Measurement issues in treatment integrity can be conceptualized in terms of classical test theory, in which components that make up a treatment can be viewed much like items on a test or scale. The extent to which each component of the treatment is implemented can be thought of as the reliability or consistency with which that component is implemented over the course of treatment. This would be viewed as the stability of each component’s implementation over time, much like test–retest reliability.

Some authors have suggested that the reliability of integrity measures could be evaluated by using internal consistency indices such as coefficient alpha or factor analysis (Schulte, Easton, & Parker, 2009; Sheridan, Swanger-Gagne, Welch, Kwon, & Garbacz, 2009). This is a questionable recommendation for establishing the reliability of treatment adherence measures. There is little evidence to indicate that the various components of an intervention should correlate with each other (i.e., the internal consistency of the treatment). Consider the seven components of the generic social skills intervention presented in Table 25.1. There is little reason to believe that Component 1 (introduce the skill and ask questions about it) should correlate with Component 6 (reinforce occurrences of the skill through the session), and there is little reason to believe that each step should correlate with the intervention’s “total score,” such as would be done in calculating interitem correlations on a test. A

TABLE 25.1. Components of a Generic Social Skills Intervention

Component 1:	Introduce skill and ask questions about it.
Component 2:	Define skill and discuss key words.
Component 3:	Discuss why skill is important.
Component 4:	Identify skill steps and have students repeat them.
Component 5:	Reinforce occurrences of skill throughout session.
Component 6:	Correct inappropriate demonstrations of skill.

factor analysis of these seven components would probably yield a single factor labeled “Total Integrity,” which would be relatively meaningless in a psychometric sense. Baer (1977) made a similar argument in commenting on the reliability of direct observations using interval-based recording procedures for target behaviors.

The concept of measurement *accuracy* is probably a more relevant psychometric principle in evaluating treatment integrity (Cone, 1988). Specifying intervention components in standard and absolute terms, and computing the percent accuracy of treatment implementation over time, can establish the accuracy of an assessment method. The value of the independent variable (the intervention) is known prior to an intervention’s implementation, whereas the value of the dependent variable (the target behavior to be changed) is known only after an intervention has been implemented (Peterson et al., 1982). Given that we know the value of the independent variable a priori, we should be able to assess its accuracy of implementation. The accuracy of implementation of each component can be assessed by simply recording the occurrence and nonoccurrence of each component over time.

Methods of Treatment Integrity Assessment

Treatment integrity can be assessed via either direct or indirect behavioral assessment methods. Direct assessment of treatment integrity is based on the observation

of treatment implementation as it is taking place. A treatment agent bases indirect assessment methods on the assessment of treatment integrity of an intervention subsequent to its implementation. There are advantages and disadvantages to using both direct and indirect assessment methods.

Direct Assessment

Direct assessment of treatment integrity is identical to the systematic observation of behavior in applied settings. Several factors should be considered in selection and design of direct observation systems, such as the purpose of making the observations, the content of the observations, the amount of behavior to be observed, and the quality of the data produced (Cone & Foster, 1986). These same factors should guide the design of direct observation systems for treatment integrity.

The ultimate goal of any direct observation assessment is to produce data that accurately represent the behavior(s) of interest. The most important type of validity for direct observation assessment is content validity. Representativeness of observational data depends on both the number of observation sessions (i.e., content sampling) and the length of each observation session. Generally speaking, the greater the numbers of data collected on representative behaviors, the more representative the data are of the content domain. Little research attention has been devoted to the question of how many direct observation data are required to produce a representative sample of treatment integrity. We simply do not know how many times per day, how long, or over how many days one must observe to produce a representative picture of a treatment’s integrity.

As noted above, there is no universally accepted method for assessing treatment integrity, with both direct and indirect assessment methods having their advantages and disadvantages. A potential methodological approach to studying this topic is based on generalizability theory (G theory; Cronbach, Gleser, Nanda, & Rajaratnam, 1972). G theory is concerned with the *dependability* of behavioral measures and the accuracy of generalizing from an observed score to the average score that could be obtained

under all possible conditions of measurement. In contrast to classical test theory, G theory can simultaneously evaluate multiple sources of error in any given measurement. A “generalizability study” on treatment integrity could evaluate multiple influences on treatment integrity, such as number of times per day integrity is assessed, duration of a treatment, number of days of treatment, and the setting (e.g., morning vs. afternoon or math vs. reading) in which treatment takes place. After the generalizability study, a “decision study” could be conducted to design a measurement that minimizes error for a particular purpose. This methodology has been applied to various behavioral assessment methods, including systematic direct observations (Hintze & Matthews, 2004), direct behavior ratings (Chafouleas, Christ, Riley-Tillman, Briesch, & Chanese, 2007), and behavior rating scales (Bergeron, Floyd, McCormack, & Farmer, 2008).

An important consideration in direct assessment of treatment integrity is the potential for reactive effects of the observer’s presence in the treatment setting, particularly if the treatment agent knows that the observer is assessing the integrity of the intervention. Practical solutions to the problem of potential reactivity of observation in treatment integrity assessments are not easily achieved. Several procedures may ameliorate reactive effects of observation. First, observers could observe on a random schedule and spot-check the implementation of a treatment plan. Second, observers could attempt to be as unobtrusive as possible in the treatment setting. Third, observers could simply not communicate the purpose of the observation to treatment agents during the treatment integrity assessment phase.

Some may question the need to minimize observer reactivity if the reactive effects tend to be in the desired direction (i.e., if treatment agents implement the treatment with greater integrity when observers are present). However, if treatment agents only implement treatment plans while observations are being conducted, the treatment will be less effective or ineffective most of the time (i.e., when observations are not being conducted). Again, little empirical research has been conducted on the reactivity of direct assessment of treatment integrity via systematic observations.

Indirect Assessment

Indirect assessment methods include self-reports, behavioral interviews regarding treatment implementation, and assessments of various permanent products. Self-report measures involve having the treatment agent rate the degree to which the treatment was implemented that day. Items on these measures can be either rated dichotomously (implemented vs. not implemented) or rated on a Likert scale (e.g., a 5-point scale where 1 = “low integrity” and 5 = “high integrity”). Completion of a self-report may produce reactive effects in the desired direction by cueing treatment agents to implement the treatment with higher integrity. Self-reports may also have the opposite effect, in which treatment agents report high integrity despite not implementing the treatment with integrity.

Behavioral interviews similar to problem identification interviews (Bergan & Kratochwill, 1990) could also be used to assess treatment integrity. If this method were used, one would expect that the majority of verbalizations would be in the plan and observation content domains and in the process categories of specification, validation, and summarization. Little research, however, has systematically investigated the use of behavioral interviews in the assessment of treatment integrity.

Finally, some treatments leave permanent products in the environment that can be used to assess treatment integrity. Homework and classwork completion and accuracy, self-monitoring forms, and direct behavior reports all have been used to assess treatment integrity (Chafouleas, McDougal, Riley-Tillman, Panahon, & Hilt, 2005; Gresham, 1989; Sheridan et al., 2009). What are not currently known are the relationships among direct and various indirect treatment integrity assessment methods.

Measurement Threats to Treatment Integrity

Several threats to the measurement of treatment integrity should be considered. A useful way of conceptualizing various measurement threats to treatment integrity is to use Kazdin’s (1977) conceptualization of reli-

ability in direct observations. Kazdin's article focused on threats to the measurement of the dependent variable; however, these same threats exist in attempts to measure a teacher's delivery of an independent variable (i.e., the intervention). Four threats identified by Kazdin are relevant to the assessment of treatment integrity: "reactivity," "drift," "complexity," and "expectancies."

In assessing treatment integrity in schools, teachers are keenly aware that integrity assessments are being conducted in their classrooms. As such, consultants or behavior interventionists may signal to a teacher that the intervention should be correctly implemented. The absence of the consultant may result in poor or no implementation of the treatment. This reactivity effect is particularly problematic when systematic direct observations are used to assess the integrity of treatments, as noted earlier.

Another threat to treatment integrity is drift, in that teachers often drift away from the original intervention. That is, teachers often modify or omit aspects of interventions, which may result in a potentially effective treatment's being diluted and thus ineffective in changing behavior. A couple of solutions may circumvent the effects of this drift. First, consultants could use performance feedback on intervention implementation to correct the drift. Second, consultants could provide teachers with a written intervention specifying the major treatment components (a "tip sheet").

A third threat to treatment integrity is the complexity of the treatment. Interventions that have a large number of treatment components, that are technically difficult, and that require a large amount of response effort from teachers are likely to be implemented with poor integrity. Several suggestions may overcome this threat to integrity. First, a consultant could reduce the number of treatment components in a given treatment. Second, the consultant could hold treatment implementation training sessions. Third, the consultant could model the implementation of the treatment in a teacher's classroom.

Finally, teachers often hold expectancies regarding the potential effectiveness or ineffectiveness of a treatment. Some teachers may expect a plan to fail before it is even implemented (e.g., "I've tried reinforcement,

and it doesn't work with this kid"). Some lapses in integrity may result from negative expectancies. Two strategies may help minimize these negative expectancies. First, a consultant could share past positive experiences he or she has had with the intervention ("referent power"). Second, the consultant could share research findings that have been published in using the intervention.

Importance of Treatment Integrity in a Response-to-Intervention Model

In adopting a response-to-intervention (RTI) approach, one must demonstrate that measurable changes in behavior can be attributed to systematic and controlled changes in the environment (i.e., the intervention). Without objective and documented specification that the intervention was implemented as planned or intended, one cannot conclude whether inadequate response to an intervention was due to an ineffective intervention or due to a poorly implemented, but potentially effective, intervention. In an RTI approach, the systematic and frequent measurement of treatment integrity is an essential aspect of service delivery.

Despite the crucial importance of treatment integrity in RTI models, one should be aware that there is not a one-to-one correspondence between the level of treatment integrity and the level of outcome produced by a given treatment. Some treatments may be implemented with less than perfect integrity, yet may produce substantial and beneficial outcomes. Other treatments may be implemented with perfect integrity, yet may produce few or no beneficial outcomes. As such, the integrity of treatments is probably moderated by the relative *strength* of those treatments (see Yeaton & Sechrest, 1981).

Treatment strength in educational and psychological interventions, however, cannot be absolutely known a priori. We can only gauge the strength of a given treatment by the level of outcomes that the treatment produces. Some aspects of treatment strength can be known prior to treatment implementation. Factors such as the amount of treatment, the length or duration of a treatment, and the intensity of the treatment may all be related to treatment strength. However, long and intense delivery of weak treatments may

not produce significant changes in behavior, whereas relatively short and less intense delivery of strong treatments may produce dramatic changes in behavior.

One assumption that is often made is that interventions must have perfect integrity in order to be maximally effective. This assumption presumes a perfect linear relationship between level of integrity and level of treatment outcome. This assumption, however, is not based on empirical data, and there is little published research showing a one-to-one correspondence between level of integrity and level of treatment outcome. In fact, my colleagues and I found only a .58 correlation between integrity level and treatment outcome level in our review of 158 school-based behavioral intervention studies (Gresham et al., 1993). Other authors have noted that rigid adherence to a treatment protocol may not be necessarily required or desirable (Sanetti & Kratochwill, 2009; Schulte et al., 2009). There may be a ceiling effect above which treatment integrity improvement may not be helpful or cost-effective. The problem our field faces is that we do not know what level of integrity is necessary with what treatments to produce beneficial treatment outcomes. We also do not know at this time how far one might drift away from a treatment protocol and still have positive treatment outcomes.

One might invoke different standards for adherence to treatment protocols, depending on whether a study is an *efficacy* study or an *effectiveness* study. It is reasonable to require that efficacy studies would require rather strict adherence to a treatment protocol because these studies focus on establishing intervention effects under tightly controlled conditions, with designs that are high in internal validity. Less rigid adherence to treatment protocols would be required for effectiveness studies because these studies seek to establish intervention effects under less controlled conditions, using designs that are high in external validity.

Currently, we have no comprehensive database to guide us in deciding what the optimal levels of treatment integrity are for different treatments across different populations or individuals. Some problems might be effectively resolved with 75% integrity, whereas other problems might require close to 100% integrity to be effective. A poten-

tially useful avenue for future research and research syntheses could be based on the notion of "treatment effect norms" (Yeaton, 1988). A treatment effect norm refers to the average outcome of a given intervention or family of interventions whose goal is to alleviate a problem. Meta-analyses have been used extensively as a means of quantifying what effects, on average, might be produced with what interventions, with what clients or populations, and under what conditions.

We could establish and catalog treatment integrity effect norms by quantifying what levels of treatment integrity, measured by what methods, with what interventions, produce what level of outcomes. In using the Good Behavior Game, for example, we might find that, on average, 75% integrity as measured by direct observations is required to produce socially valid reductions in disruptive behavior for elementary-age students. It might be that lower levels of integrity using this intervention do not produce socially valid effects. Treatment integrity effect norms could be constructed across multiple tiers of interventions with different populations of students.

Conclusion

The failure to define and measure the degree to which treatments are implemented as planned or intended compromises the development of a true science of evidence-based interventions. The importance of treatment integrity spans multiple fields of endeavor involving the provision of treatment services to individuals, including medicine, education, psychotherapy, and applied behavior analysis. Experimentation in the laboratory can easily control extraneous influences that affect the phenomenon of interest. In applied settings, however, it is extremely difficult to control all possible sources of extraneous influence that may affect the phenomenon of interest. One thing that can and should be controlled, however, is the integrity with which any given treatment is implemented.

Treatment integrity in applied intervention research often is not measured or reported. Over the past 37 years of research published in the *Journal of Applied Behavior Analysis*, almost 80% of all published studies have failed to report treatment integrity

data (Gresham et al., 1993; McIntyre et al., 2007; Peterson et al., 1982). This number is even lower in psychotherapy research, with only 3.5% of published studies adequately addressing treatment integrity in major psychiatric and psychological journals in which treatment outcome research has been published (Perepletchikova et al., 2007). It is highly likely that these numbers are even more dismal in the everyday delivery of treatments in school settings by teachers and other school professionals.

The “curious double standard” between measuring dependent and independent variables incisively noted by Peterson and colleagues (1982) remains to this day, over 30 years later. The regular assessment and reporting of treatment integrity data in both research and practice should be required. Doing so will allow us to develop a better understanding of the concepts and strategies in evidence-based research and practice.

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Issues and Criteria for the Effective Use of Psychopharmacological Interventions in Schooling

Dean E. Konopasek and Steven R. Forness

Psychopharmacology was once a specialty treatment limited to the field of psychiatry, but it is now an area in which general practitioners, pediatricians, and other health care providers routinely prescribe across a wide spectrum of mental disorders. This chapter reviews current literature regarding epidemiology and prescription practices for children and adolescents with emotional/behavioral disorders (EBD), as well as current clinical efficacy and effectiveness research for this population.

Psychopharmacoepidemiology

Within the past 25 years, the use of medication to treat psychiatric disorders of children has increased steadily, particularly for attention-deficit/hyperactivity disorder (ADHD); anxiety, depression, or other disorders of mood; and psychotic disorders (Bonati & Clavenna, 2005; Scheffler, Hinshaw, Modrek, & Levine, 2007; Thomas, Conrad, Casler, & Goodman, 2006; Zito et al., 2003). A recent survey conducted by the National Institutes of Health has indicated a slow but steady increase in prescription rates for children and adolescents with ADHD. During the late 1980s, the stimulant prescription rate for children with ADHD was approximately 0.6%. By the late 1990s, the

rate had increased to 2.7%. By 2007, the stimulant prescription rate for children ages 4–17 years was at 9.5% (Zuvekas & Vitiello, 2012). Olfson, Blanco, Liu, Moreno, and Laje (2006) studied trends in the prescription rates for antipsychotic medications taken from the National Ambulatory Medical Care Survey, focusing on children and adolescents with diagnoses of disruptive behavior disorders, mood disorders, pervasive developmental disorders, or psychotic disorders. Results indicated that between 1993 and 2002, office visits resulting in a prescription for antipsychotic medications increased approximately sixfold. Mojtabai and Olfson (2010), utilizing the same database, found that trends in polypharmacy (i.e., combinations of two or more psychiatric medications) increased significantly from 1996–1997 to 2005–2006, from 42.6% to 59.8%, respectively. This increase was observed for antidepressants, antipsychotics, sedative–hypnotics, and antidepressant–antipsychotic combinations, but not for mood stabilizers. Note that the use of psychotropic medication for students in the special education category of emotional disturbance ranges from approximately 38 to 79% in self-contained classrooms or day schools (Mattison & Michel, in press).

Coinciding with the overall increase in prescription rates across age groups is the

accelerated development of new psychiatric medications. Table 26.1 illustrates the approval history by the U.S. Food and Drug Administration (FDA) of four major drug groups (stimulants, anxiolytics, antidepressants, and antipsychotic medication). Only the anxiolytics (antianxiety) medications showed a decrease in new approvals over the past 30 years. Primarily consisting of benzodiazepines, they have generally been replaced by newer antidepressants that have no physiological risk of dependence and are less sedating.

Several factors appear to have influenced the increase in the development and use of psychopharmaceuticals. The availability of health coverage is a significant factor affecting whether or not medications are prescribed. As Olfson, Marcus, Weissman, and Jensen (2002) noted over a decade ago, for children without health insurance, the use of psychiatric medications is far below that of children with coverage. Compounding the effect of health insurance on prescription rates is the financial incentive for managed care providers to reimburse medication costs at a higher rate than counseling or psychotherapy. As Jellinek (2003) pointed out, “the incentives are aligned to use medication” (p. 15). Screening and diagnostic assessment instruments have also improved significantly over the past several decades. Regarding ADHD, Olfson, Gameroff, Marcus, and Jensen (2003) noted that advocacy groups have thus stressed the need for earlier screening or diagnosis and encouraged pharmacological treatment.

Related to this is the increasing public acceptance of psychiatric medication. The

popular press and other media are replete with articles and advertisements for psychiatric medications. Mojtabai (2009) examined changes in attitudes toward psychiatric medications between 1998 and 2006, using the U.S. General Social Surveys. Overall, public opinion regarding the benefits of psychiatric medications became more favorable across the span of the study for all dimensions measured, including managing day-to-day stress; improving relations; feeling better; and coping with stress, depression, and anxiety.

Four Classes of Psychiatric Medications

Medications most commonly used to treat mental disorders in children and adolescents include stimulants, antidepressants or other drugs to treat disorders of mood, anxiolytic medications, and the antipsychotics (Schoenfeld & Konopasek, 2007). Table 26.2 provides an overview of these four classes of drugs, along with subclasses within each group, and representative medications.

It is important to note that these medications are not “diagnosis-specific.” As an example, antidepressants are used for a variety of other conditions (e.g., ADHD, anxiety, eating disorders). Similarly, antipsychotic medications may be used for some nonpsychotic disorders that are particularly treatment-resistant. Table 26.3 depicts the main psychopharmacology algorithms that psychiatrists use to decide treatment for common diagnoses in children or adolescents (American Academy of Child and Ado-

TABLE 26.1. New FDA Approvals for Four Classes of Psychopharmaceuticals in Different Time Periods

Drug class	Through 1960s	1970s	1980s	1990s	2000+
Stimulants ^a	2	1	0	2	8
Anxiolytics	1	8	6	1	0
Antidepressants	8	2	6	7	7
Antipsychotics	8	2	2	3	6
Total	19	13	14	13	21

^aThis group also contains nonstimulant medications used to treat ADHD (Strattera, Intuniv, and Kapvay).

TABLE 26.2. Representative Medications by Class and Subclass

Drug class	Subclass	Representative medications
Drugs for ADHD	Stimulants	Ritalin, Dexedrine, Concerta, Focalin
	Nonstimulants	Strattera, Intuniv, Kapvay
Antidepressants	SSRIs/SSNRIs	Prozac, Zoloft, Cymbalta, Lexapro, Viibryd,
	Atypical	Wellbutrin, Nefazodone, Effexor
	TCA's	Tofranil, Amitriptyline, Norpramin
	MAOIs	Marplan, Nardil, Parnate
	Mood stabilizers	Lithium, Symbyax
Anxiolytics	Benzodiazapines	Valium, Xanax, Ativan, Klonopin
	Adrenergics	Inderal, BuSpar, Catapres
Antipsychotics	Atypical	Zyprexa, Abilify, Clozaril, Invega
	Conventional	Haldol, Navane, Orap

Note. SSRI/SSNRI, selective serotonin reuptake inhibitor/selective serotonin and norepinephrine reuptake inhibitor; TCA, tricyclic antidepressant; MAOI, monoamine oxidase inhibitor.

lescent Psychiatry [AACAP], 2009). As indicated in Table 26.3, for example, the typical first-line medications in the treatment algorithm for ADHD are the stimulants, with the second-line treatments being nonstimulant medications such as Strattera. Similarly, the first line antidepressant treatment typically begins with a selective serotonin reuptake inhibitor (SSRI) or selective serotonin and norepinephrine reuptake inhibitor (SSNRI). The decision to move from a first-line treatment to a second- or third-line treatment depends on two primary factors: intended effects and side effects. If a trial with one of the first-line medications does not produce the intended therapeutic effect (i.e., amelioration of symptoms) or is associated with significant side effects (e.g., nau-

sea, dizziness, irregular heart rhythm), then *another* first-line drug is used. If that fails, then second- or third-line medications may need to be prescribed.

Note that this process of titration, in some cases, may take weeks or even months. Stimulants are easiest to titrate, since their effects occur well within the first hour of dosage and, even with long-acting preparations, tend largely to wash out of a child's system within the same day. The same is true for most anxiolytics. Antidepressants, on the other hand, may not show full effectiveness until at least 3 or 4 weeks and often take a few days to leave the system before another drug can be started. Antipsychotics take the longest, with full therapeutic effects not apparent for at least 1 or 2 months.

TABLE 26.3. Child Psychopharmacology Algorithms

Diagnoses	First line	Second line	Third line
ADHD	Stimulants	Nonstimulants	Atypical antidepressants
Depression	SSRIs	Atypical antidepressants	Lithium augmentation
Anxiety	SSRIs	Anxiolytics	
Schizophrenia	Atypical antipsychotics	Conventional antipsychotics	

Note. Persistent side effects (stomachaches, headaches, insomnia, irritability, etc.) may affect treatment decisions. Newer antipsychotics (e.g., Risperdal, Zyprexa, Latuda) may be used as third- or fourth-line medications for some diagnoses.

Studies Directly Comparing Psychopharmacological with Behavioral Interventions

In an earlier publication, we reviewed primarily research in which efficacy of psychopharmacological treatment for children with EBD was established in randomized, controlled, placebo-crossover studies (Konopasek & Forness, 2004). In the past decade, the scientific bar has been raised considerably higher with the advent of comparative effectiveness research (Golub & Fontanarosa, 2012; Hochman & McCormick, 2010).

In the comparative effectiveness approach, the assumption is that it is not enough for a new treatment or intervention to be significantly superior to a control or placebo condition, but that it must also rival or exceed rigorous application of an *existing best practice*. In child and adolescent psychiatry, comparative effectiveness research has focused primarily on comparing psychopharmacological treatment directly with behavioral or cognitive-behavioral interventions in randomized controlled trials (RCTs). The advantages, design, and methodology of these studies for children with EBD have been reviewed elsewhere (Forness, 2005; Forness, Walker, & Serna, Chapter 32, this volume). Forness and his colleagues have also reviewed six of these original RCTs in some detail (Forness, Freeman, & Paparella, 2006). Not only did these studies address externalizing or internalizing disorders in children with EBD, but nearly all were conducted in school settings or used at least some school-related outcome measures.

These, and the other studies to be reviewed in the following sections, were all relatively large RCTs with *N*'s mostly in the 100–600 range. Participants were screened and selected from local communities but reflected actual patient populations, with considerable ethnic or racial diversity, a range of family incomes, and considerable rates of comorbid diagnoses (ranging from 50 to 80% in most cases). Nearly all were multisite studies with simultaneous replication across sites. All used active comparators with research manuals for administering medication and for conducting behavioral intervention, in order to enhance treatment fidelity. Some studies randomly assigned

participants to medication, behavioral, or combined treatments, along with a placebo or control condition, while others used “value-added” designs in which participants who responded to one treatment were then provided additional treatment with a second intervention to see whether their response would increase significantly over and above the response to the first intervention. Note that coauthors on these studies included both psychiatrists and psychologists, and that funding came primarily from federal grants and not the pharmaceutical industry. Active treatment phases ranged from 2–3 months to 2 years. The participant sample of most studies was large enough to allow use of several different outcome measures—in some cases, more than a dozen such instruments or assessments in a single study. Outcome variables included a range of systematic measurements across symptoms or behaviors and functional impairments; and, as noted above, more than half used school outcome variables such as achievement tests, teacher ratings, or even direct observations in school settings. Almost all used “responder analyses,” in which participants (who all had to meet clinical diagnostic criteria at baseline) were measured at posttreatment to determine what proportion had responded to the treatment or interventions to the point that they no longer appeared to have the disorder that originally qualified them for the study in question. We review these studies in the following three sections.

Studies on Children with ADHD

Perhaps the best example of the research described above is the Multimodal Treatment of ADHD (MTA) study (Conners et al., 2001; MTA Cooperative Group, 1999a). In this study, 579 children were carefully screened and diagnosed for ADHD. The participants were simultaneously treated across six different sites with four groups at each site—three treatment conditions and one usual-care control condition. The first group received a dual-component treatment involving a *combination* of stimulant medication (primarily Ritalin, although other second-line medications could be used, based on a treatment algorithm established for the titration phase) and an intensive behavioral intervention delivered in both school and

home settings. The second involved treatment with medication only, and the third involved behavioral intervention only. It should be noted that the behavioral intervention was quite impressive: It began with 3 months of individualized home-school behavioral treatment, followed by 8 weeks of an all-day summer treatment program involving both school and social-behavioral intervention, followed by another 3 months of home-school treatment combined with a part-time school aide in the classroom, and concluded with a final half year of periodic teacher and parent consultation. The fourth group was intended as a control group, but ethical considerations allowed parents to obtain either behavioral or medication treatment for their children outside the study at their own expense. It is instructive that about half of parents in this group opted for medication, with only a handful choosing behavioral intervention.

At the end of this 14-month active treatment phase, primary outcome measures tended to significantly favor combined over medication-only treatment, but both were significantly better than behavioral intervention alone, which in turn did not differ significantly from the control condition (Conners et al., 2001; MTA Cooperative Group, 1999a; Swanson et al., 2001). As time passed, differences diminished such that the four groups were becoming indistinguishable from each other well before the original 36-month follow-up assessment (Jensen et al., 2007; MTA Cooperative Group, 2004). By that time, however, the original

treatment groups themselves had become almost indistinguishable, since after the active phase ended at 14 months, only about 70% of the combined and medication groups remained on medication (which was no longer provided on research funds), but about half of the behavioral and control group participants switched to medication. Table 26.4 provides a summary of responder analyses for the active phase (Conners et al., 2001) and the follow-up (Jensen et al., 2007) across the original four groups. As noted above, responder analysis was determined by the number of participants in each group who no longer met established normative criteria for the diagnosis in question; it is presented in both Tables 26.4 and 26.5 to enable the reader to compare or contrast findings not only across phases, but also across the major studies discussed in this section. Responder analysis is, in essence, a much more comprehensive and perhaps meaningful outcome measure than those used in previous behavioral or psychosocial intervention studies.

Another important finding was that at an 8-year follow-up, when these children were in high school, this entire sample of children with ADHD (regardless of initial treatment) remained appreciably improved on baseline measures of symptoms and functional impairment (Molina et al., 2009). On most measures, however, they still remained significantly below a matched follow-up sample of children without ADHD. It is also instructive for school professionals to note that at the end of the 14-month treatment phase, the combined treatment group that

TABLE 26.4. Randomized Clinical Trials for Combined Treatments for ADHD

	MTA		MPT	STP	PATS
Sample size	<i>n</i> = 579	<i>n</i> = 485	<i>n</i> = 103	<i>n</i> = 36	<i>n</i> = 279
Age	7–9 years	follow-up	7–9 years	5–6 years	3–5 years
Duration	14 months	36 months	24 months	8 weeks	16 months
Responders					
Combined	68%	52%	86%	72%	22%
Medication	56%	44%	83%	N/A	N/A
Behavioral	34%	42%	N/A	28%	28%
Control	25%	42%	85%	N/A	N/A

Note. MTA, Multimodal Treatment of ADHD; MPT, Multimodal Psychosocial Treatment; STP, Summer Treatment Program; PATS, Preschool ADHD Treatment Study. Note also that the control group in the MPT study was a sham behavioral program. Citations and definition of responders for each study are given in the text.

included medication did significantly better than other groups on a test of oral reading, and that at the 8-year follow-up, participants who remained on medication performed significantly better on a test of math achievement (Molina et al., 2009; MTA Cooperative Group, 1999a).

Another study of children with ADHD compared three groups to determine whether *adding* an educational and behavioral intervention would improve their performance over and above the benefit of medication alone (Klein, Abikoff, Hechtman, & Weiss, 2004). A sample of 129 children across two sites was titrated on Ritalin, and 103 who responded adequately were then divided into three groups. The first group continued to receive medication over a 2-year treatment period. The second group continued on medication, but also received an additional 4 hours of weekly intervention devoted to academic tutoring, social skills training, individual problem-solving therapy, and systematic behavioral parent training. The third group served as an attention control or sham treatment group. These children continued on medication, but also received homework supervision, supervised play, conversation with a psychology graduate student, and parent support sessions, all designed to provide 4 hours of weekly contact but without the ingredients of the “active” treatment. All three conditions were manualized to ensure fidelity and especially avoidance of active behavioral or educational intervention in the third group. After a full 2 years of treatment, not only were there no differences on a wide variety of outcome measures between the medication-only and the multimodal treatment groups, but there were also no differences between the active and the sham treatments (Abikoff et al., 2004; Hechtman et al., 2004). This latter finding gives rise to questions about the relative effectiveness of behavioral interventions when the variable of professional attention remains uncontrolled. We refer to this study in Table 26.4 as the Multimodal Psychosocial Treatment (MPT). For the responder analysis in Table 26.4, instead of the ADHD diagnoses, we used the response rate of comorbid oppositional defiant disorder (ODD) in each of the three groups as a somewhat more rigorous outcome criterion. Although more than half of children with ADHD in this study had

pretreatment comorbid ODD, the response rate depicted in Table 26.4 is the rate of children who no longer met criteria for comorbid ODD after treatment (Abikoff et al., 2004).

A third study involved very young children with ADHD who were provided an intensive 8-week summer treatment program (STP), including both academic instruction and behavioral intervention across 9 hours per day at two different sites (Chacko et al., 2005). The “added” value of medication was assessed by providing two different doses of Ritalin in a randomized, double-blind, crossover, placebo-controlled design throughout the last 6 weeks of this program, after an initial 2-week baseline and titration phase. Outcome variables were primarily direct ongoing observation of seven behaviors, including following classroom rules, seatwork completion, non-compliance, negative verbalizations, and the like. Findings were significantly in favor of both doses of medication over placebo conditions. Response rate in Table 26.4 is based on a final consensus assessment of children whose response across all variables was not negligibly better on medication (28%) versus those who had a significant response to either dose of medication over and above the STP alone (72%).

It should be noted that another STP study from this same research group was even more elegant in its design (Fabiano et al., 2007), although the results from this study are not depicted in Table 26.4. This study was conducted at a single site and used essentially the same research method and somewhat similar outcome measures (following classroom rules and seatwork completion). A placebo and three different doses of Ritalin were randomized each week. Also randomized was the intensity of behavioral intervention. Some 48 children in four different classroom groups served as participants. Each group was randomized across 3-week blocks of behavioral intervention over the 9-week summer program. One 3-week block involved high-intensity behavior modification (HBM), with standard classroom rules, daily home-school point systems, individual behavioral programs, and time-out procedures. Another 3-week block involved low-intensity behavior modification (LBM), with only social reinforcement for classroom

rules, sit-out instead of time-out procedures, and weekly home-school points. The level of intensity here was thus somewhat comparable to that of a classroomwide positive behavioral support program (Horner et al., 2009). The last block involved no behavior modification (NBM), a condition in which active behavioral interventions were suspended.

Although the LBM and HBM conditions did not significantly differ, both were significantly better than the NBM condition. There was linear improvement across the three doses of medication, all of which were significantly better than placebo. In general, HBM alone was as good as the higher doses of medication alone. The most interesting finding was that the *combination* of LBM and the lowest dose of medication was equivalent to either HBM alone or the highest dose of medication alone. The design and results of this RCT have profound implications for the reexamination not only of assumptions about intensity levels needed for behavioral interventions, but of the advantages of *combinations* of low-intensity interventions. Since no responder analyses were used in this study, it is not included in Table 26.4; however, it should be noted that effect size (ES) comparisons across all treatment conditions for following classroom rules ranged from about 0.5 to 1.3 over the placebo plus NBM conditions, with even higher ES outcomes for seatwork completion.

A final ADHD study we wish to highlight was intended primarily to examine efficacy and safety of stimulant treatment in preschoolers (Greenhill et al., 2006; Wigal et al., 2006). These were 279 children ages 3–5 years at six different sites across the nation treated over 16 months; we include it here as a comparative efficacy study, since it required that preschoolers meeting criteria for ADHD first complete a rigorous 10-week trial of 2-hour weekly behavioral parent training before admission to the Ritalin phases of the study. This was done in order to accept for medication treatment only those children whose ADHD did not respond to a good behavioral intervention. Safety concerns were, in fact, so paramount that parents were required to consent before this and each of the remaining six phases of the study. Thus attrition was a major but understandable artifact of this ethical rigor.

After several rigorous double-blind, cross-over, placebo-controlled phases to titrate medication and assess safety, the study concluded with a 10-month open-label maintenance treatment and a discontinuation trial. By that time, only 95 of the original 279 participants who entered the initial parent training trial remained. Although no overall responder analysis was provided, we used a careful analysis of the study's consort chart and selected as responders to the behavioral intervention those participants who responded adequately to the initial behavioral parent training, plus a few additional participants who were later excluded as placebo responders over subsequent phases of the study (details on this analysis are available from Steven Forness). In Table 26.4, we present these as behavioral responders (28%). As combined-treatment responders, we counted those who demonstrated an additional response in the open-label phase of the Ritalin treatment over and above their initial response to parent training (22%). Both these were percentages of total participants (Greenhill et al., 2006). We felt that this analysis was essential to include in Table 26.4 because of the size, intensity, and significance of this study, which was one of the first nationwide psychopharmacology studies on preschoolers with ADHD.

Studies on Children with Depression and Anxiety Disorders

The first two RCTs in this section are separate studies but, taken together, represent a novel solution to the questions of nonresponse to treatment in adolescent depression. The first of these, the Treatment for Adolescents with Depression Study (TADS), involved a sample of 439 adolescents across 13 sites (TADS Team, 2004). Four groups were randomized for 12 weeks of treatment at each site to Prozac in combination with cognitive-behavioral therapy (CBT), Prozac alone, CBT alone, or placebo. Note that for both depression and anxiety disorders, CBT itself has a relatively impressive evidence base, with 12 RCTs for depression (ES = 0.7) and 21 RCTs for anxiety disorders (ES = 0.8) (Compton et al., 2004). More recent research on modular approaches to CBT should enhance this effectiveness even further (Weisz et al., 2012).

The TADS results were relatively similar to those of the MTA study, in that combined treatment was significantly better than medication alone, which in turn was significantly better than either CBT alone or placebo. The latter two conditions did not differ significantly from one another. However, the TADS long-term follow-up of 36 weeks, as in the MTA study, showed no significant differences among the three active treatment groups; all nonetheless remained improved over baseline (Kennard et al., 2009; Rohde et al., 2008; TADS Team, 2007). These results are presented by responder analyses at the end of the 12-week treatment and at the 36-week follow-up assessment in Table 26.5. Note, however, that as opposed to “response” rates, “remission” rates at 36 weeks (not shown in Table 26.5) were somewhat lower at 60%, 55%, and 64%, respectively (Kennard et al., 2009). Remission rates were a more stringent outcome, in that remitters were defined as those who were mostly symptom-free over a sustained period of time.

The Treatment of Resistant Depression in Adolescents (TORDIA) study essentially took up where the TADS left off (Brent et al., 2008). Although TORDIA was a completely different study, it involved 334 adolescents with depression at six different sites who had previously not responded to a 2-month trial of SSRI medication in the community, and thus resembled the TADS nonresponders in the acute phase of the medication-alone condition. As an indicator

of relative severity, it is useful to note that TADS participants had a rate of 29% of pre-treatment suicidality (thoughts or attempts), while TORDIA participants had a pretreatment suicidality rate of 59%. TORDIA participants were randomized to receive either a different SSRI (Paxil, Celexa, or Prozac, depending on their previous medication) or a selective norepinephrine reuptake inhibitor (SNRI—in this case, Effexor). They were then further randomized in each group to receive either the medication alone or medication plus CBT. Treatment duration was 12 weeks. Although response to each medication did not differ across conditions, CBT combined with medication resulted in a much higher rate of response (Brent et al., 2009). In Table 26.5, responders are depicted as the average response across the two medication classes (40%) versus the average response of both medications combined with CBT (55%) (Brent et al., 2008). Note that a subsequent 12-week augmentation treatment with a mood stabilizer in a small group of remaining nonresponders led to a remission rate of 50%, whereas those not receiving such augmentation remitted at 17% (Emslie et al., 2010).

There are also two notable studies that used comparative effectiveness research to examine treatment of anxiety disorders in children and adolescents. (Note that obsessive-compulsive disorder [OCD] was classified as an anxiety disorder at the time these studies were conducted, although it has now been given its own section in the

TABLE 26.5. Randomized Clinical Trials for Combined Treatments for Depression or Anxiety Disorders

	TADS		TORDIA	POTS	CAMS
Sample size	<i>n</i> = 439	<i>n</i> = 327	<i>n</i> = 334	<i>n</i> = 112	<i>n</i> = 488
Age	12–17 years	Follow-up	12–18 years	7–17 years	7–12 years
Duration	12 weeks	36 weeks	12 weeks	12 weeks	12 weeks
Responders					
Combined	71%	86%	55%	54%	81%
Medication	61%	81%	40%	21%	55%
CBT	43%	81%	N/A	39%	60%
Placebo	35%	N/A	N/A	4%	24%

Note. TADS, Treatment for Adolescents with Depression Study; TORDIA, Treatment of Resistant Depression in Adolescents; POTS, Pediatric OCD Treatment Study; CAMS, Child Anxiety Multimodal Study; CBT, cognitive-behavioral therapy. Citations and details on definitions of responders for each study are given in the text.

new fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders*; American Psychiatric Association, 2013.) The first was the Pediatric OCD Treatment Study (POTS), and the second was the Childhood Anxiety Multimodal Study (CAMS). The POTS involved 112 participants with OCD, ages 7–17, treated at three different sites over a 12-week period. They were randomized at each site to Zoloft plus CBT, Zoloft alone, CBT alone, or placebo (POTS Team, 2004). As in the two depression studies just discussed, CBT was manualized with core treatment modules and included other sessions held conjointly with parents. Response rates are provided in Table 26.5, with combined treatment at 54%. A large but not statistically significant difference was found between Zoloft responders at 21% and CBT responders at 39%. This latter finding may have been partially due to some between-site difference in CBT fidelity, this being the only study in which site differences occurred from among all the studies discussed. Note as well that only a very small placebo response (less than 4%) was found, as compared to larger placebo responses generally found in studies on childhood depression, as depicted in this table for the TADS (Brody & Miller, 2011). It should also be noted that a slightly larger study ($N = 124$) at the same three sites, using new subjects and a slightly modified comparative effectiveness design (POTS II), essentially replicated the findings in Table 26.5 (Franklin et al., 2011).

The CAMS addressed children and adolescents with more common anxiety disorders, such as generalized anxiety disorder, separation anxiety disorder, or social phobia (Walkup et al., 2008). There were 488 participants, ages 7–17, randomized across six sites to Zoloft plus CBT, Zoloft alone, CBT alone, or placebo. At the end of 12 weeks of treatment, response rates were 81%, 55%, 60%, and 24%, respectively. These are depicted in Table 26.5. Follow-up data after the acute phase are currently being prepared for publication, with findings suggesting that combined treatment is holding its relative superiority and that both Zoloft and CBT response rates remain relatively lower but do not differ significantly from one another (J. Piacentini, personal communication, September 24, 2012).

Additional Evidence

Although the studies described above are highlighted as exemplars, there are several other comparative effectiveness studies in ADHD (Pelham et al., 2005; Waxmonsky et al., 2010), depression (Clarke et al., 2005; Kennard et al., 2008; Melvin et al., 2006; Riggs et al., 2007), and anxiety disorders (Asbahr et al., 2005; Beidel et al., 2007; Bernstein et al., 2000; Blanco et al., 2010). These, however, are generally smaller, single-site studies and thus somewhat more limited in their generalizability, but tend nonetheless to replicate the essential findings of the cross-site studies described above.

Taken together, this entire body of comparative effectiveness research suggests that combined medication and behavioral or CBT interventions produced the best outcomes, at least in the acute treatment phase. At later posttreatment follow-up, the separate groups often converged as participants sought out additional treatment. Some studies also randomly assigned participants to separate treatment arms for medication alone or for behavioral or CBT interventions alone. In ADHD studies, medication alone tended to significantly *outperform* behavioral interventions, at least during the acute treatment phase. In anxiety or depression studies, on the other hand, medication sometimes initially tended to outperform CBT, but mainly there were no significant differences between the two—and often CBT outperformed medication. There were also some “value-added” studies in which children already on medication were then given behavioral or CBT intervention, or children already on behavioral intervention were given medication. These tended to favor medication as a significant augmentation over behavioral intervention in ADHD studies, but CBT over medication in depression or anxiety studies. There is also increasing evidence that genetic and brain imaging studies are likely to enhance the precision of these treatment decisions in the near future (Dickstein, 2012; Mrazek, 2010).

Several other studies also seem to suggest that medication may prove critical in school treatment of such disorders, including three large longitudinal studies suggesting that stimulant medication is significantly associated with improved academic progress in

children with ADHD over the long term (Barbarelli, Katusic, Colligan, Weaver, & Jacobsen, 2007; Marcus & Durkin, 2011; Scheffler et al., 2009). Also critical to school and special education concerns is the issue of comorbidity. Children with externalizing disorders such as ODD or conduct disorder (CD) seem to be almost twice as likely to receive specialized school services as children with internalizing disorders such as depression or anxiety disorders (Merikangas et al., 2011). Some of the above-described studies have directly addressed comorbid ODD or CD and found that psychopharmacological treatment directed toward primary disorders such as ADHD, depression, or anxiety disorders tends also to improve ODD or CD significantly (Abikoff et al., 2004; Jacobs et al., 2010; Lettinga, Drent, Hoekstra, Buitelaar, & Glennon, 2011). In fact, a hallmark of many of these studies is that their large numbers of participants enable critical examination of mediators and moderators of medication response (Asarnow et al., 2009; Flessner et al., 2011; Garcia et al., 2010; MTA Cooperative Group, 1999b, 2004). While ethnic or cultural background seems not to moderate treatment response, there is ample evidence that children of color seem considerably less likely to have access to psychopharmacological treatment (Stewart, Simmons, & Habibpour, 2011).

There are, unfortunately, fewer comparative effectiveness studies that address psychiatric disorders with a markedly smaller prevalence than that of ADHD, depression, or anxiety disorders. Although childhood bipolar disorders and schizophrenia have ample supportive evidence for the use of mood stabilizers and antipsychotic medication, respectively, in randomized, placebo-controlled studies, systematic comparisons with behavioral or CBT interventions are largely missing (AACAP, 2007; Gussaki & Pappadopulos, 2005). In both areas, psychosocial treatments are primarily educative and directed toward both children and families, to assist them in maintaining a predictable supportive environment and in continuing compliance with psychopharmacological treatment. Also critical in this area is the concept of earlier intervention for prodromal symptoms in children with a high genetic family risk for schizophrenia or bipolar disorders (Arango et al., 2012; Kowatch

et al., 2005; McClellan et al., 2007). This has led to preventive or ameliorative strategies in which some studies, albeit small, have begun to assess relative effectiveness of low-dose, atypical antipsychotics versus CBT or educative strategies, many of them focusing on children at risk but without the full syndrome in their early teenage years (Kuehn, 2010).

In the area of autism, there is no convincing evidence of psychopharmacotherapy for *core* symptoms of the autism spectrum, but there is ample evidence of high numbers of comorbid psychiatric diagnoses in children with autism spectrum disorders (ASD) (Hayashida, Anderson, Paparella, Freeman, & Forness, 2010). There are, therefore, some rather impressive psychopharmacological studies focusing on comorbid ADHD, depression, and anxiety in children with ASD. Children with ASD and comorbid ADHD have been found to respond favorably to stimulants, but only at roughly half the response rates of ADHD children without ASD (Research Units on Pediatric Psychopharmacology Autism Network, 2005). Although symptoms of comorbid anxiety disorders and depression in children with ASD are often prominent, thus suggesting the use of an SSRI, the first large multisite study in this area recently found little or no evidence to support treatment with Celexa (King et al., 2009). In the areas of ASD with comorbid ODD or CD, however, there were two comparative effectiveness studies. The first was a rather small chart review study in which 32 youth with ASD (mean age = 11 years) in an intensive behavior therapy program were provided open-label treatment with a variety of medications (Frazier et al., 2010). About half of youth were receiving atypical antipsychotics, and these produced significant reductions in the number of behavioral sessions needed to reduce their aggressive behavior. The second study was considerably more impressive, with 124 children with ASD, ages 4–13 years, enrolled for 24 weeks across three different sites (Aman et al., 2009; Scahill et al., 2012). Children with ASD were randomized to medication (Risperdal or Abilify if they were nonresponsive to Risperdal) or to medication combined with manualized behavioral parent training designed to reduce irritability, aggression, and stereotypic behavior. Combined treat-

ment reduced these behaviors, with ES outcomes in the 0.2–0.6 range.

Conclusion

In summary, this series of RCTs in child and adolescent psychiatry demonstrates some important advances that have not necessarily characterized the research evidence available from special education and related disciplines on school-age children with EBD. First, *comparative* efficacy or effectiveness seems to provide a more demanding standard for outcomes. In essence, these studies have been asking not just whether psychopharmacological treatment is better than a placebo or better than business as usual, but asking whether it is better than the next best thing—in this case, behavioral or CBT intervention. Second, some of these RCTs have addressed just how much intervention (dosage of drug or intensity of behavioral treatment) is needed to do the job, and whether *combinations* of treatments, even at lower dosages, may be better than individual treatments used alone. Third, some RCTs have begun addressing potential “treatment failures” (children with comorbid disorders or those who have not responded to community treatments) at the outset, to accomplish more effective augmentation with either medication or behavioral intervention earlier in the treatment process. Fourth, these RCTs have also begun to address whether such interventions result in improvement to the point where some children seem no longer to meet criteria for diagnosis of the disorders in question. Fifth, these RCTs have generated additional studies in which application and generalizability of these approaches have now begun to be studied in actual community practice (Asarnow et al., 2005; Zima et al., 2005, 2010).

What the RCTs have *not* been able to provide, however, is convincing data on the sustainability of such psychopharmacological interventions over the long term. As noted earlier, only the MTA study and the TADS have conducted long-term follow-ups, at 8 years and at 9 months, respectively. As has been noted, MTA participants were actively treated with medication and/or behavioral intervention for 14 months, but at that point all were then free to pursue any choice of

treatments or none at all (Hazell, 2009). By 3 years, almost half the behavioral-intervention-only group had chosen to take stimulant medication, and only 70% of the medication-only group still remained on medication. Only a handful of participants apparently sought out any further behavioral treatment. Thus, after the initial (14-month) treatment phase, the study ceased to be a controlled study of four assigned treatment groups and became instead a naturalistic follow-up study, although those who were still on medication in the eighth year did significantly better on math achievement (Pliszka, 2009). The same was true in the TADS, in which, after a 12-week acute treatment phase, participants were likewise free to add or drop treatments; all four groups became essentially indistinguishable at the 9-month follow-up (Kennard et al., 2009).

Barkley (2007) has noted that such comparative effectiveness studies are nonetheless much more rigorous than those to which we have subjected our traditional behavioral interventions; that diagnosis-driven treatments for both psychopharmacological and behavioral interventions may ultimately prove to be more beneficial over the long term; and that functional impairments resulting from these diagnoses may become increasingly important targets for enhancing long-term outcomes. Naturalistic longitudinal follow-up of children with such disorders indeed suggests that academic problems and social deficits continue well into adolescence and adulthood (Barkley, Fisher, Smallish, & Fletcher, 2006; Bussing, Mason, Bell, Porter, & Garvan, 2010; Satterfield et al., 2007). However, such studies also suggest that medication use tends to be highly associated with positive school outcomes, including both test scores and grade point averages; thus they lend support for efforts to ensure that children with ADHD and related disorders continue to receive long-term psychopharmacological treatment (Barbaresi et al., 2007; Marcus & Durkin, 2011).

Finally, given these parlous economic times, two of these RCTs (MTA and TADS) have produced cost-effectiveness estimates suggesting that, at least within the context of acute treatment phases, behavioral or CBT interventions may be two to five times more expensive than medication treatments,

even including doctor visits (Domino et al., 2009; Jensen et al., 2005). Such findings are critical, but the compelling evidence above on primacy of combined treatments (behavioral and psychopharmacological) has nonetheless begun to lead to rigorous practice standards for prescribing physicians that incorporate interdisciplinary collaboration with both parents and school professionals for behavioral intervention when, or even before, psychopharmacological treatment seems warranted (AACAP, 2009; Gleason et al., 2007).

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EARLY INTERVENTION

Evidence-Based Practices for Infants and Toddlers with Autism Spectrum Disorders

Phillip S. Strain, Erin E. Barton, and Edward H. Bovey

Autism spectrum disorders (ASD) are neurological, pervasive developmental disorders characterized by patterns of delay and difference in the development of communication, social, and behavioral skills (Volkmar, 1999). The onset of these conditions generally takes place in the first years of life, and these conditions may be manifested in varying degrees both across and within individuals. ASD affect individuals of all socioeconomic levels and different cultures (Autism Society of America, 1990; Scott, Clark, & Brady, 2000). In the 1990s, it was believed that ASD affected 1 out of every 250 individuals (Brison, Clark, & Smith, 1988; Ehlers & Gillberg, 1993; Sugiyama & Partington, 1998). More recent findings reflect an increase in prevalence, and it is now believed that 1 out of every 88 individuals could be diagnosed within the autism spectrum (Centers for Disease Control and Prevention [CDC], 2012; National Autism Center, 2009).

Diverse collections of behavioral patterns are exhibited by children with ASD. These behavioral patterns are observed across multiple developmental areas and are highly distinctive (Volkmar, 1999). This diversity in the expression of ASD is what presents the greatest challenge for professionals and parents looking for the most appropriate early inter-

vention (EI) approaches. Each child requires an individually tailored program of services, but the most appropriate collection of services is not always clear. A child's lack of particular skills can often interfere with the child's ability to fulfill personal wants and needs, to regulate the actions of others, or to engage in reciprocal social interactions. It is these deficits in particular that create the need for careful teaching strategies to facilitate learning in young children with ASD. EI services are very important for enhancing the development of infants and toddlers with disabilities, and they are especially crucial in determining the future language, social, and behavioral outcomes of very young children with ASD (National Research Council, 2001).

This chapter offers a general orientation to the design and delivery of high-quality services to infants and toddlers with ASD. First, the reader will find a set of 12 guiding principles that outline a general orientation to the development, implementation, and monitoring of EI services for infants and toddlers with ASD. The next major sections provide more detailed information and guidance in regard to key practice issues for all providers and recipients of EI services: (1) screening for ASD, (2) strategies for designing individualized family service plans (IFSPs), (3) evidence-based interventions, (4)

monitoring progress, and (5) coaching family members in the home setting.

Guiding Principles

The following 12 principles reflect the science of EI, as well as a core group of values.

Principle 1: Services must be individualized for each child and family.

“Individualization” means that each child’s and family’s services are based on that child’s needs, strengths, and interests and on the family’s concerns, priorities and resources. This means that the processes of developing the intervention plan, known as the IFSP, and making ongoing changes in the plan are shared with the family. Families have a decision-making role as members of the intervention team. The team determines who will be involved in the program, when services will take place, and what the focus of the services will be. Family members determine how they will be involved in implementing their child’s IFSP. Even though the intervention may follow a specific curriculum, the infusion of intervention into daily activities and routines must be customized for each family.

Principle 2: Family involvement and participation are critical.

A goal of EI services is to help families meet the developmental needs of their infants and toddlers. Families are the first and most important teachers for their children. They are the constant presences in their children’s lives. Infants and toddlers learn as they experience life with their families. Service systems and personnel change over time, but families maintain the continuity from day to day and year to year. A child’s family members become lifelong advocates for their child, and they need to be actively involved in their child’s program, at a minimum, in the following ways: (1) planning and helping to decide what services their child will receive; (2) instructing and assisting with activities of daily living, and developing strategies for addressing the IFSP during daily routines; and (3) evaluating the child’s

progress. Family–professional relationships also need to reflect a respectful reciprocity in which both parties learn from each other. Family members are not expected to be primarily responsible for delivering the specialized services on the IFSP; however, they are necessary partners.

Principle 3: Early delivery of intervention must be encouraged.

Both empirical data (Fenske, Zalenski, Krantz, & McClannahan, 1985; Harris & Handleman, 2000; Lovaas, 1987; Strain & Bovey, 2008) and EI values offer a compelling case for practices that expedite the delivery of services under Part C of the Individuals with Disabilities Education Improvement Act (IDEA) of 2004. Families and children should not have to experience delays in services due to the inevitable delays associated with medical diagnostic processes. Therefore, parents and providers who suspect a child of having ASD should insist that early screening and intervention start as soon as autism is suspected (National Research Council, 2001).

Principle 4: Families have a right to evidence-based practices.

Part C of IDEA requires states to have in effect a policy that “ensures that appropriate EI services based on scientifically based research, to the extent practicable, are available to all infants and toddlers with disabilities and their families” (20 U.S.C. § 1435(a)(2)). Families should expect that all services delivered as part of an IFSP are based on a contemporary understanding of efficacious intervention practices as articulated by the National Autism Center (2009) and the National Professional Development Center on ASD (2009). Moreover, families should have a right to services that address the core deficits of ASD.

Principle 5: Intervention is based on a developmental curriculum designed to address the specialized needs of the infant and toddler with ASD.

Intervention plans for infants and toddlers with ASD should be based on widely

accepted principles of child development. The instructional program builds on these principles and on each child's individual strengths, while also addressing the child's unique needs. The curriculum for a toddler with ASD needs specialized instruction to address the areas of language, social interaction, and play skills and interests. The essential areas for infants and toddlers with ASD include (1) attending to and staying engaged in the environment, including people and play materials; (2) using verbal and nonverbal communication, such as gestures, vocalizations, and words; (3) understanding and using language to communicate; (4) playing appropriately with toys; (5) engaging in playful interactions with others; (6) engaging in reciprocal interactions; (7) engaging in spontaneous interactions; (8) making choices; (9) following daily routines and variations in routines; and (10) addressing atypical sensory preferences and aversions.

Principle 6: Intervention is planned and systematic.

Intervention is carefully planned, concentrated, and systematic. It involves assessing, planning, teaching, and consistent measuring of progress with each intervention step. Each step is coordinated toward achieving a meaningful set of outcomes or goals. The only reliable ways to determine whether the teaching is effective are to teach systematically and to measure progress on a regular basis. It is important to note that many of the indicators that are easiest to measure, such as vocabulary, intelligibility of words, or duration of engagement, may not be as meaningful or important to the family as the reduced frequency of tantrums, the ease of transition between home and other settings, or the ability of family members to spend "quality time" together may be.

Ongoing collaboration between the family and service providers in the analysis of data is a key to successful teaching and learning. Continuing with ineffective strategies, or relying on techniques merely because they have been shown to be effective with other children, may be harmful. Many intervention teams find that regularly scheduled meetings of all team members (including the family members) are important to review

data, maintain consistency in intervention, and make timely changes. Also, services need to be carefully coordinated and involve the disciplines needed to address the child's and family's unique needs.

Principle 7: Infants and toddlers with ASD should have regular and deliberate exposure to typically developing peers.

This empirical and values-based principle has, at its core, two irrefutable facts. First, children with ASD experience significant social relationship delays that represent primary diagnostic criteria (Luiselli, Russo, Christian, & Wilczynski, 2008; Mahoney & Perales, 2003; Strain & Schwartz, 2009). Second, by a wide margin, the most effective intervention in this domain involves teaching typically developing children to be therapeutic resources (National Autism Center, 2009; Strain & Bovey, 2008). For children from birth through 2 years of age, this means involvement in preschool/child care settings, "play dates," or planned interactions between siblings; for all of these, the EI team facilitates peer training scenarios.

Principle 8: Challenging behaviors are addressed by using positive behavioral supports.

Positive behavioral supports (PBS) are principles that frame how to think about and respond to children and their behavior. The PBS principles are grounded in the appreciation of each child's strengths and needs. Practicing PBS means getting to know the whole child and assuming that his or her behavior has meaning and that the behavior is a form of communication. It requires recognizing that children develop and respond best when they are respected and supported to enjoy relationships and make choices. Challenging behaviors displayed by children with ASD are complex and may create frustration and confusion for those who interact with the children. Behavior may range from aggression, tantrums, or self-injury to withdrawal or repetitive, stereotypical actions. Such behaviors may also occur in children who are typically developing; however, for infants and toddlers with ASD, these behaviors can be extreme and more frequent, dis-

rupt development, and contribute to high levels of stress among family members.

Principle 9: Intervention should focus on developing communication skills.

The importance of having an effective communication system for a child with ASD cannot be underestimated. “Communication” is a much broader concept than simply talking to others. A good communicator uses both verbal and nonverbal behaviors to engage listeners. Children communicate to make their needs known long before they can talk. As children develop, they learn nonverbal communication skills (e.g., pointing to a desired object, lifting their hands to be picked up) that are understood by others. Children with ASD must develop some type of communication system, whether verbal or nonverbal, that others will understand in order to be socially successful.

Principle 10: The development of social relationships is integral to successful outcomes.

In addition to difficulties with communication, young infants and toddlers with ASD typically lack appropriate interaction and social skills. Intervention for a child with ASD needs to specifically address this defining characteristic as early as possible. Promoting the social development of infants and toddlers with ASD must be one of the primary goals of EI services, as must facilitating the ability of young children with social delays to develop appropriate friendships. With early and intensive intervention, the seemingly pervasive social skill deficits of many young children with ASD can be remediated (Lovaas, 1987; McGee, Daly, & Jacobs, 1993; Strain, 1987). To successfully target these important skills, intervention efforts, even within EI, must include (1) regular access to typical peers; (2) thoughtful planning of meaningful social situations embedded throughout the day; (3) the use of “social” toys; (4) multiple-setting opportunities (home, community, center-based) to practice emerging social skills; and (5) intensive data collection to monitor and revise intervention plans (Strain & Danko, 1995).

Principle 11: Getting to high-quality outcomes does not just involve hours of direct services.

There can be no doubt that achieving high-quality outcomes is first and foremost on the minds of families affected by ASD. In many situations, and for many years, families *and* providers have assumed that getting a certain number of hours of direct service or a certain intervention practice is the essential ingredient to achieving quality outcomes. Regrettably, this simple and seductive formula is highly questionable and misleading. Much of the focus has been on an “estimated” 25 hours per week—a figure that was part of the National Research Council’s (2001) report on early treatment for ASD. Essentially, however, what the report authors did was add up the hours delivered in eight preschool (not infant-toddler) models with varying efficacy data, and then divide by the number of models to yield an average of 25 hours. The models in fact ranged in hours from 15 to 40, and the report clearly states that no clear outcome differences were evident across models. As was true then, it is still the case that there are no credible studies in which the same intervention has been delivered for different numbers of hours. For a variety of ethical and practical reasons, it is doubtful that such research will ever be available.

Similarly, there has been a narrow focus on delivering a singular intervention approach. Some individuals advocate for only one approach or another (pivotal response training, discrete trial instruction, incidental teaching, etc.). The problem is that these established interventions vary greatly in their relative efficacy for certain target behaviors. For example, peer-mediated intervention has been shown to be the strongest evidence-based approach for target behaviors in the social domain. Incidental teaching has been used almost exclusively with verbal language behaviors. Schedules are particularly helpful during transition times, and so on. The point is that no one approach can hope to yield the best outcomes across all the likely goals of any child or family. If a narrow focus on hours or a narrow focus on getting a certain intervention model is not recommended,

then what are the relevant factors? The five evidence-based factors are described below.

Factor 1: Intensity

Although hours of service may not be a particularly valid measure of intensity, intensity is a highly relevant factor. The alternative view of intensity is based on several decades of research showing that the level of children's active and appropriate engagement in everyday routines is a powerful predictor of developmental growth (McWilliam & Casey, 2008; Strain & Schwartz, 2009). That is, when young children are actively and appropriately engaged, one can assume that skill acquisition is occurring. Instead of "How many hours of service are on the IFSP?," the alternative question could be "Are the IFSP outcomes, strategies, and corresponding EI services sufficient to influence the child's participation and engagement across all daily routines (e.g., dressing, eating, play, bedtime)?" Intensity with toddlers must also be sensitive to the fact that essential interventions can be delivered across many routines by parents and caregivers, with adequate support and coaching. Moreover, very young children with ASD (and any children of similar age) require adequate time during the day for rest and sleep. Very young children are simply not "developmentally available" for the same level of intensive intervention as are older children.

Factor 2: Fidelity of Intervention Delivery

Selecting an empirically supported intervention does not guarantee that the infant or toddler will receive the intended approach. It is essential to ask what experience providers have with the intervention approach, whether they have a protocol for judging that the intervention is correctly implemented, and what are the plans if intended outcomes are not forthcoming.

Factor 3: Social Validity of Goals

"Social validity," for this purpose, refers to the degree to which there is an immediate impact on the child's quality of life when a particular goal has been met. For example, teaching a toddler to label colors

when presented with 3 × 5-inch cards of different colors would have low social validity, compared to teaching the same toddler color recognition when a peer at an art table says, "Do you want some red?" or when the child's mom says, "Want your red or blue pajamas?" In the latter cases, the child's new color knowledge can directly control the environment and meet immediate needs; in other words, it has high social validity.

Factor 4: Comprehensiveness of Intervention

One of the clearer findings from the last several decades of intervention research on children with ASD is that progress in one domain of performance has a minimal impact on other domains (Lovaas, 1987; National Research Council, 2001; Strain & Hoyson, 2000). This widely replicated finding necessitates an approach to IFSP design that addresses *all* relevant domains of performance for children with ASD.

Factor 5: Data-Based Decision Making

As has been emphasized elsewhere in this chapter, a key component to effective EI is to install a data-monitoring system and related decision-making strategies to optimize the delivery of effective services.

In considering all five factors, one might posit that the formula associated with high-quality outcomes is actually multiplicative. That is, the formula is as follows:

$$\text{Intensity} \times \text{Fidelity} \times \text{Social Validity} \times \\ \text{Comprehensiveness} \times \text{Data-Based Decision} \\ \text{Making} = \text{High-Quality Outcomes}$$

In this formula, the fundamental message is that as any factor approaches a "zero value," then the sum or outcome will approach zero as well! The formula also suggests that for many infants and toddlers with ASD, the resulting plan may well involve a large number of hours of direct service. The key difference is that the number of hours should be the product of a carefully designed IFSP and not determined arbitrarily. As mentioned earlier in relation to Factor 1 (Intensity), the ultimate number of hours must be sensitive to the develop-

mental availability of toddlers to engage in instructional episodes. Related research by Dunst, Trivette, and Hamby (2007) suggests that IFSPs resulting in families' developing a narrow and sole focus on getting the maximum amount of intervention hours or services may have harmful effects on both the families' functioning and the children's ultimate outcomes.

Principle 12: The transition from the EI system to preschool special education and related services should be well planned.

Toddlers with ASD often have difficulty with change, especially change experienced when they are starting something new and different. During the transition to a schooling context at age 3, there are changes in adults, children, settings, and routines. A child with ASD may be so sensitive to change as to notice differences that others do not. There are significant differences between the service delivery model used in the EI system and a program developed by a local school district for special education services. Planning and flexibility on the part of providers and preschool programs are necessary to assist families and children with adjusting to this change.

Early Detection and Screening for ASD

The higher prevalence of ASD in recent years has sparked increased research in the early detection, intervention, and etiology of ASD (CDC, 2012). Recent advances in diagnostic practices and tools point to acceptable diagnostic stability at age 2 when "gold standard" tools and practices are used (Kleinman et al., 2008). Likewise, many parents of children with ASD report having concerns about their children's communication and social development as early as age 6 months and especially by 12 months (Bolton, Golding, Emond, & Steer, 2012; McIntyre & Barton, 2010). Still, the average age of a child receiving an ASD diagnosis is 4.5 years (CDC, 2012; Coonrod & Stone, 2004). This equates to an almost 3-year delay in treatment during a period that is known to be critical for intervention. The delay is even more severe for culturally and linguistically diverse children with autism. For example,

Mandell, Listerud, Levy, and Pinto-Martin (2002) found that African American children with ASD were diagnosed an average of 1.4 years later than European American children. Similarly, the median age of Hispanic children who were identified with ASD was 11% higher than the median age of European American children (Overton, Fielding, & Garcia de Alba, 2007; Shattuck et al., 2009). These delays are disconcerting, given the importance of and empirical support for early intervention (Dawson & Osterling, 1997), and the fact that autism is found in all culturally and linguistically diverse groups (Wong et al., 2004). In fact, the Council on Children with Disabilities reports that early identification and intervention are *vital* for children with autism (Johnson & Myers, 2007; Woods & Wetherby, 2003). As described previously under Principle 3, the National Research Council's (2001) review of autism diagnosis and treatment concluded there was strong evidence for the efficacy of early intervention, and urged that intervention should occur *as soon as an ASD is suspected*, without waiting for diagnostic confirmation.

Several national initiatives have been established to increase awareness about early signs of ASD and promote early screening and intervention (e.g., the First Signs initiative [www.firstsigns.org] or the CDC Act Early campaign [www.cdc.gov/actearly]). These initiatives describe the early signs of ASD and assert that children who demonstrate such early signs or delays should immediately be referred for screening. These initiatives also promote the widespread use of effective autism screening tools to identify children at risk for ASD and increased awareness of potential early signs of ASD (Stone, Coonrod, Turner, & Pozdol, 2004). Also, the American Academy of Pediatrics (2006) recommends the use of a targeted screen for autism (such as the Modified Checklist for Autism in Toddlers [M-CHAT]) at 18 and 24 months during well-child checkups (i.e., not when a child is sick), as well as broad developmental screening (such as the Ages and Stages Questionnaire [ASQ]; Squires & Bricker, 2009) at 9, 18, and 24 months (Johnson & Myers, 2007).

Early signs of ASD include a lack of functional vocalizations, joint attention, imitation, pretend play, and interest in peers.

Recent research suggests that these early signs may be apparent in some infants by 16 months and possibly as early as 9 months (Vismara & Rogers, 2008). In fact, some retrospective studies show that many children with ASD were showing clear diagnostic indicators prior to their first birthday (Landa, Holman, & Garrett-Mayer, 2007). However, there is no single genetic, behavioral, or physiological autism marker. As the name indicates, ASD constitute a spectrum of disorders, which means that children may demonstrate any combination of the ASD symptomatology. Thus valid and reliable screening tools are a critical and necessary component of early identification and intervention.

As with all screening tools, the purpose of autism screening is to identify children who are at risk for ASD and need further testing, not to make a definitive diagnosis or eligibility determination for special education. As mentioned above, given the importance of early intervention and the relative novelty of autism diagnostic tools for toddlers, intervention should begin as soon as autism is *suspected*. There are several valid and reliable autism-specific screening tools to identify children as young as 16 months who may be at risk for autism (e.g., the M-CHAT; Robins, Fein, Barton, & Green, 1999; see Table 27.1). Furthermore, there are several developmental screening tools (e.g., the ASQ) to identify children younger than

16 months who are at risk for developmental disabilities and delays, including ASD (Squires & Bricker, 2009). High-quality screening tools are brief, easy for parents and professionals to use and reuse to monitor children, family-friendly, and inexpensive. Also, given that ASD are primarily diagnosed through social and communication behaviors, which are culturally determined, autism screening tools should be culturally responsive. Practitioners should consider the cultural relevance of the items, materials, and format of autism screening tools, and revise or omit items when appropriate to ensure cultural relevance. Also, parental concerns should always be taken seriously. When a child scores near or within the “at-risk” range on screening tools, or when the parents have serious concerns, a referral should be made to the family’s local early intervention agency.

One example of an autism-specific screening tool, the M-CHAT (Robins, Fein, Barton, & Green, 1999), is available for free download for clinical, research, or educational purposes (see www.mchatscreen.com). The M-CHAT has 23 “yes” or “no” questions and is relatively brief and simple to complete. The M-CHAT Follow-Up Interview (FUI; Robins, Fein, & Barton, 1999) should be administered for toddlers who screen positive (i.e., at risk for autism) on the M-CHAT; doing so reduces the false-positive rate. Children who screen positive

TABLE 27.1. Developmental and Autism-Specific Screening Tools for Infants and Toddlers

Tools	Age range (months)	Publisher
<u>Developmental</u>		
Ages and Stages Questionnaire (ASQ)	1–66	Brookes
Ages and Stages Questionnaire: Social Emotional (ASQ:SE)	3–66	Brookes
<u>Autism-specific</u>		
Modified Checklist for Autism in Toddlers (M-CHAT)	16–30	www.m-chat.org (Robins, Fein, & Barton, 1999)
Screening Tool for Autism in Toddlers and Young Children (STAT)	24–35	Vanderbilt University (VU e-innovations)
Quantitative Checklist for Autism in Toddlers (QCHAT)	18–24	(Allison et al., 2008)
Systematic Observation of Red Flags (SORF)	18–24	http://firstwords.fsu.edu

on the M-CHAT *and* the FUI should be referred for comprehensive evaluation and early intervention services. Children who fail the M-CHAT and not the FUI should be frequently monitored with a developmental screening test such as the ASQ. Additional screening tools for infants and toddlers are listed in Table 27.1.

Strategies for Designing IFSPs

The IFSP is a process that uses a written plan to (1) document a child's current levels of development, (2) identify functional learning objectives for the identified child and family, and (3) specify EI services needed by the eligible child and family. The IFSP process is family-directed and developed jointly by the family, other individuals of the fami-

ly's choice, members of the assessment team, the service coordinator, and appropriate EI providers.

Creating an IFSP that meets the needs of an infant or toddler and family members affected by ASD is, in many cases, a complex and evolving process. The available research base for early intervention service delivery to very young children with ASD is quite limited. Scientifically based practices are evolving as EI providers and researchers use ongoing data systems to guide the developing body of knowledge about how to determine what services, methodologies, intensities, and frequencies yield meaningful behavioral change in children under the age of 3 years. In the absence of definitive research on interventions for children under age 3, it is recommended that early intervention teams ask themselves the questions listed in Table

TABLE 27.2. Questions to Guide IFSP Planning

Question 1. Have assessment strategies been utilized to document the infant or toddler and family needs identified in the IFSP that are:

- a. Specific (observable, measurable, and valued by adult family members)?
- b. Functional (related to specific skills that help the child access everyday life)?
- c. Participation-based (related to ensuring the child's participation in daily routines and activities)?

Question 2. Are there evidence-based strategies in place on the IFSP that:

- a. Address each area of need identified by the team?
- b. Match functional outcomes that include addressing the defining characteristics of ASD (communication, social skills, and behavioral concerns)?
- c. Specifically address the child and family being successful with daily routines (e.g., dressing, feeding, bedtime, community outings)?
- d. Include strategies to equip family members with the information and skills needed to provide consistency in intervention when EI providers are not present?

Question 3. Has the IFSP team carefully considered the following, taking into account the child's developmental availability for intervention and the family's dynamics and available resources:

- a. What EI services are needed to implement the evidence-based practices?
- b. Who will deliver the services?
- c. Where will the services be provided?
- d. When and how frequently will the services occur?
- e. What available funding sources will be accessed?

Question 4. Are the proposed providers fluent with the evidence-based practices to be delivered? If not, what plans are in place to provide training, supervision, or coaching for those providers?

Question 5. Is there a plan in place to use a primary provider service model, or, where multiple providers are seeing the child, a plan to meet frequently to communicate, plan logically consistent services, and review progress?

Question 6. Do the planned strategies include ongoing data collection and clear decision-making guidelines regarding the continuation or modification of the plan that results in progress for meeting child and family outcomes?

27.2 to guide the IFSP planning process for children with ASD, to support the delivery of services that are individualized, evidence-based, and comprehensive.

Together, the practice principles discussed earlier in this chapter and straightforward answers to the questions in Table 27.2 will help ensure that plans are sufficiently comprehensive; are designed to produce functional outcomes in essential real-world settings; are utilizing evidence-based practices; and are delivered in a competent, coordinated, and data-based fashion. To maximize the child's skill generalization across persons, settings, and time, it is essential to consider the child's planned learning opportunities delivered by adult family members or adults in other community settings before determining the number of direct service hours on the IFSP.

Two Tools for Gathering Family Information

For a child with ASD, we suggest the use of two tools to help the parents identify and communicate their child's current levels of functioning in common everyday experiences at home and in the community. One

example is the About Our Child assessment tool (Strain, 2002), which aids parents or other caregivers in identifying skills their child currently demonstrates in common everyday activities and routines. This tool also helps to identify skills that parents would like their child to learn in these areas. The About Our Child assessment starts by asking parents about the child's skills in specific areas; these are described in Table 27.3.

After parents have a chance to list skills their child demonstrates across these areas, parents are asked to list new skills they would like their child to learn in each of these areas. Because parents spend time with their child doing these things on a daily basis, it can provide assessment teams with valuable information regarding the child's functional skill set throughout the day, which can be used alongside any additional formal or informal assessments the team has conducted. Ideas generated through About Our Child can be shaped directly into goals or objectives on the IFSP. Moreover, the form is a good starting place for building an intervention that is contextually relevant to the family's everyday activities. The form may be completed by family members or

TABLE 27.3. About Our Child: Assessment Areas

Area	Examples of skills
Play	Appropriate toy play, sharing, taking turns, playing alone (independence), and playing with other children.
Language	Communicating wants and needs, following directions, listening skills, and understanding concepts.
Adaptive	Dressing, hand washing, and toilet training.
Mealtime	Eating with utensils, eating a variety of foods, using a cup, and sitting at the table for meals.
Bathtime	Sitting in the tub, washing body parts, brushing teeth, and combing hair.
Cognitive	Understanding simple stories; identifying pictures of objects; recognizing letters, numbers, shapes, and colors; and matching and sorting.
Motor	Running and jumping; rolling, catching, and throwing a ball; and fine motor skills, including opening containers, turning doorknobs, holding crayons and markers, using scissors, and playing with material like modeling clay.
Community activities	Sitting in a cart at the grocery store, riding in a stroller, playing at a playground, and riding in the car.
Behavior	Behaviors that interfere with learning, and/or that the parent(s) would like the child to engage in less often (e.g., tantrums, self-injury).

other caregivers themselves, or through an interview with the family by a service coordinator or EI provider.

A second recommended tool to gather family information is the Routines-Based Interview (McWilliam, 1992, 2005, 2010). The Routines-Based Interview is part of a functional intervention-planning process and helps determine what skills or behaviors a child must learn to be successful in daily routines. This protocol is an excellent supplement to About Our Child, as it more directly pinpoints the daily routines that will serve as the context for intervention.

Building Functional, Measurable, Participation-Based Outcomes

IFSP outcomes should include a statement of the measurable results expected to be achieved for the child and family, including the criteria, procedures, and timeline. IFSP child outcomes should be participation-

based; that is, they should focus on the routines and activities that parents want or need to go more smoothly, such as bedtime or diapering. This ensures that the contexts in which the skills are needed are emphasized (Wilson, Mott, & Batman, 2004). Also, participation goals promote teaching in contextually relevant, meaningful activities (McWilliam, 2010). Table 27.4 describes six characteristics of effective outcomes for young children and families.

Evidence-Based Interventions

Literally hundreds of intervention methods have been used to improve the core symptoms of ASD. Some methods are highly effective; some are less so; still others are ineffective. What seems certain is that regardless of demonstrated effectiveness, many methods are vigorously marketed to providers and families. The guiding principle that chil-

TABLE 27.4. Characteristics of Effective Goals and Outcomes

Characteristic	Description
1. Linked to parents' concerns	The goal is directly related to parents' concerns regarding their child's development, learning, behaviors, or participation.
2. Functional	The goal will increase the child's ability to participate independently in the family's daily routines and activities.
3. Generalizable	The goal can be performed across people, settings, materials, and activities or routines.
4. Instructional context is considered	Parents and EI providers will have multiple and varied opportunities to teach and support the goal within the child's natural environment and with the family's materials.
5. Measurable	The goal can be seen, heard, counted, and rated.
6. Participation-based	The goal is focused on the child's participation in the daily routines and activities.
<u>Examples of participation-based goals</u>	
Joint attention goal	Hannah will participate in diapering, dressing, and playtimes with Mom by looking at and following Mom's gaze to objects (diapers, clothes, toys). We will know she can do this when she follows Mom's gaze to three different objects five times during three routines per day for 1 week and continues for 2 months.
Functional communication goal	Charlie will participate in diapering, snacktimes, playtimes with siblings, dressing, and bedtime routines by pointing to or verbally requesting preferred objects. We will know he can do this when he points to or verbally requests two preferred objects across three different routines per day for 3 consecutive days and continues for 3 months.

Note. Data from McWilliam (2010) and Notari-Syverson and Shuster (1995).

dren and families should be provided with evidence-based practices has led directly to the following set of recommendations based on the National Autism Center's (2009) National Standards Project (NSP). Moreover, these practices are in line with those recommended by the National Professional Development Center on ASD (2009).

The NSP, by far the most comprehensive and rigorous review of the scientific literature on children with ASD to date, was designed with three purposes in mind. First, it identified the level of research support currently available for educational and behavioral interventions used with infants and toddlers with ASD. Knowing levels of research support is an important component in selecting interventions that are appropriate for individuals on the autism spectrum. Second, it was intended to help parents, caregivers, educators, and service providers understand how to integrate critical information in making intervention decisions. Specifically, evidence-based practice involves the integration of research findings with (1) professional judgment and data-based clinical decision making, (2) values and preferences of families, and (3) assessing and improving the capacity of children's support systems to implement interventions with a high degree of accuracy. Third, the report identified limitations of the existing treatment research involving infants and toddlers with ASD.

Established Interventions in the NSP

Details regarding the NSP methodology for identifying interventions and rating them can be found online through the National Autism Center's website (www.nationalautismcenter.org/affiliates). Eleven interventions were identified as "established" (i.e., they were established as effective) for individuals with ASD. Established interventions are those for which several well-controlled studies showed the intervention to produce beneficial effects. There is compelling scientific evidence to show that these interventions are effective; however, even among established interventions, universal across-the-board improvements cannot be expected to occur for all individual children with ASD. The NSP also categorized other interventions as "emerging" (i.e., some tentative

evidence of effectiveness) or "unestablished" (i.e., no data upon which to recommend use).

The NSP identified the following interventions and intervention techniques as established: (1) antecedent package (prompting), (2) behavioral intervention package (e.g., discrete trial training [DTT] and PBS), (3) comprehensive behavioral treatment for young children with autism, (4) joint attention (JA) intervention, (5) modeling, (6) naturalistic teaching strategies (e.g., incidental teaching), (7) peer training package, (8) pivotal response training (PRT), (9) schedules, (10) self-management, and (11) story-based intervention package (see the full NSP report at www.nationalautismcenter.org/affiliates/model.php). Self-management and story-based interventions, which rely on complex language and cognitive skills, are not described in this chapter, as they are not likely to be used for many children under 3 years of age. However, given the heterogeneity of ASD, practitioners may reasonably consider these intervention methods for high-functioning children. Comprehensive behavioral treatment is also excluded from the detailed interventions described below. The literature from which this category was derived is based solely on enrollment of children with ASD in research-based behavioral intervention programs that are not generally available. In addition, among all these comprehensive programs, there are no unique individual interventions that are not covered by the remaining discrete interventions recommended herein. One "emerging" strategy is included: augmentative and alternative communication (AAC). Since many children with ASD in this age range do not have functional speech, it is likely that these nonverbal communication systems will be needed.

Are Nine Strategies Enough?

Although the wide diversity and unique needs of children with ASD must always be considered, the nine interventions detailed below represent a wide range of practices sufficient to address all the core symptoms of ASD in young children. Notably, providers, families, and in some cases other children have successfully implemented these practices. The recommendation is that teams become proficient at delivering these interventions, plan on delivering these inter-

ventions first, and examine emerging interventions only after data indicate less than desired outcomes.

The Nine Interventions: Description and Application

Below, we provide a general description of the nine interventions and their implementation for infants and toddlers with ASD.

Antecedent Package (Prompting)

Antecedent (“before”) prompting (clues, support, or hints) is a group of strategies in which an adult gives verbal or physical prompts to a child to help the child engage in desired behaviors. It is important to give the correct amount of prompting to ensure a correct response, and to ensure that the child does not learn and practice errors. Three of these widely used strategies are most-to-least prompting, least-to-most prompting, and time delays during prompting.

MOST-TO-LEAST PROMPTING. Most-to-least prompting involves the adult’s initially using the most amount of prompting necessary for the child to perform a correct response (Wolery, Ault, & Doyle, 1992). The prompts themselves can be full physical prompts, such as hand-on-hand guidance (e.g., pointing to a picture), or physically moving body parts (e.g., opening the kitchen cupboard). As the child demonstrates proficiency in the behavior/response, the prompts are faded, and the physical guidance is reduced. For instance, instead of hand-on-hand prompting, the child may, over time, only require a light touch on the arm. Typically, most-to-least prompts begin with physical guidance and then move to visual prompts (e.g., showing a child a picture of the kitchen cupboard as a prompt to open it), to verbal instructions (e.g., “Open the cupboard”), and to natural cues in the environment (e.g., the child opens the cupboard when the parent says, “Breakfast time!”).

LEAST-TO-MOST PROMPTING. As its name indicates, least-to-most prompting is the opposite of most-to-least, and begins with the adult’s giving the child the opportunity to respond with the least amount

of prompting (Wolery et al., 1992). The amount of prompting by the adult increases with each behavior/response that the child fails to perform or performs incorrectly. For instance, if the child does not open the kitchen cupboard 3 seconds after the parent says, “Breakfast time!”, the parent can start prompting by saying, “Breakfast time!” again, then verbally asking the child to open the cupboard, and then physically prompting the child to do so. Least-to-most prompting begins with using natural environmental cues; then using verbal instructions or modeling, possibly with an additional visual cue (picture, gesture, or modeling); and then partial physical, then full physical prompting. It is important to note that with both least-to-most and most-to-least prompting, the number of levels and the individual prompts chosen at each level can be adapted to—and should be determined on the basis of—the child’s learning history and performance.

TIME DELAY. Time delay can be used as part of these antecedent prompting procedures by varying the *time* interval between the initial prompt for the child to give a response/behavior and the subsequent prompting given by the parent if the child does not respond correctly (Wolery, 2001; see Figure 27.1).

Behavioral Intervention Package

DISCRETE TRIAL TRAINING. DTT (see Figure 27.2) is a structured teaching strategy that involves distinct and repetitive responses following a specific stimulus, and resulting in reinforcement. As shown in Figure 27.2, each trial is typically defined as (A) antecedent, (B) behavior, and (C) consequence, and has a definite beginning and end; hence the term “discrete trial” (Cooper, Heron, & Heward, 2007).

Key elements of using DTT to teach toddlers with ASD include breaking skills into small chunks (behaviors) so that each chunk can be taught directly and learned to mastery before the behaviors are chained together (De Boer, 2007; Fein & Dunn, 2007). In addition, teaching typically involves the use of prompting and fading (depending on the child’s needs), and a rich supply of

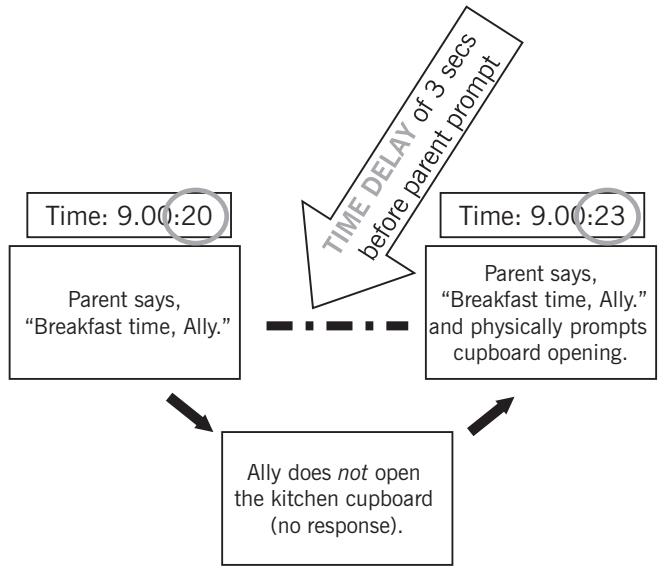


FIGURE 27.1. Example of time delay.

child-specific reinforcers (e.g., toys, objects, games) needs to be given contingent on the child’s responses. Behaviors can be shaped by the speed and value of the reinforcers after a response (Alberto & Troutman, 2006; Cooper et al., 2007). The prompting procedures used in DTT can be physical or verbal, such as holding and manipulating a child’s hands to demonstrate clapping, or saying, “It’s red,” after the child has been shown a red car and asked, “What color?” (De Boer, 2007; Fein & Dunn, 2007). The child should always be prompted to give the correct response; this is also known

as “errorless learning.” Errorless learning contributes to a positive learning environment, prevents the child from performing and practicing errors, and may reduce the child’s frustration (De Boer, 2007). As DTT is highly structured, and some toddlers with ASD may display avoidance or escape behaviors in this type of learning environment, the adult should use positive pairing, so that he or she is viewed by the child as a reinforcer. Positive pairing can be achieved by engaging in preferred activities with the child or being the source of obtaining what the child wants or enjoys (De Boer, 2007).

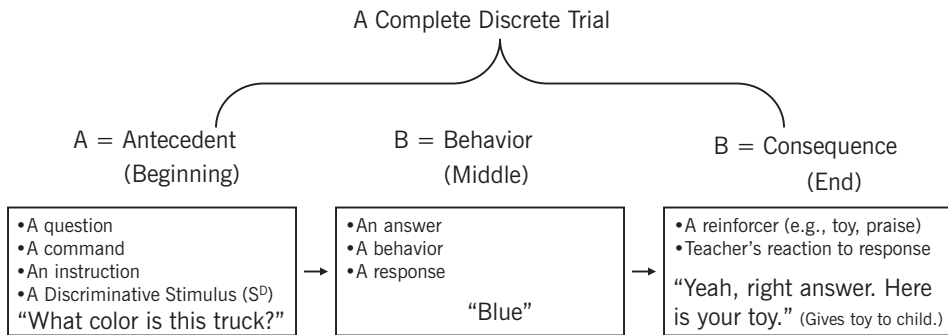


FIGURE 27.2. Components of a discrete trial.

POSITIVE BEHAVIORAL SUPPORTS. The five essential elements of PBS are as follows:

1. *Establishing a team, and gaining a unified understanding of the child and an agreement on the short- and long-term goals of intervention.* More than one person is generally required for purposes of PBS planning, assessment, and implementation. For an infant or toddler, one member of the team must be a parent, guardian, or key family member. It is generally a good idea to include at least one member with knowledge and experience with applied behavior analysis and PBS.

2. *Conducting a functional assessment of problem behavior.* The next step is to use procedures of functional assessment to gain an understanding of how each targeted problem behavior is governed by events and circumstances in the environment. There are numerous books and manuals that specify the particulars of the functional assessment process (e.g., O'Neill et al., 1997), but they generally boil down to direct observational and indirect interview methods for answering core questions such as these: (a) What is the function or purpose of the problem behavior; (b) under what specific circumstances is the problem behavior most likely to occur; and (c) under what specific circumstances is the problem behavior least likely to occur?

3. *Designing the intervention plan.* Intervention plans (IFSPs) often include components from several categories of strategies. Among these strategies are antecedent manipulations, which include changes in the stimuli that are found to precede or evoke problem behavior. Such stimuli can be removed or ameliorated, while stimuli associated with desirable behavior can be inserted. Teaching strategies involve identifying functional alternatives to the problem behavior and arranging for such alternatives to be systematically prompted for and reinforced at times that problem behaviors might otherwise occur. Functional communication training is a well-established procedure for teaching replacement behaviors. For example, a child who cries when hungry is taught a functional replacement behavior such as giving a picture card to the parent to request a snack. Reinforcement strategies

involve removing reinforcers that maintain the problem and increasing reinforcers for replacement behaviors.

4. *Implementing the intervention plan.* A key aspect of implementation is incorporating procedures to help ensure that the plan is implemented as intended. Intervention agents (siblings, parents, child care providers) often benefit from scripts or other prompts to cue them about what to do and when. It is also useful to monitor implementation to be sure that procedures are executed with fidelity (i.e., that the plan's procedures are being implemented exactly as intended). Then, if data indicate that anticipated improvements are not occurring, the team can analyze fidelity as one possible reason for inadequate outcomes. For example, a child's team is using a specific prompting strategy to get the child to follow a direction. The procedure involves three basic steps: (a) giving the direction; (b) giving the direction a second time with an additional visual cue or gesture; and then, if necessary, (c) giving the direction a third time while providing physical assistance to complete the task. However, data indicate that improvements are not occurring related to this behavior. The team may then choose to look more closely at each step of the procedure, to see whether the steps are being implemented correctly or whether there is some variation. (For a full discussion of treatment integrity, see Gresham, Chapter 25, this volume.)

5. *Evaluating the effects of the intervention.* The intervention plan also needs to include a means for evaluating whether the plan is achieving its intended effects. Data collection should be (a) simple, so that all relevant parties can record data without difficulty; and (b) valid, so that the data truly reflect the changes that are the purpose of the intervention. For example, rating scales can be created to rate a session on a 5-point scale from "terrible" to "excellent." Useful evaluation data needs to be collected for the team to know whether the plan is producing benefits as expected, or whether adjustments to the plan are required.

Joint Attention Intervention

JA intervention is a strategy in which a child and a parent or another individual engage

in mutual interest or show attention to the same object, activity, or experience. JA includes the following types of behaviors: (1) A parent and child look at an object together; (2) the parent and child make eye contact; (3) the child points to an object to show interest to the parent; (4) the parent and child play with or otherwise focus on a toy together; (5) the child or parent tries to gain the parent's or child's attention by catching the other person's eye or gesturing to him or her; and (6) the child shares a facial expression with a parent, such as smiling. The majority of infants and toddlers with ASD do not have good JA skills. Infants and toddlers with ASD may demonstrate some form of JA if they are trying to get something they want, such as a cookie, but they typically do not seek out another person for social attention (Toth, Munson, Meltzoff, & Dawson, 2006). Research has shown that JA skills are linked to positive outcomes in later communication and social skills; thus they are critical skills (Rollins & Snow, 1998).

Modeling

Modeling relies on an adult's or peer's providing a demonstration of the correct forms of the target behavior. Modeling can include both simple and complex behaviors. This intervention is often combined with other strategies (e.g., prompting and reinforcement). Figure 27.3 describes how a sibling might model how to play with and push a train.

Naturalistic Teaching

Naturalistic teaching is a structured form of presenting learning opportunities in a child's natural environment, utilizing the child's natural motivation and reinforcers (e.g., using a child's interest in trains to teach him or her to ask for and play with the train set). For children with ASD, naturalistic teaching is implemented to increase generalized language and social skills. It differs from other teaching methods, as it is child-oriented rather than adult-oriented (Fenske, Krantz, & McClannahan, 2001; Hart & Risley, 1968, 1975, 1982). For instance, the adult intentionally creates or sets up a high-interest activity; the child initiates interest in the materials; and the adult uses this selected activity as a "teachable moment," which is an opportunity to be intentional in working with the child on a teaching goal. Naturalistic teaching involves an intentional plan to embed instructional opportunities throughout a child's typical daily schedule. Because instructional opportunities are incorporated throughout daily routines and high-interest activities, teaching becomes contextually relevant. The keys to successful naturalistic teaching are to identify functional goals, select activities that will occasion instructional opportunities, and intentionally set up the interaction to ensure that teachable moments occur (Fenske et al., 2001).

Once a learning opportunity has been identified, it is important to reinforce the child's communication (attempts) and encourage him or her to elaborate on the response(s). The teaching moment should remain brief

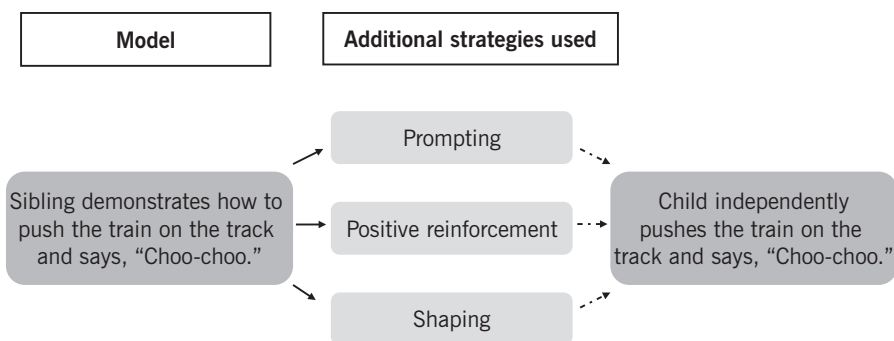


FIGURE 27.3. Example of modeling.

and reinforcing, so that the child does not avoid future interactions, and all adults in the child’s life should be trained to identify similar teachable moments so that generalization among settings, people, and activities will occur (Schreck & Foxx, 2005). If a child does not respond, such as reaching for a favorite doll without asking for it, the parent can implement verbal prompts, saying, “What do you want?”, “What is this?”, or “Doll,” with time delays to allow the child to respond. Prompting for naturalistic teaching is individualized by the child’s specific communication needs.

An example of how naturalistic teaching in the home can be used is as follows. Jane knows that playing with clay is her daughter Amanda’s favorite activity, so she gets down the container from the cabinet with the modeling clay. Immediately Amanda runs over to her mom and pulls at the clay box. Jane blocks Amanda’s hand and looks at her expectantly for a request for the clay box. Amanda does not respond, so Jane asks, “What do you want, Amanda?” and Amanda says, “Want clay.” Jane then replies, “That’s great asking. Here is the clay box.” One of Amanda’s IFSP outcomes is to identify primary colors, so after Amanda has been playing with the clay for a few minutes, Jane sits next to Amanda and starts to play with a green ball of clay. Jane says, “My clay is green. What color is your clay?” Amanda

pauses for a moment and then replies, “Yellow.”

Peer Training Package

With intensive EI, the seemingly pervasive social skill deficits of many children with ASD can be remediated to a substantial degree (Lovaas, 1987; Strain, 1987). If there is such a thing as a “recipe for success,” it must include regular access to typical peers, thoughtful planning of social situations, the use of “social” toys, and multiple-setting opportunities to practice emerging social skills. The peer training package involves providing instruction to typical peers to engage the targeted child in frequent and successful social response opportunities. Peers, such as siblings or other young children at a child care or other community setting, are initially taught strategies to successfully gain the attention of the infant or toddler with ASD (the target child), followed by strategies to share materials that are highly preferred by the target child. The strategies later extend to requesting items from the target child and giving directions centered around play (see Figure 27.4).

Pivotal Response Training

PRT is a teaching approach based on the premise that when intervention is provided

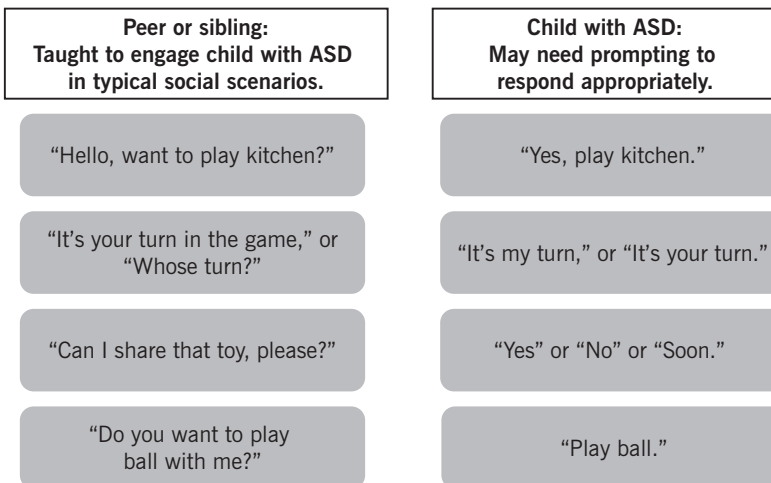


FIGURE 27.4. Example of peer training.

to infants and toddlers with ASD in pivotal areas (i.e., initiating, motivation, self-management, stimulus generalization), positive collateral effects will occur in related behavior (Koegel & Koegel, 2006). Teaching fundamental behaviors in this way will have far-reaching effects on the child. For instance, teaching in the area of functional communication may produce a decrease in self-injurious behavior, and teaching social skills can have collateral effects on language. There are three targeted pivotal areas. First, children are taught to respond to *multiple cues*; this includes teaching responses to a variety of cues and reducing “stimulus overselectivity” (in which children with ASD typically overgeneralize and have a small responding repertoire, such as calling every animal they see a “dog”). Although this generalization is common in all young children, for those with ASD this deficit continues, whereas other infants and toddlers without ASD learn to distinguish different characteristics and adapt their response repertoires. *Motivation* is the second pivotal targeted area because increases in motivation can lead to better social skills, enhanced task engagement, and increased speed of responding. The third targeted pivotal area is *self-management*. Self-management shifts

the focus of responsibility from the parent or other adult to the child. Children will learn to make choices and monitor their behavior, so they can function in different environments and learn that their behaviors cause environmental change.

PRT involves key practices guided by applied behavior analysis, including shaping, reinforcement, and discrimination. Training typically occurs in the child’s natural environment and involves parents as teachers. In Figure 27.5, Jahan’s mother uses functional communication to reduce her 30-month-old daughter’s self-injurious behavior.

Schedules (Use of Visuals)

Pictures can serve the function of visual schedules, in which a child is “shown” what to do, or what comes next in his or her day. Using visuals can be very successful with children having ASD, as many of these children are visual learners. For infants and toddlers, these visual schedules can be adapted to simply using one or two pictures so that children know what they have to do, such as holding a picture of a car so that a child knows that a car ride is the next activity (perhaps a nonpreferred activity). These pictures may smooth transitions from one activity to

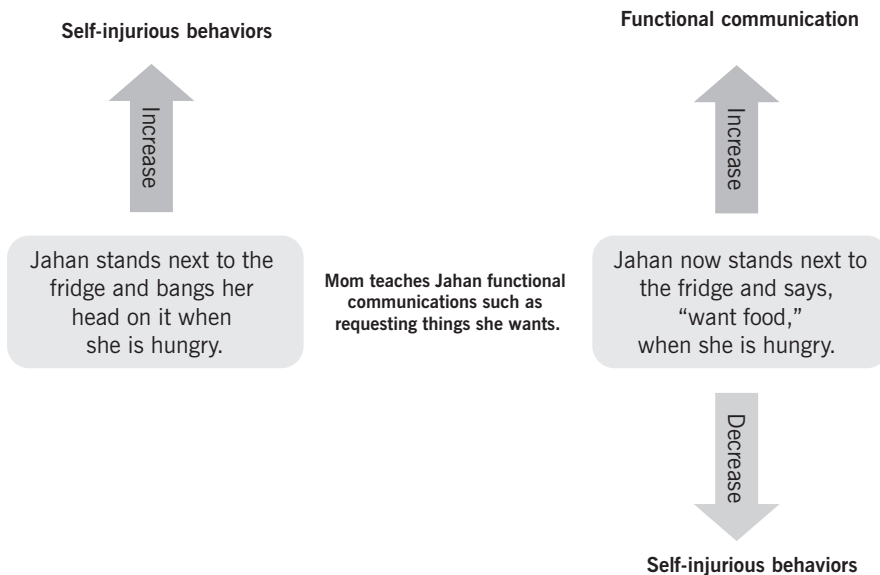


FIGURE 27.5. Example of PRT.

the next so that the child feels safe when the environment changes, as many children with ASD find transitions very difficult.

For instance, 32-month-old Lily spends several days a week at her grandmother's house while her mother is working. Her mom's schedule changes frequently each week, as she is a shift worker. To help Lily, she has two visual schedule books: one called *Home with Mom*, and the other called *Home with Grandma*. Inside the books there are photographs of Lily in the car in front of each house, and lots of photographs of the different activities and tasks for her to do in each of the houses. Lily's mom or grandmother looks at the photographs with Lily before she has to go to the other house, to make sure she knows where she is going and what she is going to do when she gets there.

Augmentative and Alternative Communication

AAC is the term for a variety of tools and strategies to support individuals with communication impairments or little functional speech. AAC either enhances or "augments" the speaker's communication, or offers an "alternative" to vocal speech. AAC is divided into two main categories: aided and unaided. Aided AAC involves using an external object for communication. Various forms of aided AAC involve electronic communication devices (also known as "assistive technology"), such as an electronic communication board on which the child presses a button to elicit an electronic voice output. These devices range from simple boards with a few communication outputs, to highly advanced computers and personal digital assistants. It is also possible to enlist a same-age, same-sex peer to record the vocals for the output. Less technical forms of aided AAC involve using pictures for communication. For instance, a child exchanges a picture of a cup for some juice, or points to a graphic symbol of a slide to communicate a wish to go outside and play. For a child who uses an aided AAC system, it is important that communication partners understand how the system works; ensure that the system is within the child's reach at all times; and keep in mind that any high-technology devices must be fully charged or have spare batteries on hand (Cafiero, 2005; Mirenda,

2009; Ogletree & Oren, 2006). Some high-tech devices may be too advanced for very young children, which may contribute to frustration and inappropriate behaviors. Therefore, it is probably best to begin with simple pictures on cards, or simple single pictures on electronic devices.

Unaided AAC systems do not require an external object in order for the child to communicate. An example of an unaided system is American Sign Language, in which a child uses his or her hands; or other symbols, signs, and gestures may be used. Again the most important consideration is that the communicative partner understands the system used, especially if the signs or gestures are child-specific (Cafiero, 2005; Mirenda, 2009; Ogletree & Oren, 2006).

The use of AAC with infants and toddlers having ASD is complex, as the unique needs and communication impairments among this population vary. Not all children with ASD will require AAC, but for some, the AAC system can temporarily (until speech develops) or permanently aid their functional communication (Mirenda, 2009). The decision to implement such a system presents a multitude of challenges, and careful considerations are required to select the most useful system to meet a child's unique needs (Drager, Light, & Finke, 2009).

Case Study: Carlos

The case study of 24-month-old Carlos provides an example of the established interventions in action. Carlos lives with his mother, father, and three sisters (two older and one infant). He is not using any spontaneous functional language, although his parents report hearing him say a few words. He occasionally imitates a sound, usually after his parents have repeated a sound he has just made. Carlos does not indicate his wants or needs or ask for things. If he needs something, he often whines, and his parents try to figure out what he wants. He also walks to the refrigerator and stands next to it when he wants something to eat or drink. Carlos drinks from a sippy cup and feeds himself with his fingers; he is not using utensils yet.

Carlos does not make consistent eye contact with his parents or siblings, and while

he occasionally approaches his parents, he generally ignores his sisters unless they initiate play with him. They are most successful in engaging him in rough-and-tumble play. Carlos has limited play skills and interest in toys. He plays, briefly, with some cause-and-effect toys that make noise or light up, but he generally spends his time wandering around, taking toys off the shelf, looking at them, and then dropping them and moving on. He also shows some interest in shiny toys and mirrors. When wandering, Carlos frequently flaps his hands and occasionally engages in other self-stimulatory behaviors, such as staring at his fingers and/or looking at things out of the corners of his eyes.

Table 27.5 presents a subset of the individualized, tailored intervention plan for Carlos that was developed by the IFSP team, using the previously described About Our Child protocol and the Routines-Based Interview. Carlos's team used the content of the table to complete his IFSP.

Monitoring Progress

Although choosing from a set of evidence-based interventions is essential, this act alone does not ensure good outcomes for specific infants or toddlers. It is equally important to have monitoring systems in place to track child progress. The following section provides several examples of effective *and* efficient progress monitoring systems.

The link between achieving good outcomes for infants and toddlers with ASD and their families, and the use of ongoing data collection, is clear and undeniable. Every established intervention described above has only been used in conjunction with such ongoing data collection. Within the context of EI for infants and toddlers with ASD, careful progress monitoring is essential for three reasons. First, no practice is universally effective, and thus there is a professional and ethical imperative to detect poor outcomes and change methods in a timely fashion. Second, some of the targeted behaviors for children with ASD (e.g., tantrums) engender strong emotions in both families and providers; thus it is essential to have methods for the *objective* measurement of behavior over time. Third, the users of many established interventions rely on ongoing data to make

individualized modifications and accommodations for maximum effectiveness (e.g., the best version of incidental teaching to teach language to one child is slightly different from the best version for another child). Ongoing data systems ensure that providers can make these small but incredibly important variations. The challenge is to select sensitive measurement methods that yield meaningful data and are not burdensome. A variety of simple behavior rating scales have been utilized by parents and providers to achieve these dual purposes (Dunlap et al., 2010; Strain & Schwartz, 2009). We describe four sample scales below.

A “prompting hierarchy scale” (see Figure 27.6) is recommended for use with general cognitive, adaptive, and self-help skills. The criterion level for each objective is set one level above the child's current capability. For example, if the objective is to “remove socks and shoes,” and the child can currently take off his or her socks and shoes with partial assistance, then the level to be achieved is set. Each time the child attempts the task, a tick mark is placed by the level at which the task was performed. At the end of the day, providers or parents circle the level at which the most tick marks were placed. If two levels receive the same number of tick marks, then the lower level is circled because the goal is for mastery. Once the child is at Level 3 for several (3–5) consecutive days, the team should shift the criterion to Level 4 (independent performance).

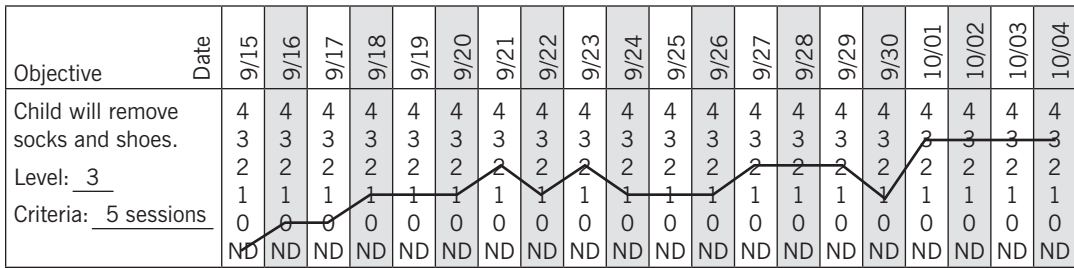
For use with objectives where the basic goal is to have the child comply with a necessary routine such as diapering, the type of hierarchy scale depicted in Figure 27.7 is recommended. As in the scale shown in Figure 27.6, an initial performance level is set one step above the child's baseline performance, and work continues until independent performance is achieved.

Figure 27.8 depicts the type of hierarchy scale recommended for use with objectives that involve verbal language production. This is, of course, a version of a prompting hierarchy, but one specific to verbal behaviors where physical prompting is not possible.

For peer social behavior objectives, the recommended hierarchy focuses on varying levels of complex peer play (see Figure 27.9).

TABLE 27.5. Carlos's "Established Interventions"

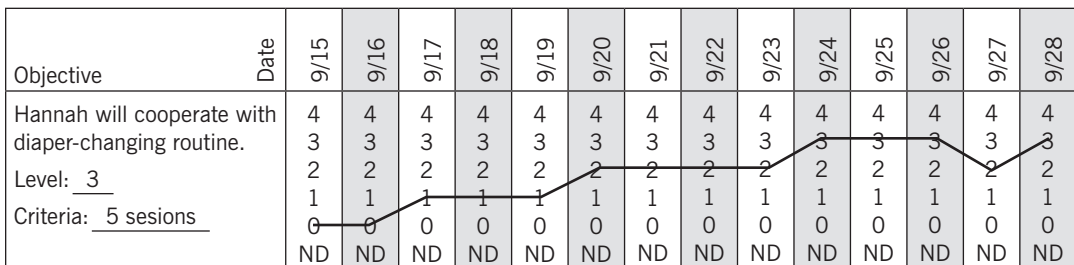
Priority	Outcomes	Setting and participants	Strategies and methodologies
Dressing and diaper changes	Carlos will assist with dressing. Carlos will be able to identify major body parts.	Home with Mom or Dad	<i>Antecedent package:</i> Most-to-least prompting, providing choices. <i>Naturalistic teaching:</i> Prompt Carlos to touch different body parts while getting dressed.
Snacks and meals	Carlos will request a snack item by using pictures.	Home or child care Parents, child care providers, siblings, peers, and therapists	<i>Visuals:</i> Attach pictures of his favorite food and drink items to the refrigerator door with Velcro. <i>Naturalistic teaching and visuals:</i> When Carlos stands by the refrigerator, prompt him to look at the pictures and select what he wants. Once Carlos selects a picture, model the verbal response (e.g., "I want Cheerios") and immediately follow with the delivery of the requested item. Give small snack portions, to allow for multiple requesting opportunities.
Greetings and farewells	Carlos will respond to adults' and peers' greetings by waving to them.	Home and child care Parents, child care providers, siblings, peers, and therapists	<i>Antecedent package:</i> Provide most-to-least prompting to respond. <i>Peer-mediated:</i> Child care providers will cue peers to come and greet Carlos.
Play skills	Carlos will play appropriately with cause-and-effect toys.	Home and child care Parents, child care providers, siblings, peers, and therapists	<i>Naturalistic teaching and PRT:</i> Environment contains multiple play materials that Carlos has demonstrated interest in. Adults follow Carlos's interest and use materials motivating to him. <i>Modeling:</i> Adults and peers will model how to use the toy Carlos has selected. <i>Peer-mediated:</i> Peers will provide assistance to Carlos to use toys appropriately. Peers will offer play materials to and share them with Carlos.
Cleanup	Carlos will help clean up toys.	Home and child care Parents, child care providers, siblings, peers, and therapists	<i>Antecedent package:</i> Have clear plastic containers for each toy clearly labeled with pictures of the item. Give least-to-most prompting to participate in cleaning up.
Down time at home	Carlos will request one of his favorite videos.	Home with Mom, Dad, sisters	<i>Antecedent package:</i> Carlos's family has pictures of five of Carlos's favorite videos. <i>Peer-mediated:</i> One of Carlos's older sisters will present him with two video choices. <i>Naturalistic teaching:</i> When appropriate, parents will follow Carlos's lead, prompting him to request a video when he shows interest.



Key:

- 4 = Child performs skill independently or when given a group direction. No adult intervention is needed.
- 3 = Adult points/gestures/models and verbally directs child to perform skill.
- 2 = Adult provides partial physical assistance to complete skill, but child can do some independently.
- 1 = Adult provides 100% physical (hand over hand) assistance to complete skill.
- 0 = Child refuses to perform skill, walks away, ignores adult, says “No,” or has a tantrum.
- ND = No data for that session.

FIGURE 27.6. Prompting hierarchy scale.



Key:

- 4 = Hannah independently stays on changing table while being changed.
- 3 = Hannah wiggles two or three times during changing routine, but adults are able to complete the routine while providing Hannah with verbal prompts.
- 2 = Hannah sits on changing table, kicks her legs. Adults have to interrupt the routine more than one time.
- 1 = Adult physically prompts Hannah to stay on changing table. Two adults are needed to complete the routine.
- 0 = Hannah refuses to stay on changing table, has a tantrum, bites, or scratches.
- ND = No data for that session.

FIGURE 27.7. Hierarchy scale for compliance/cooperation with necessary routines

Objective	Date	9/15	9/16	9/17	9/18	9/19	9/20	9/21	9/22	9/23	9/24	9/25	9/26	9/27	9/28
Nick will request breakfast items, using two- to three-word sentences. Level: <u>3</u> Criteria: <u>5 sessions</u>	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Criteria: <u>5 sessions</u>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Key:

- 4 = Nick requests items, using two- to three-word sentences independently. No adult support is necessary.
- 3 = Adult points to wanted items to remind Nick to request them verbally. Adult may point to “I want” card.
- 2 = Adult takes Nick to the area where wanted items are and holds one of the items up for Nick to request it.
- 1 = Adult takes Nick to area where desired items are, shows him the items and their pictures, and asks for verbal imitation of the request.
- 0 = Nick refuses to request any of his favorite items, walks away, or has a tantrum.
- ND = No data for that session.

FIGURE 27.8. Hierarchy scale for objectives requiring verbal language production.

Objective	Date	9/15	9/16	9/17	9/18	9/21	9/22	9/23	9/24	9/25	9/28	9/29	9/30	10/1	10/2
Child will stay in proximity to and play with peers for 3 minutes. Level: <u>2</u> Criteria: <u>5 sessions</u>	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Criteria: <u>5 sessions</u>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Key:

- 4 = Child stays in proximity to peers and plays for >3 minutes.
- 3 = Child stays in proximity and briefly joins in play with peers for 1–3 minutes.
- 2 = Child stays in proximity to peers and engages in parallel play.
- 1 = Child stays in proximity and watches others.
- 0 = Child actively avoids peers.
- ND = No data for that session.

FIGURE 27.9. Hierarchy scale for peer social behavior objectives.

Coaching Family Members in the Home Setting

As described previously in Principles 1 and 2, a family-centered approach is central to the general philosophy and framework of EI (McWilliam, 2010; Powell & Dunlap, 2010). Furthermore, federal policy mandates that EI services be provided in “natural environments” (IDEA 2004, § 634(4)(G)), meaning all home and community settings in which children with typical development participate. The natural environments include the experiences, routines, and preferred activities in which the family participates both at home and outside of the home; with extended family members and friends; and at day care, preschool, play groups, community centers, libraries, parks, and so on (Dunst, Hamby, Trivette, Raab, & Bruder, 2000).

Research consistently supports EI approaches that focus on enhancing parents’ capacity to meet the needs of their infants and toddlers. The influence of parents on their children’s development is critical; parents are *the* most important facilitators of learning for infants and toddlers (Dunst & Trivette, 2009; Powell & Dunlap, 2010). Effective EI providers (1) identify each family’s priorities and concerns within the context of the members’ daily routines and activities (McWilliam, 2012); (2) support the toddler’s and family’s participation in daily routines,

activities, and communities, using the family’s toys and materials (Roggman, Boyce, & Innocenti, 2008); and (3) build on natural parent–child interactions (Dunst & Kassow, 2008; Powell & Dunlap, 2010). This ensures that the toddler receives sufficient amounts of meaningful instructional opportunities (i.e., adequate intensity) throughout the day within familiar activities and routines (Jung, 2003; McWilliam, 2010).

Evidence-based coaching models support parents’ sense of their skills and competency (i.e., self-efficacy) in working with their children. Interventions are only successful when they result in increased contextually relevant instructional opportunities and more responsive interactions between children and parents. Thus parent–child routines and interactions in the natural environment should constitute the context of coaching and intervention (Rush & Sheldon, 2011). Recent reviews have identified several evidence-based family coaching practices (Powell & Dunlap, 2010; Rush & Sheldon, 2011); these are described in Table 27.6. These practices can be used to support parents in embedding established interventions focused on functional outcomes throughout their daily routines and activities. In fact, research supports parental implementation of many of the established interventions, accompanied by coaching and support (e.g., naturalistic teaching, PRT; Hemmeter & Kaiser, 1994; Roberts & Kaiser, 2011).

TABLE 27.6. Evidence-Based Family Coaching Practices

Practice	Description	General example(s)
The focus is on supporting family participation and building family capacity and competence.	Interventions should focus on family participation in the child’s development and learning.	Help the family members identify sources of support within their extended family or community.
A flexible, individualized approach is used.	Family coaching approaches should be based on the individual family’s needs. The EI provider needs to adapt and match his or her practices to the needs of the family.	Use videos and self-reflection with one family, and live modeling and practicing with another family.
Interventions are brief and focused on minor changes to the family’s daily routines with the family’s materials.	Interventions should focus on minor changes to what parents are already doing and operationalize natural learning opportunities during daily routines in the home with the family’s own materials.	Teach a parent to imitate a child’s babbling and take turns during diapering and bathtime.

(continued)

TABLE 27.6. (continued)

Practice	Description	General example(s)
Child outcomes should be functional, measurable, and related to participation in the family's routines.	Functional outcomes focus on the child's participation in daily routines. The EI provider should support the family members in identifying and prioritizing the functional outcomes they want to work on. These should consider the family's satisfaction with the child's participation in daily routines.	After a discussion of the family's satisfaction with daily routines, help the family identify seven functional outcomes and two high-priority outcomes.
The focus is on parental responsivity and parent-child interactions.	Interventions should focus on the parents' responsivity to their child during daily routines. Parents are taught to read their child's cues, match their child's affect, follow their child's lead, and provide developmentally appropriate materials.	Support the parent in identifying the child's communicative attempts during a bedtime routine.
The family coach works directly with the parent.	The EI provider spends some time working directly with the parent rather than focusing all the time on the child.	Support the parent in embedding opportunities for teaching the child new words into the snack routine.
The family coach uses effective coaching strategies (e.g., modeling, feedback).	The EI provider uses modeling, coaching, role play, practice, and feedback to teach parents new strategies during daily routines.	Use modeling to teach the parent to prompt functional communication during bathtime, and provide specific feedback.
Videos are used for demonstration and reflection.	Videos can be effective for showing parents how to implement a specific strategy, and for helping parents reflect on and evaluate their own practices and interactions with their child.	Use demonstration videos of a parent teaching a child to ask for "more" during mealtimes. Show the video, talk about how this strategy might work within the family's daily routines, and support practice of the strategy.
Opportunities to practice across the day and in between visits are identified.	Prior to the end of each visit/session, the parent and EI provider identify how and when the parent will practice the strategies in between visits.	With the parent, identify and write down when the parent will practice using visual cues to teach the toddler to follow routines.
Systematic progress monitoring involves the parent.	The parent and EI provider decide on a method for monitoring progress, and changes are made to the intervention plan when appropriate.	With the parent, develop a simple rating scale for the parent to use at the end of each day.

Note. Data from McWilliam (2010, 2012), Powell and Dunlap (2010), and Rush and Shelden (2011).

Conclusion

Perhaps the most robust and consistent findings from the ASD intervention literature are the importance and effectiveness of *early* identification and the provision of high-quality EI for young children with ASD (Boyd, Odom, Humphreys, & Sam, 2010).

This means delivering high-quality interventions to infants and toddlers as soon as an ASD is suspected. This chapter has provided an overview to the design and delivery of such high-quality EI services to infants and toddlers with ASD. Although each child with ASD requires an individually tailored program, every program should include

(1) a focus on evidence-based practices; (2) functional, participation-based goals; (3) ongoing progress monitoring; and (4) evidence-based family coaching practices. As we continue to develop effective tools and practices for identifying children with ASD earlier in their lives, we need to ensure that evidence-based early intervention systems and programs are widely available to meet the needs of these children and their families (Schwartz & Sandall, 2010).

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Supportive Interventions for Young Children with Social, Emotional, and Behavioral Delays and Disorders

Glen Dunlap and Lise Fox

The start of the 21st century is generally associated with an important shift in how social-emotional responding of young children was viewed. At about that time, the many disciplines associated with early childhood care and education began to appreciate the tremendous importance of the early years in setting the course for social, emotional, and behavioral development. This was also the period of time during which the presence of challenging behaviors began to be seen as a notably worrisome indication that a young child's developmental trajectory could be leading to an unfavorable long-term prognosis. This awareness led quickly to a greatly intensified focus on strategies that could help improve young children's social-emotional development, prevent the emergence of challenging behaviors, and intervene effectively to resolve challenging behaviors that had already been occurring.

The purpose of this chapter is threefold: (1) to describe the importance of healthy social-emotional development, and therefore the importance of effective strategies for promoting healthy development and for preventing and resolving challenging behaviors; (2) to describe a multi-tiered framework for conceptualizing prevention strategies and for organizing a continuum of procedural strategies; and (3) to describe a sampling of

practices (at all levels of the continuum) that research has demonstrated to be effective for use by typical practitioners of early care and education.

In preparing the content of this chapter, we have adopted some definitions and perspectives that should be made explicit. First, by "young children," we are referring to children from birth through the age of 5 years (unless otherwise noted). This is the period during which children are described as "infants," "toddlers," and "preschoolers," and the research and evidence-based practices we discuss in this chapter are relevant for this population of children. Second, as a general rule, the content and recommendations in the chapter pertain to all children, without restrictions of diagnosis or classification. This noncategorical approach stems from the understanding that the principles of social-emotional development are universal and that evidence-based practices apply to all children, without regard to diagnostic characteristics. This is not to deny the importance of risk factors that may be imposed by a child's genetic inheritance, sensory and perceptual characteristics, cognitive and communicative limitations, emotional and behavioral disorders, or environmental and familial challenges. On the contrary, such characteristics may be instrumental in deter-

mining the breadth and intensity of supports that a child may require for healthy social-emotional development, and a child's individual characteristics may even determine the types of supports that will be most effective. As a general rule, however, diagnostic classifications are not prescriptive of specific interventions; furthermore, the framework and evidence-based practices featured in the chapter have applicability that transcends diagnostic categorization. It can also be noted that many children who eventually will be identified as having a disability do not actually acquire a diagnostic label or a special education classification until they are well into or past their preschool years. Many young children who exhibit delays or disturbances in social-emotional growth do not have an individualized education program (IEP) or an individualized family support plan (IFSP), but they may nevertheless be in need of supports and interventions. The uncertainty associated with early diagnosis is another reason why we elect to adopt a noncategorical approach in describing children's social, emotional, and behavioral responding.

Children's social-emotional development occurs at different rates. Some children learn self-regulation, social problem solving, and emotional literacy quickly and easily, while others may struggle to acquire these competencies over extended periods of time. Furthermore, some behavioral topographies that may be considered deviant in elementary school (e.g., tantrums) are developmentally typical in early childhood. For this reason, there has been some professional reluctance to target social-emotional difficulties and to define challenging behaviors when children are younger than 5 years of age. However, the increasing evidence regarding the importance of early intervention has compelled greater attention to identifying young children in need of specialized assistance. Working from earlier definitions, such as that of the Division for Early Childhood (DEC) of the Council for Exceptional Children (1999), Smith and Fox (2003) proposed a definition of challenging behavior as "any repeated pattern of behavior, or perception of behavior, that interferes with or is at risk of interfering with optimal learning or engagement in pro-social interactions with peers and adults" (p. 5). It is important

to appreciate that this definition (1) is functional, in that it refers to a behavior's effects rather than its topography; (2) can include externalizing behaviors (e.g., tantrums, aggression) as well as internalizing behaviors (e.g., withdrawal, lack of responsivity); and (3) can include extreme forms of dangerous behavior (e.g., self-injury, property destruction, aggression) as well as milder forms of behavior (e.g., perseverative body rocking, noncompliance), as long as the effects interfere with learning and social interactions.

In what follows, we provide discussions of (1) the importance of effective strategies of prevention and intervention for young children with social-emotional difficulties; (2) multi-tiered systems of supportive interventions, including the "pyramid model"; (3) and detailed descriptions of evidence-based practices at each of the three tiers—universal promotion, secondary prevention, and tertiary intervention. The chapter closes with a brief summary of our major messages.

The Importance of Prevention and Early Intervention in Social-Emotional Development

The prevalence of social-emotional disturbances in young children is difficult to summarize, owing to differences in definitions, screening instruments, and population samples. However, prevalence studies indicate overall that roughly 10–25% of children between the ages of 2 and 5 demonstrate some kind of psychosocial or behavioral problems (Powell, Fixsen, & Dunlap, 2003). In 1995, Campbell published a review of studies of behavior problems of young children and reported that approximately 10–15% of preschool-age children exhibited mild to moderate problems. Since then, Lavigne and colleagues (1996) produced data showing that 21.4% of young children met criteria for a *Diagnostic and Statistical Manual of Mental Disorders*, third edition, revised (DSM-III-R) Axis I disorder, with oppositional defiant disorder being the most frequently observed disorder (16.8%). Studies of children enrolled in Head Start indicate similar rates. Webster-Stratton and Hammond (1998) reported that 22% and 23% of Head Start children scored in the clinical range on the Eyberg Child Behavior

Inventory and the Child Behavior Checklist (CBCL), respectively. Kaiser, Hancock, Cai, Foster, and Hester (2000) also used the CBCL (parent report) and documented 21% of Head Start children as scoring in the clinical range. In addition, and consistent with most demographic research in this area, the studies indicate a higher prevalence of challenging behaviors and social-emotional difficulties in boys than in girls (Powell et al., 2003).

Of greater importance than the reported prevalence is the evidence pertaining to the developmental trajectory and prognosis of children who are identified at any early age with social, emotional, and behavioral difficulties. The outcomes for these children who do not receive effective interventions are bleak. Longitudinal studies have shown that behavior problems that are evident in the preschool years have considerable stability over time and continue to be present well into elementary school and beyond (e.g., Campbell, 2002; Campbell & Ewing, 1990; Dodge, 1993; Loeber et al., 1993; Moffitt, 1993). Moreover, longitudinal analyses indicate that early aggression has a predictive relationship to later childhood academic challenges (Brennan, Shaw, Dishion, & Wilson, 2012; Campbell, Spieker, Burchinal, & Poe, 2006). As a result, children with behavioral difficulties tend to be placed in special education programs and to experience poor school performance throughout their educational histories (e.g., Wagner, Cometo, & Newman, 2003). Furthermore, studies have shown that challenging behaviors during preschool constitute the single best predictor of juvenile delinquency, gang membership, and criminal activity in adulthood (Dishion, French, & Patterson, 1995; Reid, 1993). These studies and others (see Dunlap et al., 2006; Powell et al., 2003) clearly suggest the vital importance of early social-emotional guidance for the lifelong experiences of children with early social-emotional challenges.

Despite the serious implications of untreated social and behavioral disturbances, there was a surprising lack of attention to the problem until the late 1990s and early 2000s. Many professionals assumed that children with social difficulties would “grow out of it,” and there was a pervasive lack of consensus about how to describe, conceptualize, and approach challenging

behaviors. This began to change with the appearance of strong position statements by multidisciplinary authors, organizations, and official reports asserting the importance of identifying, preventing, and resolving challenging behaviors in early childhood at the earliest age possible (e.g., DEC, 1999; President’s New Freedom Commission on Mental Health, 2003; Shonkoff & Phillips, 2000). The appearance of these statements marked an important escalation of concern for young children’s social-emotional development—a concern that was matched by additional research and multiagency federal funding for training and technical assistance to disseminate evidence-based practices for infant, toddler, and preschool programs (Dunlap et al., 2006).

Multi-Tiered Systems of Supportive Interventions

The growing appreciation for the importance of early childhood social-emotional development was joined by an increasing emphasis on the need for effective supports that had been demonstrated to promote healthy social-emotional development, prevent the emergence of social problems, and resolve existing patterns of challenging behavior. Fortunately, a good deal of knowledge about effective practices had accumulated and was beginning to be aggregated (e.g., Conroy, Dunlap, Clarke, & Alter, 2005; Dunlap et al., 2006; Hemmeter, Smith, Sandall, & Askew, 2005; Sandall, Hemmeter, Smith, & McLean, 2005). There was a need to organize the available practices into a practical framework that would facilitate programmatic implementation at all levels of a promotion–prevention–intervention continuum. A convenient and appropriate template was available in the notion of multi-tiered models of prevention, which had been developed in fields such as public health, school psychology, and even early childhood intervention (e.g., Sandall & Schwartz, 2002; Simeonsson, 1991; Sugai et al., 2000; Walker et al., 1996).

Multi-tiered models provide a continuum of evidence-based practices, in accordance with the severity or need of the presenting problem or behavior. Such models begin with a set of strategies that are designed for

all members of a target population; these strategies are intended to promote positive development and desirable behaviors, to lessen the probability that problems will arise. Such “universal” strategies are simple and inexpensive to implement. “Secondary” strategies are designed for members of the population who may exhibit particular risk factors, or for targeted situations in which problems are most likely to emerge. Secondary practices are more costly than universal strategies, and they require greater intensity and focus. “Tertiary” practices are for those individuals who are already affected by problems and who require individualized and relatively intensive and expensive interventions to resolve these problems. There is a subcontinuum of practices within the tertiary category because the intensity of the interventions should always be balanced against the presenting need; however, all tertiary interventions involve strategies that are tailored to the needs of the individuals. It should be noted that there are many examples of multi-tiered systems throughout all arenas of health and educational services. For instance, response to intervention has become a common multi-tiered system for identifying and addressing learning disabilities and other educational challenges (e.g., Fairbanks, Sugai, Guardino, & Lathrop, 2007; Gresham, 2005).

The “pyramid model” is a multi-tiered framework that was developed explicitly for building social competence and preventing and resolving the challenging behaviors of young children (Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003). The model has been described in numerous publications, and it has been the focus of an increasing number of research investigations (e.g., Branson & Demchak, 2011; Hemmeter, Snyder, Fox, & Algina, 2011). Like other multi-tiered systems, the pyramid model includes universal, secondary, and tertiary approaches, with each set of approaches consisting of evidence-based practices. The pyramid model provides a framework that guides early care/education programs and practitioners to identify the continuum of evidence practices that should be delivered to meet the support needs of all children, and to create the systems so that these practices are delivered effectively and efficiently.

For example, the application of the pyramid model within early childhood classrooms would include practices based on research focusing on effective instruction for young children (Burchinal, Vandergrift, Pianta, & Mashburn, 2010; National Research Council, 2001); strategies to promote child engagement and appropriate behavior (Chien et al., 2010; Conroy, Brown, & Olive, 2008); the promotion of children’s social skills (Brown, Odom, & McConnell, 2008; Vaughn et al., 2003); and the implementation of individualized assessment-based behavioral support plans for children with the most severe behavior challenges (Blair, Fox, & Lentini, 2010; Conroy et al., 2005; McLaren & Nelson, 2009). The following sections of the chapter describe the tiers of the pyramid model, discuss evidence-based approaches that might be applied at each level, and describe how practices are applied within the model.

The Universal Tier

Universal Promotion Practices

Universal promotion practices involve the use of broad approaches aimed at supporting the healthy social-emotional development of all young children, as well as procedures and policies allowing for the early identification of children who may be at risk of mental, emotional, or behavioral disorders. Universal practices can be delivered broadly by multiple programs and professionals across systems and communities (e.g., early childhood mental health, health care), or may be provided within programs that offer services and supports to children and families (e.g., within early childhood education programs).

Universal mental health promotion practices and approaches are informed by the large volume of research indicating factors that are predictive of healthy social-emotional development and factors that are linked to increased risk of developmental vulnerability. Decades of research on the psychosocial and biological development of young children have established that responsive caregiving (e.g., sensitivity to a child’s needs, cognitive stimulation, affection, stability, and consistency), reliable support, and healthy physical environments (including

housing, health care, nutrition, economic stability, and high-quality child care) are all linked to healthy social-emotional development (O'Connell, Boat, & Warner, 2009; Shonkoff, 2010).

A young child is profoundly affected by the quality, consistency, and nature of the caregiving relationship. It is through this relationship that the child begins learning the interpersonal and social skills that serve as the foundation for communication, language, and social competence (Bronson, 2000; Campbell, 2002). Children who experience nurturing parental relationships, responsive caregiving, and flexible child-rearing practices within a positive family social climate are less likely to develop persistent social-emotional delays or problem behavior (Campbell, 2002). Research has shown when relationships are compromised by factors such as child maltreatment, harsh parenting, maternal depression, trauma, or lack of reciprocity, there are negative impacts on children's physical and mental health (National Scientific Council on the Developing Child, 2008; Shonkoff, 2010).

The provision of predictable, stable, and high-quality environments is also essential to healthy social-emotional development. Children who are exposed to prolonged stress and adverse experiences (e.g., family stress, neighborhood violence, extreme poverty, neglect) are more likely to develop mental health concerns (National Scientific Council on the Developing Child, 2008; Shonkoff, 2010). Additional factors, such as instability in residency and changes in caregivers, can be related to child problem behavior (Ackerman, Kogos, Youngstrom, Schoff, & Izard, 1999). The qualities of environments and relationships are also considerations for young children who receive care in early education or care environments. About 68% of young children of working mothers spend part of their day in out-of-home care (Child Care Aware of America, 2012). Research has demonstrated that the provision of high-quality care, as defined by responsive caregiving and high-quality environments, is predictive of better social-emotional and behavioral outcomes in children (Howes, Phillips, & Whitebrook, 1992; Love, Meckstroth, & Sprachman, 1997; Peisner-Feinberg et al., 2000).

Universal Intervention Practices

The vast majority of young children thrive when universal promotion practices are in place. However, some children are in situations or family circumstances where this foundational level of support is not provided. For those children, interventions are needed to ensure that families and early care/education programs can provide the responsive caregiving relationships and high-quality environments that are essential for promoting social-emotional development. Interventions at the universal level are interventions designed to accomplish these purposes. Intervention programs that help parents learn parenting skills, approaches to engaging and stimulating their children, and ways of providing a stable environment can enhance the parents' capacity to respond effectively to their children. Common elements of programs that are linked to changes in caregiving and improved social-emotional outcomes for children are that they are behaviorally oriented, use video models and feedback, and teach the caregivers to understand and respond to the children's signals and behavior (Baggett et al., 2010; Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003; Dunst & Kassow, 2007). Parenting programs are often offered by pediatricians, hospital community education programs, home visiting programs, and other family support service programs.

Universal strategies are also a focus for early care/education programs. Programs should ensure that all staff members establish and maintain nurturing and responsive relationships with children, and offer a high-quality environment that will promote learning and social-emotional competence. Early childhood educators who are warm and attentive, and who engage and encourage the children in their care, are both using and modeling qualities that build strong relationships (Raikes & Edwards, 2009). Many early care/education programs have access to early childhood mental health consultants who provide support to practitioners and to the overall programs, to ensure that relationships and early environments are conducive to healthy social-emotional development. Early childhood mental health consultants can also be helpful in guiding practitioners in their relationships with families

of children who have challenging behavior, and can assist programs in their support of family members who may need additional supports, services, or parent training.

An important element that should be present within both pediatric health and early education programs is the use of periodic universal screening to identify children whose social-emotional development may be off track and may need further evaluation. Social-emotional screening during the early years of development allows for the early and efficient identification of children who may be at risk of emotional or behavioral disorders, and ensures access to services for such children (American Academy of Pediatrics, 2006; Squires & Bricker, 2007). Universal screening tools are relatively inexpensive and can be administered in pediatricians' offices, by early care/education providers, or by programs that offer family support services to families with young children. In addition to child-focused screening measures, tools to identify parenting risk factors (i.e., factors that might compromise a caregiver's capacity to promote a child's social-emotional development) should be used. Screening tools to identify maternal depression, child maltreatment, the use of harsh parenting practices, parenting stress, and parental mental illness can be used by health care professionals and community support agencies to identify family members who may need additional supports or services.

In the application of the pyramid model within early care/education programs, universal practices are those that establish nurturing and responsive relationships, and that ensure a high-quality program and learning environment. In regard to responsive caregiving, the pyramid model emphasizes the importance of ensuring that caregivers and teachers build relationships with children and their families; respond to children's conversations; support the communication of children with special needs or language delays and differences; provide specific praise and encouragement of appropriate behavior and social interactions; and work collaboratively with other adults (Burchinal et al., 2010; Fullerton, Conroy, & Correa, 2009; Mill & Romano-White, 1999; Peisner-Feinberg et al., 2000; Pianta, LaParo, Payne, Cox, & Bradley, 2002; Stormont, Smith, & Lewis, 2007). In addition,

the model emphasizes practices related to a high-quality environment that are linked to promoting social-emotional development. These include providing adequate materials; defining the boundaries and activities of play centers; offering a schedule that is balanced across structured and unstructured activities; promoting the engagement of children; structuring transitions between activities; defining behavioral expectations and teaching a small number of rules; and providing clear directions (Brown, Odom, & Conroy, 2001; Chien et al., 2010; DeKlyen & Odom, 1989; Jolivet, Wehby, Canale, & Massey, 2001; Peisner-Feinberg et al., 2000; Sainato, Jung, Salmon, & Axe, 2008).

The Secondary Tier

Secondary Prevention Practices and Programs

Secondary prevention practices and programs are those evidence-based approaches and practices for addressing the intervention needs of children who are at risk of developing persistent mental, emotional, and behavioral challenges and disorders. At this level, intervention approaches are focused on delivering sufficient and effective intervention to support children in learning the critical social, emotional, and communication skills needed for healthy, productive, and positive social interactions with peers and adults.

Prevention efforts at the secondary level range from community-level interventions designed to address targeted risk factors within families to the delivery of interventions by early childhood practitioners that specifically address young children's social-emotional skill deficits. For example, there are strong data supporting the effectiveness of the Nurse-Family Partnership, which provided first-time mothers support from a home visiting nurse, with a goal of strengthening the mothers' caregiving practices. Outcome data from randomized controlled trials examining this intervention indicate that the program resulted in improved child language development outcomes, a reduction of behavioral and emotional problems at age 6, a reduction in preadolescent (age 12) depression and anxiety, and a reduc-

tion in arrests and convictions, as well as additional important maternal and child outcomes (Eckenrode et al., 2010; Kitzman et al., 2010; Olds et al., 2004). Another example of a community-level prevention intervention is the Triple P—Positive Parenting Program system, which was developed in Australia, was replicated in the United States, and has been extensively evaluated with studies that include randomized trials (Foster, Prinz, Sanders, & Shapiro, 2008; Prinz, Sanders, Markie-Dadds, Tully, & Bor, 2009; Sanders, Markie-Dadds, Tully, & Bor, 2000; Sanders & McFarland, 2000). The Triple P system provides multiple levels of parent training support (from universal promotion to more intensive tertiary intervention for families of children with serious behavior problems) to strengthen parenting skills and effectively address children's challenging behavior.

Additional parent training approaches that have demonstrated their effectiveness at improving the parents' capacity to promote children's social-emotional skills include the Incredible Years (IY) suite of programs and Kazdin's Parent Management Training (PMT) program. The IY system offers multiple components related to promoting the social skills of children and their families, including a baby parent program; a toddler parent program; a preschool parent training program for children ages 3–6; an advanced parent program for parents of children ages 4–12; a child treatment program that is delivered to small groups; a classroom program for children ages 3–8; and a teacher training program designed to treat children's early-onset conduct problems. The basic parent training program is conducted over 18–20 weeks with small groups of parents. The program is led by a trained therapist who guides discussion and uses video vignettes of modeled parenting skills, with a focus on developing nurturing and responsive relationships, providing predictable home routines, using effective child discipline techniques, and teaching children social-emotional problem-solving skills. The IY basic parent training program is supported by a wealth of research and numerous randomized controlled studies that have demonstrated its effectiveness for improving parenting skills and improving children's social-emotional outcomes (see research

review in Webster-Stratton & Reid, 2010). Reported effect sizes (Cohen's *d*) for reductions in harsh parenting range from 0.74 to 0.81, for increasing positive parenting from 0.46 to 0.51, and for reductions in child problem behavior at home from 0.41 to 0.67 (Webster-Stratton & Reid, 2010).

PMT (Kazdin, 2010) is a clinically delivered parent training program of 12 weekly treatment sessions lasting 45–60 minutes each. It is provided to parents of children meeting the DSM criteria for conduct disorder or oppositional defiant disorder. This approach is used for parents of children younger than 6 years, while parents of children older than 6 receive PMT combined with an additional treatment that is child-focused. In PMT, parents are taught to use positive reinforcement; shaping; ignoring; time out from reinforcement; reprimands and consequences for low-rate behaviors; and negotiating and contracting. Parents are taught the skills by a therapist using modeling, role play, and rehearsal in sessions, and then apply those skills with their child at home. Although the sessions are manualized, the discussions and examples are individualized to each family and child's unique circumstances and behaviors. Research on outcomes associated with this approach indicate that the intervention results in reductions of children's oppositional behavior, aggression, and antisocial behavior, as well as increases in appropriate social behavior (Kazdin, Marciano, & Whitley, 2005; Kazdin & Wassell, 2006).

Classroom Interventions at the Secondary Tier

The secondary tier of the pyramid model guides early educators and practitioners to use interventions that will improve the social-emotional skills of children who are at risk of developing persistent challenging behavior. Skills that are of particular concern for intervention are emotion regulation, conflict resolution or social problem solving, and friendship skills (e.g., initiating interactions, playing with others). For children with social-emotional delays, practitioners should be poised to provide instruction in identifying and expressing emotion; using various strategies for self-regulation; handling anger and disappointment; engaging in

social problem solving; cooperative responding; and collaborating with peers (Bierman et al., 2008; Denham & Burton, 1996; Domitrovich, Cortes, & Greenberg, 2007; Hune & Nelson, 2002; Kam, Greenberg, & Kusche, 2004; Sheridan, Knoche, Edwards, Bovaird, & Kupzyk, 2010; Vaughn et al., 2003). Interventions at this level must be planned, systematic, and provided with sufficient intensity and focus to result in skill changes for children. In addition, teachers should seek to partner with families in the delivery of these interventions, so that the children's skill changes can occur rapidly and generalize to home and community contexts.

There are multiple curricula for addressing children's social-emotional delays that are evidence-based and used within early care/education programs (see review by Powell & Dunlap, 2009). One such approach, First Step to Success, is described in another chapter in this volume (see Walker et al., Chapter 29) and is not described here. The IY suite of programs includes a classroom curriculum, the Dina Dinosaur Classroom Curriculum, that can be delivered by teachers and includes 90 lessons on social-emotional skills. The curriculum is delivered two to three times a week within large-group circle time, followed by a short small-group practice activity. The curriculum materials include video vignettes for children to watch and discuss, and life-size puppets that introduce and role-play lessons with the children (Webster-Stratton & Reid, 2004). The curriculum has been evaluated in randomized trials as a small-group treatment program for children with conduct problems, and has been shown to be effective in reducing such children's challenging behavior and improving their social skills (Webster-Stratton & Hammond, 1997; Webster-Stratton, Reid, & Hammond, 2004).

Another classroom curriculum that provides lessons in emotional literacy, self-regulation, friendship skills, and problem solving is the Preschool Promoting Alternative Thinking Strategies (PATHS) curriculum (Domitrovich et al., 2007). Preschool PATHS is a modification of the regular PATHS curriculum, which has a substantial evidence base with elementary-age children in regular and special education classrooms (Conduct Problems Prevention Research

Group, 1999; Greenberg, Kusche, Cook, & Quamma, 1995; Kam et al., 2004). A randomized study of Preschool PATHS in 20 classrooms showed that children who received the curriculum had higher emotional knowledge and were rated by teachers and parents as being more socially competent and less withdrawn than children in control classrooms. There were significant group differences on teachers' ratings of internalizing behavior, but no group differences on ratings of externalizing behavior. Preschool PATHS has also been studied as part of Head Start's Research-based, Developmentally Informed intervention, which has examined the implementation of PATHS paired with a language and literacy intervention. In that randomized study of implementation in Head Start classrooms, there were significant positive effects on children's emotional understanding and social problem solving, and teacher reports of child aggression (Bierman et al., 2008).

In the application of the pyramid model, early care/education program staff members are guided to ensure that the curriculum includes a strong emphasis on social-emotional teaching for all children, and that systematic interventions are delivered to children with social-emotional delays. Children who need more individualized instruction may be identified through a social-emotional screening tool or through a system that tracks behavior incidents (Fox & Hemmeter, 2009). Once social-emotional concerns are identified, targeted social-emotional instructional goals can be identified through the use of a curriculum-based assessment tool. The Social Emotional Assessment Evaluation measure is a tool specifically designed to provide information on a child's social-emotional repertoire and to develop high-quality (i.e., functional and generative) goals that are appropriate for embedded, systematic instruction (Squires & Bricker, 2007). After such goals are identified, an instructional plan is designed to ensure that the child will receive multiple opportunities for learning within daily activities, and that systematic instructional procedures will be used to promote rapid acquisition of and fluency in the targeted skills. The instruction plan should also include a progress monitoring tool to provide frequent data on the child's response to instruction and

acquisition of the targeted skill. Although providing focused instruction in this manner may be a new approach for many early educators, the stakes are high when targeted social-emotional skills are being taught at a prevention level. We assert that an intensive effort is warranted when there is a focus on preventing a child from starting on a trajectory of persistent challenging behavior.

The Tertiary Tier: Individualized Practices

Tertiary interventions are delivered to children who present with persistent challenging behavior. These interventions are often more expensive to implement, as they require substantial professional resources to design and guide. However, when children have persistent behavior challenges, it is vital that intervention be provided immediately and intensively. In this section, we describe three different intervention models that are evidence-based and have unique applications: the Parent–Child Interaction Therapy (PCIT) program, the Regional Intervention Program (RIP), and individualized positive behavioral supports (IPBS).

PCIT was designed as a clinically based parent training program for parents of young children (ages 2–7) with disruptive disorders (Zisser & Eyberg, 2010). It focuses on teaching parents how to establish an “authoritative” parenting style, which is defined by the PCIT developers as including nurturance, clear communication, and limit setting. The treatment sessions (1–2 hours) are divided into two distinct phases: child-directed interaction (CDI) and parent-directed interaction (PDI). CDI is used to enhance the parent–child relationship by coaching parents in their use of nondirective play, praise, and descriptive commenting. The CDI sessions continue until the parents meet criteria for the use of these skills during an observation. After the criteria are met, training begins on PDI. The PDI sessions are focused on helping parents learn how to set limits, how to give clearly stated instructions, and how to follow through with directives. The typical duration of treatment is 13 total treatment sessions.

There is a substantial research base supporting PCIT, including demonstrations of its effectiveness with families of chil-

dren with conduct disorder (e.g., Chase & Eyberg, 2008), in group treatment (e.g., Niec, Hemme, Yopp, & Brestan, 2006), with families of children with intellectual disabilities (Bagner & Eyberg, 2007), and with mothers who had histories of maltreatment (e.g., Thomas & Zimmer-Gembeck, 2011; Urquiza, Zebell, & McGrath, 2005). Outcomes from studies examining the use of PCIT include positive changes in child behavioral functioning, reductions in parent/teacher-rated behavior problems, increases in compliance, a reduction in child/teacher ratings of hyperactivity and inattention, and a decrease in whining/crying during clinic sessions (Gallagher, 2003).

RIP was established in Nashville in 1969 to provide intervention services to children under the age of 3 years who had autism, but it was quickly expanded to provide services for all preschool children with serious behavioral concerns (Strain & Timm, 2001). RIP offers a unique model of parent and child intervention by placing parents in the primary role of interventionists, and by using RIP parent graduates to provide training to incoming parents in strategies of positive behavior management (Timm, 1993). The program also provides a preschool setting where children and their parents attend together. Families are taught skills in behavioral training modules, with a focus on teaching parents in the use of shaping, reinforcement, and response to child challenging behavior within training sessions. When family members are not in training, they work within the classroom teaching children, collecting data, or providing child care to siblings who accompany the family to treatment sessions. Once families complete treatment, they pay back their services by providing support to the new families who have entered the program.

Research on the RIP model indicates that durable changes in parenting skills result, and that children are more compliant and have reductions in challenging behavior (Strain & Timm, 2001). A long-term follow-up study of 40 RIP graduates was conducted when the children were in elementary or middle school. A direct observation procedure was used to examine child compliance, behavior, and social interactions within classrooms. Children were observed for their frequencies of compliance with adult direc-

tives, on-task behavior, and positive social interactions, which were in the same range as those of peers who had not been identified previously as having behavioral issues. A follow-up was also conducted with RIP child participants when they were adults (25–32 years old). The researchers conducted interviews to determine lifestyle outcomes; they found that all but one of the former child clients were employed or in graduate school, and that all had graduated from high school. Fifty percent had graduated from college, and none had been placed in a special education program during junior high or high school (Strain & Timm, 2001).

The two tertiary intervention models described above are interventions provided by or coordinated by clinical staffers who offer the programs in a community treatment context. The third model we describe is a more general approach that can be used within early care/education programs or by professionals within the community who offer consultation to families within home and community environments (Dunlap & Fox, 2009). This approach, IPBS, is recommended for programs that are implementing the pyramid model.

IPBS provides a process for the development and implementation of an assessment-based individualized behavioral support plan. At the tertiary intervention level, this plan is designed to provide comprehensive support to a child within routines across school, home, and community settings, and to result in reductions of challenging behavior and improvements in communication and social skills. The effectiveness of IPBS for individualized behavior intervention has been supported by a substantial number of research studies (see summaries by Carr et al., 1999; Dunlap & Carr, 2007; Dunlap & Fox, 2011).

The IPBS process is initiated when a child has persistent behavior challenges that are nonresponsive to typical child guidance or behavior management procedures. The initial step of the process is to convene a team consisting of the teacher(s), family members, and professional staff who work with the child. The team is generally facilitated through the IPBS process by a professional who is deeply knowledgeable about IPBS. Typically, the facilitator is a behavior analyst, school psychologist, or mental health

consultant. The team is guided through a process of functional assessment designed to gather data on the antecedents and consequences that are related to the behaviors of concern. Functional assessment results in the development of hypotheses about the function or purpose of the challenging behavior, as well as in the identification of triggers related to the behavior and consequences that contribute to the maintenance of the challenging behavior. Once hypotheses are identified, the team develops a behavioral support plan that is designed for implementation by all team members in all relevant environments. All efforts are made to ensure that plans can be developed to address issues at school, at home, and in the community. A comprehensive plan that is implemented with fidelity is likely to yield the greatest child improvements.

The behavioral support plan includes these core components: (1) behavioral hypotheses, which include identification of the triggers, functions, and maintaining consequences; (2) prevention strategies, which are used to address the antecedents or triggers of the behavior; (3) replacement skills, which are taught to the child to serve as alternatives to the challenging behavior; and (4) new responses to the challenging behavior when it occurs and to the child's use of replacement skills (Dunlap, Strain, & Fox, 2012; Dunlap, Wilson, Strain, & Lee, 2013).

Conclusion

The importance of young children's social and emotional growth has been fully appreciated for more than a decade, and a rich assortment of strategies have been developed for promoting healthy social-emotional development, preventing the emergence of challenging behaviors, and intervening when difficult behaviors are already present. In this chapter, we have discussed the pyramid model as a conceptual framework for describing an array of evidence-based programs and practices along all tiers of the promotion–prevention–intervention continuum. Although continued development and evaluation of such practices remain significant concerns, perhaps the greatest challenge for the coming decades will be arrang-

ing the systems, administrative structures, and funding mechanisms in order to facilitate comprehensive, scaled-up implementations of those strategies that have already been shown to be effective (Blase, Van Dyke, Fixsen, & Bailey, 2012). As we improve our ability to implement evidence-based practices with consistency and fidelity in the numerous settings inhabited by young children, we can anticipate widespread social and behavioral benefits that will persist well beyond the early childhood years.

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The Evidence Base of the First Step to Success Early Intervention for Preventing Emerging Antisocial Behavior Patterns

**Hill M. Walker, Herbert H. Severson, John R. Seeley, Edward G. Feil,
Jason Small, Annemieke M. Golly, Andy J. Frey, Jon Lee, W. Carl Sumi,
Michelle Woodbridge, Mary Wagner, and Steven R. Forness**

The past two decades have seen enormous changes, some negative and some positive, in both school settings and the social-behavioral ecologies that exist within them. For example, early childhood educators have seen steady declines in the school readiness of children at the beginning of their school careers, due to the declining social and economic conditions of our society in general and to the multiple risks to which marginalized children are exposed before school entry in particular (Qi & Kaiser, 2003). The demographic, cultural, attitudinal, and experiential diversity of the K–12 student population has undergone enormous changes in this same period, thereby complicating the school's task of providing equal educational access to all who come through the schoolhouse door. The rampage school shootings of recent years have forced school administrators to reexamine the security and safety of the school and surrounding grounds. This crisis, exemplified by the Columbine and Thurston school shooting tragedies (and more recently by the Newtown massacre), has made fortress-like structures out of many urban schools and has ushered in a new generation of architectural designs for schools and a plethora of strategies for making schools safer and more

effective—many of which have limited evidence as to their impact (see Dwyer, Osher, & Warger, 1998; Forness & Beard, 2007; Osher, Dwyer, & Jackson, 2004; Sprague & Walker, 2005). There has been a greatly enhanced emphasis upon prevention strategies, not only due to the urgency of these conditions, but also to the broad-based adoption of the multi-tiered positive behavioral interventions and supports (PBIS) systemic approach to improving the ecology and outcomes of schooling (Horner, Sugai, Todd, & Lewis-Palmer, 2005; Institute of Medicine, 1989). Finally, the evidence-based interventions movement in psychology and education has stimulated development of more rigorous evaluative standards for testing interventions as to their efficacy and effectiveness (Burns & Hoagwood, 2002; Detrich, Keyworth, & States, 2008; Flay et al., 2005). In our view, these and other influences have coalesced into an increased demand for the development of universal, selected, and indicated interventions that address the Institute of Medicine's goals of primary, secondary, and tertiary prevention as applied to schools, and that enable school resources to be utilized more cost-efficiently (Frey, Lingo, & Nelson, 2010; Walker et al., 1996).

The purpose of this chapter is to provide a comprehensive overview and update of the evidence base and current status of the First Step to Success (FS) early intervention program, which was created in the early to mid-1990s. FS was developed through a 4-year model development grant from the U.S. Office of Special Education Programs to Hill Walker that ran from 1992 to 1996. This development grant involved four sets of collaborative partners representing the University of Oregon (U of O), the Oregon Social Learning Center (OSLC), Eugene School District 4J, and the Oregon Research Institute (ORI). FS was designed as a selected early intervention for achieving secondary prevention goals and outcomes within the context of schooling (see Walker et al., 1997, 1998). The program was based on a foundation of prior research on families and antisocial children conducted by OSLC, under the direction of Gerald Patterson and his associates, and two decades of school intervention research conducted at the U of O by Walker and his colleagues.

To date, approximately \$24 million in competitively awarded federal and state grants have been invested in the FS program's development, initial trial testing, the conduct of efficacy and effectiveness evaluations, and in applications to students with diverse conditions (students with attention-deficit/hyperactivity disorder [ADHD], tertiary-level at-risk students), student populations (African American, Native American, Latino, Native Hawaiian, Asian American), and settings (preschool, kindergarten, primary grades). The FS program has been successfully applied with over 2,000 K–3 students in the past decade and a half. Adoptions and implementation sites include over half the U.S. states; four Canadian provinces; and the countries of Holland, Norway, Turkey, Japan, Australia, and New Zealand. In addition, the FS program has been translated into French and Spanish.

The overarching goals of FS are to (1) assist at-risk students in achieving the best start possible to their school careers; (2) to engage parents in collaborating with schools in developing their children's current and long-term school success; and (3) to enhance the bonding and engagement of students with the schooling process. FS targets a series of skills that enhance academic

engagement and contribute to satisfactory *teacher-related* and *peer-related* social-behavioral adjustment, which are two of the most critically important relationships that all students need to forge in their school careers (Gresham, 2010; Walker, Irvin, Noell, & Singer, 1992).

In what follows, we address the following major topics: (1) description of the FS program and its modular components; (2) FS trial testing and outcome evaluation studies involving single-case, quasi-experimental, and experimental research designs that relate to the evidence standards of efficacy, effectiveness, and program readiness for dissemination; (3) FS program enhancements; and (4) concluding remarks.

Description of the FS Program and Its Components

This section presents the theoretical rationale and conceptual model underlying the FS program. A brief overview and description of FS and its key modular components are provided. Finally, the development process used to create the FS program is also described.

Conceptual Rationale

The conceptual foundation and underpinnings of the FS program are based on a social learning formulation of human behavior in which social contingencies are considered instrumental in accounting for behavioral outcomes (Patterson, 1982). Social reciprocity and coercion are two facets of social systems identified, described, and researched at length by Patterson and his associates; the two drive much human behavior, especially within family constellations. Social learning contingencies, along with these two constructs, often provide a family ecology in which coercive, antisocial behavior patterns are selectively reinforced and strengthened (albeit inadvertently) by social agents' interactions within this context. At-risk children and youth growing up in such environments frequently learn highly efficient coercive, antisocial strategies and bring them to the schooling process, where they eventually lead to social isolation and rejection by both teachers and peers (Patterson, Reid, & Dish-

ion, 1992; Reid, Patterson, & Snyder, 2002). The aim of FS is to reverse these contingency arrangements and to teach at-risk target students an equally efficient but adaptive set of skills and strategies for achieving their social goals, responding to demands from others, and coping more effectively with their social environments. Parents, teachers, and peers are involved in the FS intervention as program implementers and supportive collaborators.

Program Overview and Description

The FS program is designed to support students who enter their schooling careers with challenging behavior that comes primarily from risk exposure prior to school entry. The program is appropriate for students in grades K–3 and is focused on assisting at-risk students in getting off to the best possible start in their schooling. FS consists of three modular components designed to work together, even though each can stand alone. These are (1) universal screening and identification; (2) school intervention; and (3) homeBase, which involves FS parent participation and training. Universal screening is designed to identify appropriate candidates for the program. The FS school intervention component reinforces and supports a child's academic and social success. The homeBase component instructs and supports parents in teaching their child school success skills at home, which are then recognized and reinforced by the teacher when they are displayed in school. FS targets such school success skills as doing one's assigned work, getting along with others, cooperation, problem solving, communication and sharing, and so on. Daily communication among the regular teacher, coach, and parents regarding the target student's progress during the initial phase of the FS program establishes a pattern of monitoring that enhances both implementation quality and child outcomes.

The screening component of FS is designed to give students who have challenging behavior problems an equal chance to be identified for the program, and also to screen out those who either do not require an intervention as intensive as FS or those who require tertiary-level intervention(s) due to the severity of their problems. The FS school intervention module is implemented

after teacher agreement to participate in its implementation has been obtained, and parental consent and approval for the child's participation are received.

The FS program is set up and operated initially by a behavioral coach (e.g., a behavioral specialist, early interventionist, or school psychologist), who then turns the program over to the regular teacher after the program is well established and provides support and supervision for the remainder of the implementation period. The coach invests a total of 40–50 hours of time in program implementation, and the participating teacher incorporates the program procedures into his or her normal classroom management activities. FS implementation requires completion of 30 program days from start to finish and has three phases: (1) the coach phase, (2) the teacher phase, and (3) maintenance. For the first 20 days, each program day has a point total criterion that must be met; if not, a recycling procedure comes into effect, wherein the target student returns to a previously successful program day before attempting the failed day again. Thus it is rare for a student to complete all 30 program days within a minimum of 6 weeks (i.e., 5 program days per week \times 6 weeks); as a rule, full FS implementation and program completion require anywhere from 2 to 3 months because most students require multiple recycled days.

The school intervention component of FS teaches the target child an adaptive behavior pattern that enhances school success, as well as friendship-making skills for the improvement of peer relations. Group dependent contingencies are used to motivate the target student and peers at school, and individual contingencies and home rewards provide incentives for mastery of school success skills at home, along with their display in school contexts. When a reward criterion is met in the classroom, as determined by the teacher and coach, the target child and peers engage in a brief activity reward (e.g., a classroom game, extra recess) at school, and the target child selects from a menu of home rewards preapproved by parents. The FS target student earns points and praise for engaging in academic performance and appropriate classroom behavior (e.g., following classroom rules, cooperating, and sharing), while being supported in these efforts by peers

who have a vested interest in the student's achieving the reward criterion.

After completion of program day 10, the student's parents are contacted to see whether they would like to participate in homeBase, which involves learning how to teach school success skills at home and to collaborate with the teacher and coach to facilitate the transfer and demonstration of these skills at school. Over a 6- to 8-week period, parents (or other primary caregivers) meet weekly with the FS coach, usually in their home, to learn how to teach the school success skills via reading, discussion, role plays and demonstrations. Each week's parent-coach meeting focuses on one skill, with review and discussion of previously learned skills as needed. The specific homeBase skills taught are communication and sharing, cooperation, limit setting, problem solving, friendship making, and self-confidence. Parents are provided with a manual containing all the information and accompanying materials needed to implement homeBase. The coach provides support, supervision, and troubleshooting of any problems and issues that arise during and following the program's implementation, and also serves as a communication bridge between the teacher and school.

The use of formal reinforcement procedures (e.g., points, home and school rewards) are phased out completely by the end of program day 20. The last 10 program days involve a maintenance phase, which has four options ranging from enhanced praise to brief reinstatement of the full FS program. It is highly recommended that the FS coach continue to monitor the child's progress and the sustainability of the teacher's and parents' behavior after the program is terminated.

Development of the FS Program

The FS program was developed, tested, and revised over a 4-year period. A series of informal, quasi-experimental studies was used to trial-test components of the FS intervention during its initial development phase. The FS screening procedures relied upon research conducted by Walker, Herbert Severson, and their colleagues on the use of teacher rankings, ratings, and behavioral observations in the universal screening and

identification of students having challenging forms of behavior. The school intervention procedures were based on the Contingencies for Learning Academic and Social Skills (CLASS) program for acting-out children, previously developed and researched by Hops, Walker, and Greenwood (see Hops & Walker, 1988; Walker, Hops, & Greenwood, 1984). OSLC investigators (Reid and Kavanagh) constructed an adaptation of their parent training-intervention model for antisocial children and youth that would allow the direct teaching of school success skills to parents by a behavioral coach. These three modules were then implemented, in combination, for a selected number of cases representing the K-3 grade range, and were examined for feasibility, logistical issues/problems, and any key implementation delivery issues raised by them. Searches of literature and published programs in these three domains (screening, classroom intervention, and parent training) were conducted to identify any needed enhancements that might improve the modules' efficacy, acceptability, and ease of delivery. Finally, a manual and user guide were published to enable replication and adoption.

Trial Testing and Outcome Evaluations of the FS Program

This section reviews the evidence base for the FS program. It describes the mix of research designs and approaches governing the ongoing process of establishing the program's efficacy and effectiveness, along with the diversity of student populations who have been exposed to FS in this process. Major topics covered in this section include (1) approaches to researching the FS program; and (2) efficacy and effectiveness studies involving single-case, quasi-experimental, and experimental research designs.

Approaches to Researching the FS Program

We are advocates of using a mix of single-case and group designs to address key questions in a program of research such as that used to develop and validate the FS intervention (Walker, 2004; Walker et al., 1984). Single-case designs provide a robust information yield in relation to implementation

effort and complexity—*particularly* when deployed in the early stages of a research and development process. Their sensitivities to both behavioral process (during the intervention) and outcome(s) (after the intervention) provide additional advantages in this context. We have used single-case designs (1) to evaluate potential components of a larger intervention package; (2) to generate relatively low-cost information on logistical, implementation, and intervention delivery questions; and (3) as a vehicle for establishing internal validity (Horner et al., 2005). In contrast, we have relied upon quasi-experimental as well as experimental designs to investigate both the internal and external validity of this program and similar ones that we have developed in past research (Hops & Walker, 1988; Walker, Hops, & Greenwood, 1981). Such designs provide perhaps the ultimate test of an intervention's efficacy and/or effectiveness. Using randomization procedures in the implementation of an applied intervention within school settings is difficult, complex, and expensive in terms of required time and effort (Walker, Forness, & Lane, in press). However, in spite of the logistical challenges they present, these designs are considered the “gold standard” for evaluating empirical outcomes of applied interventions (Gersten et al., 2005). In our view, they are best used, as a general rule, in the later rather than earlier stages of an intervention's development. In most cases, other investigators' studies of the FS program have utilized quasi-experimental and experimental designs.

Over the past decade and a half, a combination of research design strategies has been employed to develop and validate First Step (i.e., single-case studies, quasi-experimental designs, and randomized experimental designs). As a consequence, the evidence base for the FS program is informed by the “hierarchy” evidence standard as opposed to the “threshold” standard of evidence (Drake, Latimer, Leff, McHugo, & Burns, 2004; Walker et al., 2009). Below, we describe the evidence base of FS empirical studies using this mix of research designs, and we describe FS studies according to Flay and colleagues' (2005) classification system in terms of those authors' criteria for efficacy, effectiveness, and dissemination.

Single-Case Efficacy Research

Starting in the late 1990s, single-case methodology was implemented in a series of studies investigating the FS program's efficacy and in documenting the process of behavior change across the 30-program-day FS intervention cycle. These studies were conducted primarily by investigators associated with the FS program's development and evaluation. In addition, Robert Horner and his associates conducted another series of studies in the early part of the 2000s to examine factors that could account for the performance of students who met eligibility criteria for FS but proved to be weak responders or nonresponders to the program. As part of this work, they also evaluated enhancements that could potentially improve the responsiveness of these target students to the FS program. Collectively, these studies demonstrated (1) causal relationships between the FS program's implementation and behavior change of target students; (2) program efficacy with African American and Native American target students; (3) cross-cultural replication of program effects; (4) positive, collateral outcome effects on the ecology of the classroom, peers in general, and classmates with problem behavior in particular; (5) positive changes in rates of teacher praise and reprimands; and (6) improvements in teacher implementation fidelity. Citations for the studies that produced these effects are listed at the end of this chapter, following the References list.

These single-case studies have played a key role both in the development of the FS program and in efforts to establish its efficacy. As mentioned earlier, their high information yield, ratio of low implementation effort to value of achieved outcomes, and relative sensitivity in documenting important interactions between independent and dependent variables over time are invaluable features of their use in applied research on behavioral interventions.

Group Design Efficacy Research

Both quasi-experimental and experimental designs have been used in investigations of the FS program's efficacy. These studies are now described.

QUASI-EXPERIMENTAL STUDIES. Quasi-experimental designs have been used by the FS developers and other researchers in conducting group-level replications of the FS program. Golly, Stiller, and Walker (1998) reported an investigation in which two studies were conducted. Study 1 involved a within-participants replication of the FS program's effects across five dependent measures that had been utilized in prior studies (i.e., academic engaged time [AET], adaptive behavior, maladaptive behavior, aggression, and social withdrawal). Study 1 participants were 18 master's- and doctoral-level students in school psychology and special education, who were enrolled in a 12-week practicum in which they mastered the FS program's implementation protocol and implemented the program for one student under the supervision of Walker and Severson. Results indicated that FS was successfully replicated, with achieved outcomes nearly identical to those reported for the original trial test study sample (Walker et al., 1998).

Study 2 was focused on a survey designed to (1) determine the proportion of FS trainees who actually implemented the program following training; (2) identify barriers to implementation; and (3) catalogue FS program features that consumers liked and regarded as critical to its successful application. Participants were 141 staff members from schools in Lane County, Oregon; they received the standard FS training in a workshop format, followed by an evaluation survey that was mailed to them. Workshop participants consisted of general education teachers, teacher assistants, school counselors, and parent volunteers. This investigation was useful in highlighting the need for stronger and ongoing connections among FS training, FS expert trainers, and coaches, as well as the provision and coordination of supports and the technical assistance necessary to enable actual FS implementation after such training.

Nelson and colleagues (2009) included FS as a selected intervention in a complex study investigating the impact of a three-tiered behavioral intervention conducted over a 4-year period that focused on 407 students in grades K–3 drawn from seven elementary schools. Students from one of four longitudinal cohorts participated in this study;

there were 153 universal intervention students, 173 selected intervention students who received the FS intervention, and 81 students who received an indicated intervention (multisystemic therapy). Dependent measures included a range of social skills, problem behavior, and academic performance measures. Employing a series of two-level linear growth analyses, Nelson and colleagues concluded that the three-tiered behavior model used in the study achieved their hypothesized outcomes in social and behavioral domains, but not in academic performance areas. FS students achieved significant gains on study measures of these two domains that were maintained at 1- and 2-year follow-up assessments.

Overton, McKenzie, King, and Osborne (2002) reported a FS replication study in which the program's developers were asked to provide training in FS implementation and in the reliable application of previously used FS measures (AET). Five school districts in Oklahoma participated in the study—a within-participants design involving 22 kindergartners who showed early signs of developing antisocial behavior patterns and came from areas representing high rates of poverty. The primary study measures were behavioral recordings of AET and the Child Behavior Checklist (CBCL; Achenbach, 1991), which were completed by participating teachers and one or both parents at preintervention, postintervention, and 1- to 2-year follow-up. Results indicated substantial increases in AET that were maintained at relatively high levels (90+% of observed time) into the end of the following school year in which FS was implemented. Scores on the CBCL showed statistically significant pre–post changes on parent ratings for the Externalizing scale, the Aggression subscale, and the total score. For teachers, their ratings showed significant changes for the Externalizing scale and total score, but not for the Aggression subscale. However, none of these changes were maintained at 1-year follow-up assessments, according to either parent or teacher reports.

The series of quasi-experimental studies described above, while lacking the rigor and precision of true experiments, nevertheless were instructive in highlighting many of the logistical and implementation obstacles

encountered in translating research into effective practices that meet the needs of educators. Producing socially valid and acceptable outcomes in the context of these numerous constraining influences within the often chaotic ecology of public schools is certainly a challenging task—especially as resources available for schooling continue to shrink.

EXPERIMENTAL EFFICACY STUDIES. Three experimental studies of the FS program's efficacy are briefly described here. One study was conducted in Turkey and received local university support; the other two were funded by the U.S. Office of Special Education Programs and the Institute of Education Sciences (IES), respectively.

Walker and colleagues (1998) reported the first group design study of the FS program's effects, using a randomized, wait-list control group involving two cohorts ($n = 24$ and 22 , respectively). The two cohorts were identified and exposed to FS during the 1993–1994 and 1994–1995 school years, respectively. Cohort 2 served as a control group for cohort 1 during intervention year 1 and then received the intervention during intervention year 2. Participants in both cohorts were followed up through grades 1 and 2 with differing teachers and peer groups. All participants were enrolled in general education kindergarten classrooms. Twenty-six percent of the participants were female, 33% were receiving supplemental school services, 7% were children of minority status, and 37% were receiving free or reduced lunch. None had been certified to receive special education services. Across the two cohorts, 33 of 46 participants scored in the clinical range on the CBCL (Achenbach, 1991)—14 in cohort 1 and 19 in cohort 2. There were no differences between cohorts on the dependent measures used, with participants in both cohorts showing substantial pre–post gains on four of five dependent measures (adaptive behavior, maladaptive behavior, CBCL Aggression, CBCL Social Withdrawal, and AET). Effect sizes for these measures ranged from 1.17 for adaptive behavior to 0.26 for withdrawal. Follow-up assessments on these same dependent measures showed moderate to high durability of effects 1–2 years after the intervention. The wait-list control feature was a limitation of

this study, as it was not possible to evaluate the maintenance outcomes with comparable assessments of an untreated control group in follow-up. However, Walker and colleagues judged the results of this study to show promise for FS as a selected intervention capable of achieving secondary prevention goals and outcomes.

Diken, Cavkaytar, Batu, Bozkurt, and Kurtyilmaz (2010) conducted an experimental evaluation of the FS program involving 24 students, their parents, and teachers from four K–8 elementary schools in Turkey. Students were selected from K–2 classrooms and exposed to FS during the 2007–2008 school year. The 24 students were randomly assigned to either experimental (FS) or control (usual-care) conditions, with 12 students in each, equally divided among the three grade levels. Pre–post assessments were implemented to detect intervention effects, and both qualitative and quantitative analysis methods were used to evaluate study results. Results indicated that there were significant increases in the social skills of FS students, as compared to controls, which were attributable to FS exposure; the Turkish version of the Social Skills Rating System (SSRS; Gresham & Elliott, 1990) was used to assess these. In addition, participating teachers and parents reported significant positive changes in problem behavior and social skills of the FS target children, and most appeared satisfied with the program.

Walker and colleagues (2009) reported a large-scale randomized controlled trial of the FS program's efficacy, funded by a 4-year grant from the IES. The study was conducted in the Albuquerque Public Schools (APS) with a diverse sample of students in grades 1–3. Year 1 of this study involved planning, subject participant recruitment, recruitment of schools, teachers, and coaches, and staff training. Years 2 and 3 were intervention years and involved two cohorts of 99 and 101 participants, respectively, which were randomly divided into treatment and control conditions. Year 4 was focused on follow-up and maintenance activities, training additional APS staff, data analysis, report writing, and dissemination efforts. The APS sample of 200 cases was 73% male and highly diverse: 57% were Hispanic and 24% were European American, with the remain-

ing sample distributed across four under-represented groups that included a small proportion of African American students. Eighty-eight percent of the sample came from English-speaking households, and 70% were eligible for free or reduced-price lunch. Outcome measures examined social skills, classroom behavior (adaptive and maladaptive), academic performance, and oral reading fluency. These measures were in the form of teacher and/or parent ratings, as well as direct performance assessments of students. Parents and teachers responded to the same rating scale measures of social skills and adaptive and maladaptive behavior. AET was recorded in all experimental and control classrooms. Pre- and postintervention assessments showed relatively strong effects for the social, adaptive, and maladaptive behavior and AET domains, but no effects on direct academic performance measures. However, the Academic Competence subscale of the SSRS was responsive to the FS intervention, with an effect size of 0.66. For maladaptive behavior, effect sizes ranged from 0.62 to 0.73; adaptive behavior and social skills effect sizes ranged from 0.54 to 0.87; and effect sizes for academic performance ranged from .13 to .66. This study represented the first large-scale randomized test of the FS program within a diverse, large urban school district. The relatively robust intervention effects achieved were gratifying. However, follow-up and maintenance effects were disappointing. One year after the end of intervention, most of the gains for FS students in the two cohorts decayed, with no differences detectable between experimental and control participants. Maintenance procedures for sustaining FS program gains have been developed and tested initially. They are described in a forthcoming report by Woodbridge, Sumi, Wagner, Javitz, and Marder (2013).

Effectiveness Research

Two studies of the FS program's effectiveness have been conducted to date. One is quasi-experimental and was conducted in the state of Oregon; the other is a large-scale experimental study with five implementation sites across the United States. Each is described below.

Quasi-Experimental Effectiveness Study

Over a 2-year period, Walker and his colleagues conducted an investigation of the FS program that was implemented in all 36 Oregon counties under "business-as-usual" classroom and school conditions. In 1999, the Oregon legislature provided a \$450,000 grant over a 2-year period to begin making the FS program available to all school districts and individual elementary schools that wished to adopt it. The U of O Center on Human Development received a contract from the Oregon legislature to provide training to school staffs in districts that adopted the program. The Human Services Research Institute (HSRI) in Salem, Oregon was awarded a subcontract by the legislature to conduct a program evaluation of this initiative. Results of this evaluation study are reported in Walker, Golly, McLane, and Kimmich (2005). A pre-post evaluation design was used to assess the FS program's impact on 181 target children who participated. The HSRI constructed a control group for comparative purposes by (1) identifying via teacher nominations K-2 students who would qualify for FS but were not currently receiving it; and (2) combining their scores with those of control group participants ($n = 22$) from the Walker and colleagues (1998) study of the FS program's effects. This hybrid control group consisted of 30 students who did not receive the program. HSRI evaluators used the identical outcome measures as in the Walker and colleagues study, but developed new teacher and parent satisfaction measures, along with a fidelity tool that was used during classroom observation sessions to assess how consistently the FS implementation protocol was followed. Results indicated that pre-post changes on the outcome measures were robust and in the predicted direction—thus replicating the results reported by Walker and colleagues in the original study of FS program effects. Change scores for control group participants on these same measures were negligible. Aside from the advantages provided by the relatively large sample size, this replication study was the first attempt to assess FS's impact under the less than ideal but more realistic conditions in which research-based intervention programs are typically applied in school settings. These

results were encouraging, given the conditions under which they occurred.

Experimental Effectiveness Study

To date, the FS program has been the focus of one large-scale national effectiveness study, funded by the IES and recently reported by Sumi and colleagues (2013). This study involved a total of 48 schools, randomly assigned to intervention or control conditions, and a total of 142 intervention students and 144 control or comparison students. The implementation sites were in Illinois, West Virginia, Florida, California, and Oregon. In this effectiveness study, the FS developers and associated investigators were far less involved in the FS implementation protocol than in previously reported efficacy studies (see Walker et al., 1998, 2009). Their role was primarily limited to providing initial staff training in FS implementation procedures and in coordinating and analyzing the results of study measures. Also, the effectiveness study involved five FS implementation sites located across the United States, as opposed to one site each (as in the efficacy studies). This factor considerably increased its complexity and logistical challenges. The dependent measures used in the effectiveness study were identical to those reported in Walker and colleagues (2009).

Findings of the Sumi and colleagues (2013) study closely replicated those of the large-scale efficacy study reported by Walker and colleagues (2009). That is, outcomes favored FS intervention students on 8 of 10 dependent measures. As in prior FS research, direct academic performance measures (i.e., oral reading fluency, Woodcock-Johnson III Diagnostic Reading) were not affected by exposure to the intervention, but student behavior on all other teacher, parent, and observational measures were. Effect sizes for the Sumi and colleagues study were from 0.11 to 0.67; in contrast, they ranged from 0.57 to 0.87 in the efficacy study of Walker and colleagues. Such reduced effects are expected when effectiveness studies are compared to efficacy studies (see Weisz & Jensen, 2001), where much tighter control is maintained over implementation procedures, dosage levels, and the troubleshoot-

ing of problems that arise during the intervention.

In the Sumi and colleagues (2013) study, fidelity of implementation was associated with student outcomes on 4 of the 10 dependent measures, wherein relatively high implementation scores were correlated with higher scores on these four measures of the intervention. However, this was not the case for the other 6 of the 10 dependent measures. Given what we know about applied behavioral interventions and the impact of the quality of their implementation, this is not an unexpected result. However, it should be noted that the average correlation between implementation fidelity and intervention outcomes shows considerable variation, and is not all that high, in experimental studies of interventions reported in the professional literature (Gresham, 2009; Sanetti & Kratochwill, 2009). For example, Gresham, Gansle, and Noell (1993) found an average correlation of .58 between fidelity measures and treatment outcomes in a review of 200 applied intervention studies with children. In their review, only 16% of the studies actually measured implementation fidelity. In our most recent, large-scale efficacy study of FS, the canonical correlation between fidelity measures and study outcomes was only .5, thus leaving large amounts of variance accounted for by factors other than the fidelity dimension (Walker et al., 2009). Yet intervention outcomes for this study were clearly satisfactory. Furthermore, there have been several replication studies of the FS intervention in which the fidelity of implementation has been rated as poor (see Overton et al., 2002; Walker et al., 2005). However, in both studies, acceptable student outcomes were produced across dependent measures.

We argue that such a phenomenon, while not expected, can be considered a positive attribute of the FS program. That is, given the semichaotic ecologies and behavioral challenges that often exist in many of today's classrooms and schools, if a targeted intervention such as FS can be implemented in a less than satisfactory manner and *still* produce acceptable outcomes, this can be viewed as a positive result. Less than adequate implementation fidelity may actually be a more likely event than satisfactory

fidelity in many “real-world” applications of behavioral interventions. Since there is likely to be less than ideal implementation in many cases, this outcome becomes especially noteworthy when the positive spillover effects of the FS intervention, as documented by Sprague and Perkins (2009), on such classroom variables as total appropriate behavior for the whole classroom are considered. These effects also included more positive interactions between target students and nontarget peers, ratio changes in positive and negative teacher–student interactions, and improvements in the appropriate behavior of problem students in the classroom not exposed to the FS intervention.

A substantial amount of definitional, conceptual, and empirical work remains to be conducted on the relationship between the quality of implementation and intervention outcomes, beginning with the quality and accuracy of fidelity measures used to predict such outcomes. Sheridan, Swanger-Gagne, Welch, Kwon, and Garbacz (2009), in an important study of fidelity measurement in consultation, noted that the relationship between implementation fidelity and intervention outcomes may be more a function of adherence to meaningful intervention protocols over time (i.e., dosage). In our view, this speaks to the design and power of applied interventions as a key variable in accounting for intervention outcomes in terms of their capacity for producing behavior change. In addition to fidelity, a huge panoply of variables are likely to account for intervention outcomes—including intervention characteristics, the severity of target student behavior problems, staff training and motivation, classroom ecology, supervision and consultation with implementers, parental and administrative support, and so on. We look forward to research that clarifies and isolates the role of these variables in future studies of intervention outcomes.

Overall, in the last decade and a half, a large body of empirical evidence has been assembled on the efficacy and, more recently, the effectiveness of the FS program. The combination of single-case, quasi-experimental, and experimental studies of the program as described above provides a comprehensive look at the FS program’s

positive features, as well as its limitations. The accumulated evidence suggests that FS produces moderate to strong effects, even when not implemented as well as desired or expected. There is solid evidence that the FS program works effectively for a diverse array of K–3 students, and that it does not require specialized accommodations for such students to experience success with it. It is clear that while assigning the program moderate to high satisfaction ratings, many teachers see it as too much work and as pulling them away from teaching academics and other essential tasks. However, parents of target students consistently give the program high marks. A consistent finding is that the FS program does not affect direct academic performance measures, but does have an impact on academically related variables such as AET and academic “competence enablers” (i.e., forms of student behavior that support direct academic performance, such as working on assigned tasks, cooperation, responding to teacher directives, etc.)

FS Program Extensions and Enhancements

One program extension and three FS program enhancements are being supported by ongoing, federally funded grants. They are (1) adaptation of the FS program for use in preschool settings; (2) creation and testing of a tertiary-level version of the FS program called Enhanced FS, which is designed for application with students having severe behavior problems in home and school settings; (3) development and evaluation of an interactive multimedia training program for effectively implementing the FS program, for use by individuals who do not have access to staff training options; and (4) creation of a Web-based version of the Systematic Screening for Behavior Disorders (SSBD) screening procedures used in FS. Each of these enhancements is briefly described below.

Adaptation of the FS Program to the Preschool Setting

Since publication of the FS early intervention program, colleagues and early childhood experts have been urging creation of a downward extension of it for preschool use. We

have received three federal grants to support research and development of a preschool FS version. These are two 5-year Head Start–University Partnership grants and one 5-year research grant from the National Institute for Child Health and Human Development (NICHD), which is currently ongoing. The NICHD grant is designed to assess intervention and replication outcomes for the program. The preschool version of FS is available from the publisher, Sopris West.

Enhanced FS

The FS program was originally designed as a selected intervention for K–3 students having school-based behavior problems and disorders of moderate severity. However, our experience with students in regular school placements who had the most severe involvements indicated often highly variable and sometimes unsatisfactory responses to the FS program. The purpose of creating an enhanced, manualized version of FS was to address the needs of this more severely disordered subpopulation. Through a Goal 2 IES grant, researchers at the University of Louisville Kent School of Social Work and the ORI have been collaborating on adapting the standard FS program for this purpose. These adaptation activities began in 2009 and are ongoing. They involve adding the Family Check-Up procedure (Dishion & Stormshak, 2007) to homeBase, and the Classroom Check-Up procedure to the school FS intervention component (Reinke, Lewis-Palmer, & Merrell, 2008). Both of these procedures enhance outcomes within home and school settings, respectively, and their addition has resulted in the creation of a number of new processes and products that strengthen FS. Furthermore, motivational interviewing techniques (Miller & Rollnick, 2002) were incorporated into both home and school FS components to facilitate parent–teacher motivation and engagement with the intervention. These procedures have been incorporated into new manualized versions of the home and school FS intervention components, pilot-tested, and revised according to subsequent feedback (users, focus groups, advisory boards) and trial testing results. Revised versions of these procedures have been created and are

currently being further implemented and tested. Results for these FS development activities will be described in forthcoming reports.

Development of a Self-Instructional Program for FS Implementation

Under the direction of John Seeley of the ORI, activities have recently been initiated to complete the development and evaluation of an interactive multimedia training program for effectively implementing the FS program. A Phase I Small Business Technology Transfer Program (STTR) grant was previously awarded under this funding program to investigate development of an initial prototype version of this module. Currently, this work is in the first year of a Phase II STTR grant to complete this development process. The rationale for this work rests on the following assumptions: (1) The dissemination of FS has been constrained by the inability to provide training on a broad scale to support effective implementation; (2) travel expenses and substitute costs have provided obstacles to professional consumers in accessing such training; (3) the availability of on-site FS trainers is limited; and (4) a large potential demand exists for electronic materials that are self-instructional (e.g., DVD-ROM, Web-based applications). This Web-based training program for coaches will facilitate widespread adoption of the FS program and appears to be an attractive solution for these access/dissemination problems.

The feasibility of the Phase I FS prototype was demonstrated by significant pre–post training effects for (1) increased knowledge about the FS intervention, (2) increased self-efficacy regarding program implementation, and (3) favorable attitudes about professional training via online programs. The acceptability of the Phase I prototype was established by high consumer satisfaction and program usability ratings among trial test participants. During Phase II, the prototype will be expanded to include additional coach training on the remainder of the FS program (including production of a complete set of video modeling vignettes), and also to include FS training modules for elementary teachers. Feedback from focus groups and usability evaluation results

will guide revision of the FS training module. A website will be developed for the FS program that will provide opportunities to learn more about recent research on the program, as well as to establish a forum for communicating with FS experts and professional consumers.

Creation of a Web-Based Version of the SSBD Screening Procedure

The SSBD screening model consists of three integrated screening stages, or multiple gates, and has been widely adopted and used to accomplish the universal screening of students at risk for either externalizing or internalizing behavior problems and disorders (Severson, Walker, Doolittle, Kratochwill, & Gresham, 2007; Walker & Severson, 1990). The SSBD has served as a universal screening procedure in numerous studies of the FS program. Although the SSBD procedure has seen extensive use in schools for this purpose over the past two decades, the SSBD developers have recently received a Small Business Innovation Research (SBIR) grant to create and trial test a Web-based, electronic version of screening stages 1 and 2 of the SSBD. Currently, we are evaluating a prototype version of this program. Phase II of this grant will develop the full SSBD Web version, including training professionals on the optional SSBD stage 3 observational screening measures, expanding and updating national norms, creating local norms, developing preschool and middle school screening versions, and providing administrative support functions for using the screening data to track students and schools. Development of the SSBD Web version will substantially improve the cost-efficiency of the screening component of the FS program. In addition, when used as a stand-alone procedure, it has the potential to expand the adoption of universal screening in schools, identify a greater proportion of those students needing behavioral supports and services, and better promote marginalized students' overall success in school settings. The SSBD Web version will provide a quick and easy way for teachers to enter data, implement screening procedures, and receive immediate feedback on the risk status of students on whom they complete screening measures.

Concluding Remarks

The Standards Committee of the Society for Prevention Research (SPR) has provided a valuable service to professional consumers in defining the necessary elements and criteria for selecting intervention programs and practices for adoption (see Flay et al., 2005). These three-part standards provide eligibility criteria for categorizing evidence-based interventions as (1) efficacious, (2) effective, and (3) ready for dissemination. Presumably, if an intervention is judged to be effective, it is also considered efficacious but not necessarily ready for broad-based dissemination or for scaling up (Flay et al., 2005). Ironically, applied interventions that are judged effective may, and often do, produce lower-magnitude outcomes under real-world conditions than do efficacious interventions implemented in identical settings and under the same or similar conditions (Asarnow et al., 2005). Differences that often favor efficacious interventions in this context are likely to emerge due to such factors as (1) the level of training and supports implementers receive; (2) the intervention dosage actually delivered; (3) strategies for addressing the amount of "noise" (e.g., classroom ecology, number of problem students in the classroom, weak teacher classroom management skills, etc.) in the implementation setting that attenuates intervention outcomes; (4) the design of the intervention and how well it meshes with ongoing classroom routines and practices; (5) the overall fidelity of implementation; (6) the design and quality of intervention materials; (7) the acceptance of the intervention by implementers; (8) the degree of administrative support; and (9) the impact of troubleshooting problems that arise during the intervention's application. In efficacious intervention implementations, program developers and investigators are often funded for their time and effort; develop workable relationships with implementers and administrators; are available to respond to issues as they arise; and can provide generic expertise, technical assistance, and supports as needed. The typical "off-the-shelf" definition of intervention effectiveness disallows such supports in classifying an intervention as meeting this standard.

We would argue that implementation of complex, applied interventions—multisystemic therapy, for example—should not be attempted in the absence of at least minimal levels of support across the above-listed factors that approximate an efficacy rather than an effectiveness standard (Henggeler, Schoenwald, Bourdin, Rowland, & Cunningham, 2009). At the other end of the continuum, professionals should consider searching for less complex interventions, such as FS, that can suffer a poor or substandard implementation but still produce acceptable outcomes. We are certainly not advocates of poor implementation efforts, but our collective experience across over four decades of designing and implementing applied behavioral interventions in school settings suggests that lower-quality rather than higher-quality implementations are more likely to be the norm in school interventions. Interventions that have resistance to this phenomenon may have special attributes that distinguish them from those that do not—independent of the quality of implementation. This strikes us as a topic worthy of investigation.

We suspect that a number of well-researched applied interventions, such as FS, meet some (or even a majority) of the SPR evidence elements regarding efficacy, effectiveness, and readiness for dissemination; yet most such applied interventions *do not* meet the absolute threshold and comply with all the elements of a particular standard as defined by SPR. Such is the case for FS. The FS intervention, for example, meets four of the five elements of the SPR efficacy standard and partially meets the fifth, which is “reporting at least one significant long-term follow-up” that has to be conducted 6 or more months from the end of the intervention. There have been multiple FS follow-up assessments, all conducted more than 6 months after the intervention’s termination, that showed some degree of maintenance of program effects (see Nelson et al., 2009; Overton et al., 2002; Walker et al., 1998). However, these follow-up assessments have not included randomized usual-care controls as a comparative standard, and this makes it difficult to judge their accuracy of representativeness.

Similarly, the effectiveness standard of SPR subsumes compliance with each of the

elements constituting the efficacy standard, *and* also with *all* the additional elements constituting the effectiveness standard. In addition to complying with four of the five elements of the efficacy standard, FS meets each of the four effectiveness elements of the Flay and colleagues (2005) standard, which are as follows: It (1) includes manualized training and technical support availability; (2) has been evaluated under real-world conditions, with sound measurement of the level of implementation and engagement of the target audience; (3) has indicated the practical importance of intervention outcome effects; and (4) has clearly demonstrated to whom the intervention results can be generalized. Finally, the FS intervention meets each of the three elements of the SPR dissemination readiness standard, which are (1) evidence of the ability to go to a larger scale; (2) availability of cost information related to the FS program’s required materials, as well as estimates of the amount of time coaches invest in setting up, implementing, supervising, and troubleshooting the program; and (3) availability of monitoring and evaluation tools, so that adopting agencies can determine how well the intervention works in their setting.

Behavioral interventions seem to suffer from the burden of perhaps unrealistic expectations. That is, behavior change is expected to be produced by an intervention *during* its implementation, while its effects are expected to be sustained *following* its termination in order for it to be judged effective. Large volumes of scientific evidence argue against this expectation or assumption on two counts. First, artificially changed contingencies in a classroom during an applied intervention usually do not persist after its termination. Second, even if this was the case, the changed behaviors of the target participants do not appear to be sufficiently reinforcing (to teachers, peers, parents, and the target students) in order to sustain their maintenance. See Barkley (2007) for an extensive commentary on this issue. Given these outcomes, one would *not* expect social-behavioral gains under these conditions to show sustainability. In this context, it may be that the best option for such discrete behavioral interventions as FS is to plan on leaving some variation of them in effect for the foreseeable future after they

have been established and stabilized—much as educators do in responding to the problem of poor reading, which usually requires continuing remedial intervention(s) over many years.

The challenge for programs like FS is to find ways to sustain their effects over the long term, but without incurring unreasonable costs (time, effort, materials) in doing so. It has been argued that behavior change is a two-part process. That is, there is one set of procedures for producing it, and another set governing its durability and generalization. The second part of this change process continues to be laden with challenges that remain to be solved. It appears that FS is robust in addressing the first part of the behavior change process, at least in the relatively short term (i.e., within a school year). We will address the issue of inducing longer-term intervention outcomes as an important component of a continuing program of FS research.

Author Note

An expanded version of this chapter is available through an Oregon Research Institute website (firststeptosuccess.org).

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RESEARCH METHODS

Qualitative and Mixed Design Research in Emotional and Behavioral Disorders

Edward J. Sabornie and Stacy L. Weiss

Qualitative research dealing with students having emotional and behavioral disorders (EBD) remains in its infancy, and its contributions to the field are still difficult to measure. This chapter updates earlier work (i.e., Sabornie, 2004) on qualitative research in EBD, and reviews more recent studies that utilize both qualitative techniques and mixed methods research designs. Although qualitative studies continue to be published, there are still relatively few such investigations in comparison to those of a quantitative nature. Mixed methods designs, which integrate both approaches, are relative newcomers to the field of education and include only a small percentage of studies. Although the nascence of mixed methods research occurred earlier, the field became more structured in the late 1980s and early 1990s, and by the 21st century there were several journals exclusively dedicated to mixed methods research (Creswell, 2011).

Sabornie (2004) concluded that qualitative research had yet to gain a strong footing in the EBD field. At present, the use of group designs, randomized trials, and applied behavior analysis research continues to eclipse work involving the more naturalistic observations and deep, detailed descriptions found in qualitative research. Naturalistic inquiry is often overlooked altogether, due to the emphasis placed by the No Child Left

Behind Act and other federal initiatives on evidence-based research with randomized trials (Denzin & Lincoln, 2011; Klinger & Boardman, 2011).

The lack of acceptance of qualitative research in special education continues to be the pattern, even though quantitative research alone is not sufficient to address the multitude of concerns facing students with EBD. Qualitative research places an emphasis on the process occurring in an environment and how or why it develops (Brantlinger, Jimenez, Klinger, Pugach, & Richardson, 2005). This may involve conducting open-ended interviews, which are more like conversations that change and evolve over time than like the structured interviews and surveys common to quantitative study designs (Slavin, 2007). In qualitative studies, the research processes evolve according to the interactions with the study participants. The social experiences of individuals, and how meaning is derived from such occurrences, are the focus of qualitative inquiry (Denzin & Lincoln, 2011). From these observations and other forms of data collection, the research develops rich descriptions of what is present in a natural setting.

Qualitative research is often conducted because quantitative data do not provide the necessary context for a sufficient under-

standing of the results (Klinger & Boardman, 2011). Although quantitative research may increase understanding of the general types of strategies that are effective, qualitative methods investigate the specific contextual factors influencing the intervention's outcome (Klinger & Boardman, 2011). Qualitative research generates new areas of research and hypotheses through careful observation, which quantitative research can subsequently test. Naturalistic research can lead to a better understanding of the conditions and situations of individuals with EBD. Interpretive approaches have been used to explore new theories, develop new instruments and surveys, and provide a voice to marginalized groups in society. On the other hand, quantitative research takes an objective stance to evaluate the instruments, surveys, and effects of interventions. For quantitative researchers, examining a phenomenon means considering the component parts, whereas qualitative researchers work to understand the meaning a phenomenon has for the individual (Klinger & Boardman, 2011). While some interpretive researchers embrace the subjectivity involved in the research process, others prefer to "bracket" their ideas (i.e., to keep their personal ideas separate and attempt to prevent them from influencing the process) by presenting their perspective at the onset when reporting the specifics of a study (Brantlinger et al., 2005). Mixed methods research goes a step further by integrating the quantitative and qualitative methods to examine a problem or issue from multiple perspectives. The view that quantitative and qualitative methods can coexist due to need, however, is not universally accepted (Denzin & Lincoln, 2011).

Historically, there have been two generally accepted and distinct research paradigms: "positivist" and "constructivist." Quantitative researchers develop their research on a positivist or postpositivist perspective, which takes an objective stance and prompts a general, acceptable truth. Often viewed as having an opposing perspective, qualitative researchers bring a set of beliefs, values, and assumptions from a constructivist perspective. Under this latter paradigm, meaning is constructed by each individual through his or her experiences. Mixed methods are often represented as a more recent, third paradigm of pragmatism (Creswell & Plano Clark,

2011). This paradigm assumes that researchers must use the methods and approaches that will best address the research question. Although mixed methods research does not strive to understand and resolve the differences between multiple perspectives and philosophies (Klinger & Boardman, 2011), the approach does attempt to stay true to the assumptions and philosophies of the research method being used at the time to address the question at hand, even if the process is not seamless. Even though qualitative and mixed methods research designs are gaining acceptance in the field of EBD, these methods—particularly the designs associated with mixed methods research—are still unknown to many trained in the quantitative research tradition.

The next section reviews several of the qualitative research designs. Subsequently, four of the most common mixed research designs (Creswell & Plano Clark, 2011) are reviewed. Lastly, recent qualitative and mixed methods research concerning EBD is reviewed, and conclusions are drawn about the state of the field of qualitative and mixed methods research in EBD.

A Qualitative Inquiry Primer

Grounded Theory Research

Grounded theory research focuses on developing hypotheses to describe a process or action (Creswell, 2013). It is particularly useful in generating a theory for a process that is not already well understood or a process that may vary for specific groups of people, such as the identification process for girls with EBD who are also English Language Learners. The developed theory stems from participants who experienced the process, rather than from the researcher's predetermined theory based on the literature (Slavin, 2007). The iterative process of data collection and analysis is used to glean the perspective of multiple individuals. As a final product, the researcher develops a theory that explains the process and steps constituting an event, such as EBD identification.

Once a process has been identified that needs to be further investigated, participants who can provide the most insight are selected. These participants do not have to

be working in the same school or have the same role in the identified process. In a more structured approach, participants are asked a general question regarding what happened during a specific event (Creswell, 2013). After collecting the initial interviews and transcribing the data, the researcher codes the data in several ways. Initially, codes are made for each individual line of the transcript, noting the precise idea expressed (Charmez, 1995). Additional interviews are conducted with more specific questions, and the data are analyzed further to develop and refine the theory. During this process, the researcher uses the codes that continually emerge from the data, and the repeated codes are revised to be more succinct and refined (Charmez, 1995). Categories are formed from the coding. Interviews and data analysis are repeated until the categories become saturated, and the researcher cannot gain any additional information from interviews. In the final narrative, the researcher considers the cause of the event, the specific strategies that the individual used, the context and intervening conditions, and the consequences of the targeted process (Creswell, 2013). The researcher can also develop a detailed story line to the final narrative, or explain the relationship among the categories. This continual coding and categorization work together to develop a theory about the process or central phenomenon (Creswell, 2013).

Case Study Research

Case study research focuses on intensely describing and understanding a single entity. The goal of case study research is to develop a narrative with rich detail that can provide others with a better understanding of that subject in a specific context (Flyvbjerg, 2011). While this entity is typically a single individual, it can also be a group, organization, or activity that is clearly defined (Creswell, 2013). When an activity or larger group is studied, as in a case study involving the implementation of a study skills group, several students are included in the analysis (Slavin, 2007). In addition to providing information about each individual, case study researchers document the context in which the individual lives and works (Flyvbjerg, 2011). Case studies can also be used to

understand the cause-and-effect relationship between the individual and his or her environment (Flyvbjerg, 2011).

To conduct a case study, the researcher has options as he or she carefully selects the individuals to be the focus of the research. Cases can be selected because an individual or coterie is unique, and the researcher wants to illuminate the experiences of that individual or group. Alternatively, a researcher may be concerned or interested in a specific issue, such as the use of in-school suspension. The case is then selected as an example for that issue (Flyvbjerg, 2011). Although a researcher may choose to focus on one case to illustrate the issue, multiple cases can be selected and compared to highlight different perspectives on the same issue. For example, to better understand the use of in-school suspension, the researcher selects a teacher who makes frequent office discipline referrals (ODRs) and contrasts this teacher with another who makes few ODRs. Through the use of interviews, observations, and document collection, the researcher develops a detailed description of the case. Day-to-day events are recorded, and each individual's perspective and thoughts are detailed. The data collected are analyzed for the main issues and themes or for an account of a series of events. Although case studies can include multiple individuals or compare two or more cases, the larger the breadth of a study, the less detail and depth that can be gleaned about each individual (Creswell, 2013). Case study designs provide insight and detailed descriptions of a single person in his or her specific context.

Focus Group Research

Focus group research necessitates a mediator leading several groups of individuals in a conversation about a specific issue (Vaughn, Schumm, & Sinagub, 1994). Participants are not selected randomly, but are chosen because they represent the range of characteristics in a population (Kitzinger, 1995). During the conversation, participants are asked questions and directed to elaborate on their perceptions, reasoning, feelings, or beliefs about a common topic. A benefit of the group process is that individuals can build on one another's ideas and ask each other questions (Kitzinger, 1995). In addi-

tion, the researcher can gain insight into the group's cultural values from how the group members communicate and interact. However, focus groups are not suitable for discussing potentially embarrassing or confidential topics (Merriam, 2009). A focus group, for example, can be used to investigate a topic such as how and why teachers choose to teach in a self-contained classroom for students with EBD; to follow up on a survey about classroom management practices that yielded unexpected results; or to develop a unique survey of interest to the researcher.

In focus group research, careful consideration is needed regarding the selection of questions, role of the moderator, and analysis of data. Open-ended questions encourage individuals to share their thoughts and opinions. Groups of 6–12 participants provide enough people to help prevent a few from controlling the conversation, and everyone has a chance to give their opinion in a 60- to 90-minute session (Vaughn et al., 1994). The moderator keeps the group on topic, probes for additional information when needed, and encourages reluctant members to supply their opinions (Vaughn et al., 1994). In addition to the interviews being recorded and later transcribed, the moderator takes notes of nonverbal behaviors and the tone of the conversation, which might not otherwise be included in the transcription but add a depth of understanding to the group.

Vaughn and colleagues (1994) have suggested five steps for analyzing focus group interviews. First, immediately after each session, the moderator notes the main ideas that emerged. Then the transcript data are “unitized.” That is, the smallest meaningful units of information are broken apart so that only one idea is conveyed in each phrase, sentence, or paragraph of the transcribed data. Third, these units are sorted into categories. The categories are developed from listening to the interview and reading through the transcript. To generate a full understanding of the categories, criteria for inclusion are established and revised throughout the sorting process. Units that cannot be readily sorted into a category are left until last to be included in a preexisting category, added to a new category, or discarded. Similar categories are condensed. The units are then resorted (usually with additional researchers

or assistants) to determine whether there is agreement about which units fit in specific categories. Disagreements are discussed and resolved. Finally, the main ideas initially identified after the focus groups met are revisited to determine whether they should be revised to better encompass the unit analysis and categories.

Phenomenological Research

Phenomenological studies focus on the individual or (more commonly) on several individuals, but unlike case study research, these studies emphasize the experience rather than on deeply describing and detailing the individuals. Through interviews, the researcher identifies how individuals perceive and understand a specific experience or event, such as what it is like to attend a separate public school for students with EBD. It is the emotional reaction to the event that is the subject of phenomenological research. The description includes both an objective account of an experience and the participants' subjective account of the situation (Creswell, 2013). The reader of the final report gains an understanding of how the participants experienced a specific phenomenon.

In order to conduct phenomenological research, the researcher must first identify the phenomenon to be studied. Several participants are selected who have all experienced the phenomenon of interest and are willing to share their experiences with the researcher through unstructured interviews (Slavin, 2007). The researcher begins by asking participants to describe their experiences and the setting in which the phenomenon of interest occurred (Creswell, 2013). During these interviews, it is essential, albeit difficult, for the researcher to identify and maintain a difference between the objective reality of what truly occurred and the perspective of each individual with his or her own interpretations of the phenomenon (Creswell, 2013; Slavin, 2007). As a result, the researcher brackets his or her perceptions and experiences (Slavin, 2007). Although most data are collected through interviews, the researcher also observes the participants or collects pertinent documents. When reading the transcribed interviews, the researcher identifies statements that demonstrate each

individual's understanding of the phenomenon. Common themes from across multiple interviews can also be identified (Slavin, 2007). In the final report, the researcher summarizes and describes what it was like to experience the phenomenon by integrating direct quotations from the participants to support the identified themes.

Ethnographic Research

Ethnographic research focuses on the social behaviors of a large group of individuals who have shared patterns of behaviors, beliefs, and language (Creswell, 2013). Although ethnographies have historically taken an objective approach by reporting events in the third person and detailing the group members' everyday lives, a more common approach is to use a critical or advocacy perspective to highlight and give voice to a marginalized group in society (Creswell, 2013). For example, a researcher may spend 3 months in a middle school documenting the instructional approaches, attitudes, and behaviors directed toward individuals with EBD. Through immersion in the culture of the classroom, the researcher develops conclusions about the academic and behavioral instruction and supports provided to students with EBD. The ethnographic researcher captures the principles of all those in the setting (Merriam, 2009). Although interviews and analysis of documents are included in the data collection procedures, it is essential for the researcher to be a part of the everyday lives of the culture he or she is studying (Creswell, 2013). Through this process, the researcher develops an understanding of a group's social behaviors. As the researcher observes, he or she includes an objective description of what occurs, and also notes personal thoughts during the observation—including inferences about rationales and motivations for the observed behaviors, and interpretations of what was seen (Slavin, 2007). The researcher assembles quotes from the group members and puts together a set of rules of how they live and work together (Creswell, 2013). After a period of data analysis, the researcher compares the developing ideas back to the initial objective data, and then collects more data to check and evaluate the developing theory about the group.

Ethnographic research presents several challenges for the researcher, who must dedicate time and resources to being a part of a cultural group that is probably not familiar to him or her. In addition, trust must be gained in order to access specific participants who can provide insight into the group. In many instances, this involves a central person who can help the researcher in accessing other members of the group (Creswell, 2013). A final consideration is the researcher's presence and how it can affect a group in unintended ways (e.g., reactivity to measurement). It is important, therefore, to consider how the researcher gives back to the group.

Biographical Research

Biographical research is a type of narrative study that explores the details and experiences of an individual's life. Although this approach can incorporate a person's entire life history, it may only include a key experience or a specific period of time. For example, a biographical narrative study could center on a high school senior with EBD as he or she prepares for life after graduation. The researcher conducts interviews; collects documents, pictures, and other artifacts about the participant; and makes observations as appropriate. In addition, the researcher visits locations in which key events related to the participant took place. Biographical research highlights specific points in which an individual had to make key decisions or when tension led to a resolution (Creswell, 2013). From the descriptions that are developed, the researcher arranges the information in the narrative either by highlighting specific themes or by providing a chronological account of the individual's life (Creswell, 2013). In this account, the researcher provides an interpretation of the events and includes a summary of what can be learned from the individual and his or her experiences.

One concern of biographical research involves how the research is presented. If there is disagreement between the researcher and the participant regarding the nature or interpretation of the event, the researcher must resolve the issue (Creswell, 2013). If possible, the researcher should collaborate with the individual to develop the narrative,

while including the participant in validating or clarifying a draft of the report (Creswell, 2013). A balance must be achieved between the researcher and the person whose story is being told.

Mixed Methods Research

Mixed methods research combines the use of qualitative and quantitative data in a single study to address a research question that cannot be satisfactorily answered with only one approach (Creswell & Plano Clark, 2011). This type of research is not intended to replace qualitative approaches. Instead, collecting and analyzing two different types of data in a research design enhance the understanding of the area of interest (Teddlie & Tashakkori, 2011). The data are combined and integrated at various stages of the research process. Depending on the design, this could begin as early as the statement of the research objective, during data collection, or during data analysis (Johnson & Onwuegbuzie, 2004). The various research designs differ in how the types of data are ordered and integrated, but all mixed methods studies combine the research data during the conclusion (Creswell & Plano Clark, 2011). The selection of the designs depends on several factors, including the nature of the question, the skills of the researcher or research team, and/or the types of data needed to address the question (Creswell & Plano Clark, 2011). Although there are importunate concerns that combining qualitative and quantitative data is not advisable due to philosophical differences, or that using mixed methods lessens the role of qualitative research (Teddlie & Tashakkori, 2011), mixed methods provide ways for researchers to use multiple types of data to investigate issues related to students with EBD. There are several ways to classify and describe mixed methods designs, and four are described below.

Four Types of Mixed Methods Designs

The “convergent parallel” design is the most well-established mixed design and the one most frequently used by qualitative researchers (Creswell & Plano Clark, 2011). The

nature of the research question requires both quantitative and qualitative data to be collected and analyzed at the same time. After the respective analyses, the findings are integrated to address the research question. Both types of data hold equal importance in addressing the research question. This can lead to some confusion or mixing of the underlying assumptions of the quantitative and qualitative research methods. In the analysis, researchers take a pragmatic approach and consider the results from both methods to draw conclusions from the study. Although this may be problematic to some, it is based on the idea that a researcher or research team is well versed in both approaches and does not have a bias toward one approach or the other (Creswell & Plano Clark, 2011).

In mixed designs, it is often necessary for one type of data to take the lead in the study. In such a situation, the researcher uses the data from one part of the study to develop and inform the next part. The “explanatory sequential” design begins with a quantitative strand that is followed up with additional qualitative methods and analysis (Creswell & Plano Clark, 2011). For example, a researcher conducts a survey about the frequency with which teachers use specific behavioral strategies. The survey results are then used to select four teachers for interviews regarding the use, or lack of use, of token economies in the classroom. The reverse sequence is an “exploratory sequential” design. This design involves the collection of qualitative data first to achieve a better understanding of an issue, followed by a quantitative phase. This type of design allows for weak generalization of findings from a few individuals in the qualitative component to a representative sample from the quantitative component (Creswell & Plano Clark, 2011). Survey development can use this design by exploring and identifying variables of interest in the qualitative phase that lead to the development of a survey, and evaluating the survey in the quantitative component.

The “embedded” design collects and analyzes both types of data at the same time and analyzes the data to address multiple research questions. This commonly includes an experimental procedure that integrates qualitative methods (Creswell & Plano Clark, 2011). The embedded design differs

from a convergent parallel design in that one analysis approach is considered to lead the research process. Extensive time management and research skills are needed to simultaneously manage both types of data collection, analysis, and integration of the results in the conclusion (Creswell & Plano Clark, 2011).

These four major mixed methods designs vary in the integration and use of qualitative and quantitative data in a single study. One data type may take the lead in the organization and development of the study, with another taking a secondary role or the data types are utilized equally. While these reviewed designs provide a beginning framework for research project development, the proponents of mixed methods research emphasize many possibilities for designs and adjustments to research designs described here may be necessary to meet the individual needs of the study (Teddlie & Tashakkori, 2011). These designs are starting points for integrating quantitative and qualitative data, so that the strongest studies are planned and implemented, and that these lead to the highest quality empiricism.

Review of Qualitative and Mixed Method Studies in EBD

In this section, we review qualitative and mixed methods research pertaining to many different aspects of students with EBD. The studies examined below relate to only the United States and are very diverse in nature. Moreover, some do not include actual students with EBD as research participants, and few of the studies analyze interventions that are used to assist people with EBD in various environments. In keeping with the tradition of qualitative research, we provide “thick” descriptions of each investigation, highlighting the important design features, findings, and implications, and we frequently use participants’ own narratives found in each report.

Qualitative Studies

Prather-Jones (2011) used in-depth interviews along with a focus group session to conduct a multiparticipant, collective case

study of 13 experienced teachers of students with EBD. The purpose of the study was to determine the reasons why the selected educators had continued to teach students with EBD for extended periods of time (i.e., more than 6 years). The teacher-participants taught students with EBD at all traditional school levels, including an alternative school specifically for the students of interest in the study, as well as self-contained, resource, and general education classrooms. All participants had taught students with EBD for between 7 and 28 years; 9 of the 13 were females. Member checks and triangulations of study data were employed as credibility measures for the qualitative data collected with the teachers. Unlike previous researchers (who had concentrated on the negative reasons for teacher attrition), Prather-Jones was specifically interested in determining the positive reasons why the participants remained as teachers of students with EBD, and in using these reasons to aid in teacher retention efforts.

The reasons for long-term employment as a teacher of students with EBD were multifaceted, and the participants, in general, stated that their own personal characteristics—rather than primarily workplace issues—were responsible for their longevity in the classroom. Prather-Jones (2011) found that internal traits such as (1) being intrinsically motivated, (2) not “taking things personally,” (3) being aware of and accepting one’s own limitations, (4) having a flexible attitude, and (5) taking a sincere interest in persons with EBD were largely responsible for these teachers’ staying power in the classroom. Support factors such as assistance from school administrators and colleagues, as well as aid in the early years of teaching, also contributed in less important fashion to these teachers’ continuing to work with students with EBD. One teacher-participant, Paula, provided reasons for her perseverance this way:

Don’t blame yourself for stuff you are not responsible for. It is good to second guess yourself, what if I could have done this better or what if I would have presented something that way, that is fine. Try new ways but don’t beat yourself up over it. (quoted in Prather-Jones, 2011, p. 185)

Prather-Jones concluded that perhaps the personality traits and dispositions of those seeking employment as teachers should be given additional prominence by those searching for ideal candidates in preservice and inservice training programs. According to the results of Prather-Jones's interpretive study, displaying effective teaching skills may not be enough for an educator of students with EBD to remain in the classroom for an extended period of time.

Casebolt and Hodge (2010) examined the belief structures of teachers who taught students with EBD (and other disabilities) in inclusive physical education classes. Five physical education teachers (three males, two females) with an average of 13 years of teaching experience (7 years average teaching students with disabilities), served as participants; all the teachers were licensed physical educators and taught at the high school level. The researchers employed a collective case study approach, which also included demographic questionnaires and two-phase, focused interviews that typically lasted 60 minutes with each participant. Investigator triangulations of evidence from the surveys and recorded interviews, in addition to member checks, were used to enhance the credibility of the data across participants.

Casebolt and Hodge (2010) found the following four recurring themes among the teachers' comments in the naturalistic data: (1) "teaching practice troubled," (2) "dependent self-efficacy," (3) "contradictions," and (4) "motives." The participants' comments in the "teaching practice troubled" theme were related to their uncertainty in teaching students with disabilities among the larger nondisabled population in physical education classes. The teachers found it much more difficult to teach in inclusive class periods than in periods when they did not teach students with disabilities. The "dependent self-efficacy" theme that emerged was related to how confident the teachers were in physical education instruction while dealing with students with disabilities in their classes. Participants who had more teaching experience with students with disabilities expressed a higher level of self-efficacy, in comparison to those who had less teaching experience with such students. The "contradictions" theme captured the conflicting feelings that teachers had about educating

students with disabilities in physical education. The teachers in general felt that inclusive education was a positive experience for most, but that the disruptive nature of some students—such as those with EBD—led to the participants' inability to manage the classes and engage in effective instruction. Lastly, the "motives" theme was associated with the participants' desire to support students with disabilities and to help them succeed. In regard to the last theme, one participant commented: "I am extremely motivated to see that our students are provided with the best education possible" (p. 150).

Participants in the Casebolt and Hodge (2010) study concluded that teaching students with EBD (along with other types of disabilities) in physical education was more "difficult and complex" than serving only those who were nondisabled in noninclusive class periods. The authors felt that additional professional development to assist teachers in their efforts to include students with disabilities in physical education environments is a necessary step to enhance the success of all concerned.

Walsh (2010), in phenomenological research, examined the opinions of employers who hired high school students with EBD. The foci of the study centered on the responses of seven employers to questions ranging from specific skills needed by students with EBD on the job, to the elements of a successful high school transition program (among other topics). The seven employer-participants owned or operated businesses in eastern Pennsylvania (e.g., nursing homes, retail stores, college dining halls, bakeries). In addition to 1-hour, face-to-face interviews with the researcher, the participants were exposed to a "four-segment interview process"; this included gathering background information on the business, training protocols, workplace factors that interacted with the students' performance, and personal qualities that were related to students' success on the job. Member checks were conducted on the interview data, and a peer reviewer assisted the primary researcher with data analysis to enhance the trustworthiness of the qualitative interpretations.

The findings showed that the employers desired seven very specific talents in their employees with EBD: "(a) cognitive skills, (b) communication skills, (c) compliance,

(d) personal hygiene, (e) physical fitness, (f) social skills, and (g) work ethic” (p. 129). The participants also mentioned that a robust relationship between school and work professionals needs to exist for adolescents with EBD to make successful transitions, and that school and work professionals involved with the employment transition process need to prepare for “potentially difficult situations.” One respondent stated: “Some things have cropped up that I’ve had to deal with that I’m not specifically trained to handle” (p. 130). Another important finding was that educators and employers need to be keenly aware of the ramifications of employing someone with EBD and its effects on Social Security Disability Insurance (SSDI) eligibility. In essence, the income due to someone with a disability through SSDI creates unforeseen obstacles to the person’s movement through the transition process from school to competitive employment and financial independence.

In another transition-related, phenomenological qualitative study involving youth with EBD, Hagner, Malloy, Mazzone, and Cormier (2008) examined the opinions of those with EBD as well as others involved with a service delivery model in New Hampshire aimed at community reintegration of troubled adolescents. The purpose of the investigation was to examine the efficacy of the Nashua Youth Reentry Project, a special transition program that assisted 14- to 17-year-olds who had been removed from their schools and residences and placed in the criminal justice system. The reentry project served a total of 33 adolescents (27 males and 6 females) over 3 years, but only three of these adolescents served as participants in the study—two successful and one unsuccessful reentry youth. Additional participants included eight professionals, such as a detention center treatment coordinator, probation and parole officers, and a public defender (among others). Semistructured interviews of the participants were conducted; these lasted 20–30 minutes and included questions related to reentry program experiences, barriers to success in the program, and recommendations for changing the program. To increase the study’s technical adequacy, the researchers compared the large majority of data-coding findings across two interviewers, using a

system comparable to interobserver reliability checking in single-participant research.

Hagner and colleagues (2008) showed that using person-centered planning assisted many successful participants to reenter the communities from which they were removed. Providing strong support for high school completion also showed positive results for many youth, and was mentioned by 90% of the participants as necessary for reentry success. Career preparation and specific interagency coordination for the incarcerated youth were viewed by 60% of the participants as important for achieving desired reentry, and 90% of those interviewed believed that social support in the community was highly responsible for successful reintegration. Results of this study showed that community reentry of incarcerated adolescents with EBD is possible at the local level if very precise steps are taken to ensure that person-centered services are provided, along with other well-known evidence-based transition interventions.

Malmgren and Causton-Theoharis (2006) used a case study research approach to investigate the academic and social experiences of a student (Gary) with EBD in an inclusive classroom in Washington State. The goal of the study was to examine how the presence of a full-time paraprofessional, along with the classroom and pedagogical environment, affected Gary’s integration among his nondisabled peers. The participant was a 7-year-old second grader who had been identified as having EBD for nearly 2 years before the study was initiated. He had been described as lacking proper social skills and having a history of intense tantrums; his difficulties had led to a full-time paraprofessional’s being assigned to him for the entire school day. Semistructured interviews with Gary, his mother, the paraprofessional, and his three classroom team teachers were conducted, and structured observations of the participant in and out of the school environment (e.g., at home, in a fast-food restaurant’s play area) for a total of 7 hours were also included for data analysis. Interrater reliability coefficients of the participant’s coded interactions with others were performed on selected observations and reached 100% accuracy; no similar technical adequacy checks were performed on the semistructured interviews.

The naturalistic data indicated that Gary interacted with others 84 times across the 7 hours of observations in the classroom environments, and that the large majority of those exchanges were with adults ($n = 52$, or 62%). One-half ($n = 16$) of the remaining classroom interactions were with non-disabled peers, and another 16 were with a single peer with a disability. The 120 minutes of community-based observations led to 30 additional interactions between Gary and others; two-thirds of those were with his mother, and the remaining 10 were with other children. In the semistructured interview with Gary, he could not answer a question related to having a “good time doing some schoolwork with other kids” (p. 307). His teachers and paraprofessional mentioned that the classroom point system, a reinforcement-based classroom management strategy, had assisted in making interactions between all students easier, but that it had not been successful in increasing Gary’s exchanges with others. Similarly, teachers and the paraprofessional mentioned that the classroom “problem-solving strategy” (i.e., a conflict resolution activity) was a key to increasing interactions among all students in the classroom, but the data showed that this intervention had little if any effect on Gary’s number of exchanges with peers. In summary, the presence of the paraprofessional near the participant’s side had a noteworthy decreasing effect on his number of interactions with classmates, and Malmgren and Causton-Theoharis (2006) suggested that such a system needs to be corrected so that it does not inhibit complete inclusion of students with EBD in general education classrooms.

In another collective case study, Rice, Merves, and Srsic (2008) investigated school professionals’ experiences in their work with only females with EBD. The research sample included 10 teachers (each had special education licensure), one graduate student, two school administrators, and two counseling professionals; all had had at least 6 months’ experience working with females with EBD prior to data collection in the study. The 10 women and five men who made up the sample were involved in semistructured interviews (lasting between 90 and 120 minutes) that focused on gender differences in EBD, and on how such differences interacted with

school-based academic and behavioral treatments. A sample question from the interview protocol was this: “In your professional experience, how are the characteristics of girls with EBD different from boys with EBD (i.e., behaviorally, affectively, socially, emotionally, etc.)?” (p. 564). The semistructured interviews were recorded and transcribed, and two researchers coded the qualitative data independently into related categories and themes. A third member of the research team served as an auditor of all coded data, but member checks were not performed with the participants’ responses.

Several descriptive themes emerged from the data analysis concerning females with EBD, such as “their problems are hidden,” “girls are frequently isolated from others,” and “professionals avoid interacting with girls,” among other conclusions. Rice and colleagues (2008) were careful to state that their findings could not be generalized to all those working with females with EBD, but nevertheless concluded that females with EBD will continue to be marginalized unless additional research exposes gender-specific ways in which to assist them.

Lorie and Lee (2007), through semistructured interviewing in a collective case study, uncovered administrators’ opinions of students involved in ODRs for classroom disruption. Also examined were the strategies used to intervene and prevent ODRs, as well as administrators’ judgment of teachers who made a high number of ODRs. The participants included six administrators from secondary-level schools in urban, suburban, and rural locales. The semistructured phone interview included four questions related to the topics of interest and lasted 20–30 minutes; all interviews were recorded and transcribed. Two graduate students coded the data into relevant themes, and subsequently submitted their findings to two additional graduate students for interobserver reliability checks, which resulted in 72–88% consistency. The phone interview data resulted in the emergence of five themes:

- (a) inquiry/accountability (e.g., reviewing what actually happened),
- (b) implementing pre-existing disciplinary procedures (e.g., using a process that is already in place such as talking with the student for a mild offense, to school suspension for serious wrongdoing),
- (c)

promoting insight (e.g., helping the students understand the issue from a teacher's perspective), (d) collaboration (e.g., involving the student's parents to help solve the problem), and (e) emotional attachment (e.g., staying calm and professional when interacting with the student). (Lorie & Lee, 2007, p. 257)

Lorie and Lee (2007) also found that students' characteristic problems co-occurring disciplinary problems included parent and family issues, mood and emotional issues, and school-related skills (e.g., low academic achievement). An important—but not often considered—conclusion that can be drawn from this study is that administrators need more than simple leadership skills in order to be successful when dealing with ODRs of a serious nature.

Mixed Methods Studies

Curtis, Rabren, and Reilly (2009), using both quantitative and qualitative (i.e., focus group) techniques in a convergent parallel design, examined the post-high school outcomes of students with disabilities in a Southeastern state. The entire sample studied included 1,888 former students (46 of whom were identified as having EBD) with high-incidence disabilities (i.e., EBD, learning disabilities, mild intellectual disability). The focus group members consisted of four young adults with high-incidence disabilities who had received special education while they were in school, and seven parents of young adults with high- and low-incidence (i.e., autism, hearing impairments, and visual disabilities) conditions. The quantitative aspect of the study concerned data gathered from a "post-school outcomes survey" (p. 34), whereby former students in special education completed a telephone interview related to demographics, employment history, postsecondary education, and quality-of-life issues. The focus group questions included reasons for not graduating from high school, work experiences, wages, and satisfaction with life, among others. The three authors used content analysis with the qualitative data, and field notes and transcripts of the focus group discussions were checked for consistency in forming the narrative themes.

The quantitative results showed that 82% of the post-high school participants felt that school had prepared them for their current lives, 96% were satisfied with their present living arrangements, and 67% were employed (60% of these participants had full-time employment). Only 47% of the respondents mentioned having health insurance, however. The focus group sessions uncovered multiple strategies and themes that led to a successful transition from school to independent adult life, such as (1) having clear future expectations and goals; (2) using available resources in the community; (3) using nontraditional methods (e.g., self-employment); (4) networking with others to reach the same quality-of-life goals; and (5) using technology effectively (e.g., utilizing email and finding support online). Some of the obstacles to a successful transition included not identifying appropriate community-based support services, lacking transportation, and having trouble forming friendships (i.e., from the perspective of the parents). The Curtis and colleagues (2009) study is a good example of how combining quantitative and qualitative data can add needed depth and understanding to findings that would not have been possible to obtain by either research method alone.

In an explanatory sequential, mixed method design of middle school students with EBD and their special education teachers, George (2010) examined the efficacy of using response cards in social studies instruction. In the response card classroom intervention, after teachers ask a question, the students write their separate responses on a sheet of paper, a small personal chalkboard, or dry-erase whiteboard; use a feltboard; or, in the 21st century, even use an iPad. Students hold up their response "cards" simultaneously to show the teacher after answering a question. With response cards, everyone participates, and this intervention eliminates the problem of one or two students' dominating the responses in a classroom. George was specifically interested in whether students with EBD could effectively use response cards, and what effect the treatment had on content-specific accuracy and attention to task during social studies lessons. Twenty-three boys and six girls with EBD who attended emotional support classrooms in grades 6–8 served as

participants, as well as five of their special education teachers. The quantitative analysis included the measurement of five dependent measures, such as chapter posttest scores and on-task behavior (among others), and a traditional instruction phase was used in contrast to the response card condition. The qualitative side of the study included the examination of teachers' responses to six open-ended questions related to the use of response cards. While interobserver agreement calculations were performed with some of the available quantitative data, no technical adequacy checks were reported with the qualitative data.

Results showed that the response card condition significantly improved the content-specific posttest scores of the students with EBD, in comparison to traditional instruction. The students also demonstrated higher levels of responding during the response card condition than in the traditional instruction format, as well as higher levels of correct academic responding when using the response cards. Time on task was also higher in the response card situation than in traditional instruction. The qualitative data showed that teachers enjoyed using the response cards and would continue to use them. The teachers also mentioned greater retention of information, as well as being "fun" for the students, as benefits of using the response cards. Given the overwhelmingly positive quantitative and qualitative results of the George (2010) study, it seems puzzling that response cards are not used more frequently in teaching early adolescents with EBD.

Adera and Bullock (2010) also used explanatory sequential mixed research methods to examine teachers of students with EBD and the interaction between their levels of job satisfaction and employment stressors. The sample included 156 educators of students with EBD (77.6% female) for the quantitative aspects of the study, and nine teachers (six female, three male) participated in focus groups for the qualitative experimentation. An electronic survey completed by the participants—including questions of a demographic nature and Likert scale queries about problematic classroom situations, job stressors, and discontent—was used as the source of the quantitative data. The focus group sessions included follow-up discussions of some of the survey

questions, as well as queries that shed new light on participants' perspectives. A post-focus group meeting was held to ensure that the participants' expressions were accurately depicted by the researchers, and member checks were also conducted to assist in credibility of the data.

The results of Adera and Bullock (2010) showed that "role overload" and involvement in a plethora of noninstructional duties were the most challenging for the participants—both those who completed the electronic survey and those who took part in the focus group. Focus group participants mentioned that school administrators who were unaware of the challenges for teachers of EBD also led the participants to feel somewhat frustrated. The focus group members further indicated that the heterogeneity of students with EBD in the classroom, with varying levels of need in academics and the social-affective domain, made high-quality instruction problematic. Contributing to the stress of the teachers were "overcrowded classrooms due to large caseloads, incongruence of program components, lack of appropriate therapeutic placement options for students with severe E/BD, and occasional use of E/BD programs as dumping grounds for students with delinquent behaviors" (p. 10). At least from the findings of the Adera and Bullock study, it appears that the many challenges facing teachers of students with EBD go far beyond just the maladaptive behavior displayed by the pupils.

Space does not allow for an exhaustive review of all the available qualitative and mixed methods research related to students with EBD since 2004, but the following international studies complement the U.S. studies described above: Chong and Leung (2012), Saraiva, Pereira, and Zamith-Cruz (2011), and Vander Laenen (2009). Likewise, the following dissertations were not reviewed here, but deal with students with EBD in the United States since 2004: Barnett (2010), Guiffre (2004), Jenkins (2008), Neree (2011), Paolotto (2011), Rinkel (2012), and Srsic (2011).

Lastly, there are technological tools to assist researchers in EBD who are involved with qualitative data analysis (QDA). Computer programs such as Atlas.ti and NVivo provide for QDA in a mixed design study and

allow for integration with quantitative data analysis conducted via SPSS. Other commonly used QDA software programs, such as AnSWR, Ethno, Ethnograph, HyperQual, MAXQDA, and Qualrus, allow for uncomplicated analysis of narrative data and lessen the burden on researchers.

Conclusions

The qualitative and mixed design studies reviewed herein highlight some of the difficulties and nuances involved in research concerning those with EBD and the individuals who interact with this population of interest. Regarding the nuances, quantitative research can be described as providing the “black-and-white” knowledge related to students with EBD (or any field of inquiry), while naturalistic research can add color and texture to the findings. Concerning the difficulties of qualitative research in EBD, it is clear that the array of available studies published since 2004 leaves us all wishing for cohesion and direction. We believe that the recent qualitative research findings in EBD are individually noteworthy and interesting, but we also agree that the complete contributions of such empiricism are still less than robust (cf. Mostert & Kavale, 2001).

Perhaps the difficulty in acceptance of interpretive research in the field of EBD can be traced to the lack of generalization of research findings, and to the objection that such results are not “transferable” (to use the vernacular of qualitative researchers). Some time ago, prominent authors of qualitative research methodology were not able to influence many quantitative researchers with statements such as these: “The only generalization is that there is no generalization” (Lincoln & Guba, 1985, p. 110) and “the interpretivist rejects generalization as a goal” (Denzin, 1983, p. 133). The lack of concern for external validity via generalization of qualitative research findings persists today, but naturalistic researchers have made efforts over time to defend their unique view of generalization and to negate its weaknesses. For example, case survey methods (see Yin & Heald, 1975), qualitative comparative techniques (see Ragin, 1987), and metaethnography (see Noblit & Hare, 1988) have all been developed

to assist in generalization of qualitative research findings by aggregating and comparing similar studies related to a specific topic. Yin (2003) has also suggested the use of “analytic generalization” in qualitative research, and stated that interpretive findings can be used to add depth to a theory being studied and developed. Yin’s suggestion appears simply to be adding new information to an extant qualitative database or theory—rather than actual generalization—but we leave further explication of this proposal to advocates of naturalistic research. Lastly, Schofield (2002) has recommended that qualitative researchers should study more environments and circumstances that are typical, rather than unique, so that generalization and external validity can be enhanced. One drawback of this suggestion, however, is that studying the unique is a hallmark of qualitative research and adds to readers’ interest. It appears that the arguments concerning the generalization limitations of qualitative research, particularly concerning individual (i.e., $n = 1$) case studies, live on to face both additional criticism and new solutions to the problem.

An interesting trend in recently published investigations in the EBD field is related to the infusion of mixed research methods. Extreme purists on both sides of the research aisle perhaps reject this combination of methods in one study, but it has led to a quasi-rapprochement among quantitative and qualitative researchers that some (e.g., Schofield, 2002) perceive as an improvement in methodology. Indeed, since the publication of the Sabornie (2004) chapter, the use of mixed methods research is one of the most remarkable changes in the literature dealing with EBD and special education in general. Questions still remain regarding mixed methods research, however. The research questions posed, the methods used, and the results found in any type of research still need to offer a sufficient magnitude of contribution to peer-reviewed literature outlets. In other words, the fact that a study uses mixed research methods does not guarantee seminal results and implications. Surely the possibility still remains that some research questions may be best investigated by a single quantitative or qualitative paradigm. We therefore suggest that in the future, researchers studying EBD should be

thoroughly schooled in quantitative, qualitative, and mixed research methods. Without such knowledge, training, and experience at this point in the 21st century, one cannot be considered a true scholar in EBD.

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The Role of Research in Evaluation of Interventions for School-Related Behavioral Disorders

Keith Smolkowski, Lisa Strycker, and John R. Seeley

Today's researchers and practitioners can reliably identify superior interventions for school-related behavioral disorders, thanks to a scientific process that has evolved over centuries. But the process is complicated and often poorly explained, leading some decision makers to mistrust or ignore scientific findings and miss opportunities to improve the lives of their constituents. Without an understanding of how the scientific process works, one may be tempted to dismiss evidence from judiciously crafted studies that answer carefully articulated questions and instead rely on biased and unreliable evidence, such as anecdotes from concerned parents, political statements, corporate brochures, Internet blogs, and oversimplified stories in the mass media (Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012).

The purpose of this chapter is to facilitate an understanding of the scientific literature in order to improve decision making. Although a given research evaluation may include countless details, all scientific experimentation is based on the same basic logic and principles. This chapter describes misconceptions about research, the stages of research from development to implementation, and the principles behind the process of scientific evaluation. It explains how the scientific process can lead to better interventions, supports, and treatment of students who exhibit behavioral challenges in schools.

The primary focus is on research methods designed to rule out bias, subjectivity, and alternative explanations. The overarching goal is to foster a greater appreciation of the basic principles of scientific research, so that researchers and practitioners can put this well-established decision-making tool to maximal use.

Misconceptions

Misconceptions about research may arise from a number of sources. The research process may be different from, and more complicated than, what many people have learned in school. Research findings may be misunderstood due to the human propensity to take mental shortcuts, which are useful in some situations but not in others. Also, mass media portrayals of research results may lead to mistaken beliefs and false impressions. An awareness of common research misconceptions is helpful in order to avoid falling victim to them.

Secondary and Primary Research

For many people, the word “research” calls to mind the typical process for writing a research paper in high school or college—that is, selecting a topic, finding relevant source material, reading articles or books,

and summarizing the main points in a paper. In the research community, this exercise is called “secondary research,” because it relies on previously published reports of facts and ideas. But who determined those facts? The original authors may appear reputable (e.g., they may have advanced degrees) and may present ideas that sound reasonable and compelling, prompting readers to assume that the information must be correct. But the validity of the information cannot be determined when supporting evidence is weak or nonexistent. Even compelling ideas can be completely speculative. For instance, the idea that teachers should tailor their instruction to the different learning styles of students may seem reasonable on the surface, but none of the 70 or more conceptions of learning styles has been demonstrated to improve instruction or student academic outcomes (Coffield, Mosely, Hall, & Ecclestone, 2004; Pashler, McDaniel, Rohrer, & Bjork, 2009; Willingham, 2006).

Another major source of information derives from “primary research,” or actual tests of ideas by researchers. There are two key differences between those who posit interesting ideas and researchers. Researchers must justify their ideas with a relevant theory, and must test ideas in a rigorous way. Theories organize ideas to make sense of observable events and past research findings. According to French physicist Pierre Duhem (1861–1916), a theory is a system of propositions “whose aim is to represent as simply, as completely, and as exactly as possible a whole group of experimental laws” (Duhem, 1914/1991, p. ix). Unlike a theory, an experimental law is merely a statement based on repeated experimental observation. Researchers must do more than offer a plausible explanation for their own research. They must also provide an explanation that fits within the collection of past research, or convincingly demonstrate how the prior research was flawed. And researchers must put ideas to the test—and not just any test, but a “falsifiable” test (Popper, 1963), or one that can affirm or disprove specific hypotheses through experimentation and observation. Primary research is held to a very high standard of accountability. This chapter focuses on the conduct of primary research. The same principles apply to most ideas in social science, such as psychological

or instructional research, but the emphasis here is on scientific processes used to evaluate interventions for behavior challenges in schools.

The “Ivory Tower” and Real-World Research

Many people mistakenly believe that much scientific study occurs in an “ivory tower”—that is, in the minds of researchers who may not interact with school-age children, teachers, parents, or other stakeholders. But most research on student behavior takes place in real schools and classrooms. Research is fundamentally pragmatic, and requires a substantial investment to ensure that the recommended ideas and practices truly work in real-life contexts. For many research-based practices or programs, this process involves several major steps: program development, then brief tests of the program, followed by successively more rigorous tests in schools, and finally by the development of mechanisms for implementation and dissemination. Researchers involve teachers, administrators, students, and parents in the development process. The program of interest may be tested first in ideal circumstances and then in more authentic settings, increasing the role of educators and their students during successive evaluations.

Correlational and Experimental Research

The reliance on associations in research studies can lead to misconceptions. Researchers may attempt to draw support for an intervention based on correlations between predictors and outcomes. It is natural to assume that the association between two events has a causal connection, but this assumption is often erroneous (Kahneman, 2011; Nisbett & Ross, 1980). Some events are associated but not causally linked. Although correlation does not necessarily imply causation, correlational evidence remains the sole source of support for many supposedly research-based interventions. The primary challenge to correlational evidence is its inability to rule out alternative explanations.

In 1999, for instance, the journal *Nature* published a correlational study implying that nearsightedness was linked to ambient nighttime lighting for children less than 2 years

of age. Its authors concluded, “it seems prudent that infants and young children sleep at night without artificial lighting in the bedroom” (Quinn, Shin, Maguire, & Stone, 1999, p. 113). This conclusion, however, was called into question by subsequent research, which showed that the results of Quinn and colleagues could be readily explained by a third variable that was associated with both nursery lighting and children’s eventual nearsightedness (Guggenheim, Hill, & Yam, 2003; Gwiazda, Ong, Held, & Thorn, 2000; Zadnik & Jones, 2000): Parents with limited vision generally prefer nighttime lighting for their children, and are more likely to have children with vision impairments. The original, correlational study did not account for parental vision, which provides a better causal explanation of the phenomena observed in the original study.

In contrast to correlational research, experimental studies rely on a basic tenet that was well expressed by Kurt Lewin (1951): “if you want truly to understand something, try to change it.” This sentiment implies an “experiment,” which forms the heart of rigorous, scientific evaluation of interventions and behavioral support practices. As an example, more than 40% of U.S. middle schools suspend or expel students for repeated absenteeism (Gottfredson et al., 2000), but only a well-crafted research study can determine whether exclusion from school is an appropriate method for correcting absenteeism. By systematically manipulating the number of suspensions and expulsions in response to absenteeism, such a study would demonstrate whether these practices reduced absenteeism and whether expulsion policies were justified in thousands of middle schools. At least one experimental study (Gottfredson, Gottfredson, & Hybl, 1993) did just that, and found that suspension, expulsion, and other punitive measures actually increased students’ problem behavior.

Among experimental studies, some designs are more “rigorous” than others. The randomized controlled trial (RCT) and some single-case studies are among the most rigorous designs. These designs can help researchers state with confidence whether a certain intervention or practice (e.g., reinforcing appropriate behavior) leads to a particular student outcome (e.g., improved

behavior), and thus can help them rule out alternative explanations. Rigorous evaluations offer an objective view of the intervention or curriculum under study. In an objective study, as opposed to a subjective study, multiple observers view the results similarly. Often, because the details associated with such experiments are difficult to carry out, a single study is insufficient to address all potential threats to clear, reliable, and objective results. For this reason, the scientific community places a premium on “replication,” or multiple studies to confirm the effect of an intervention or practice.

Research and the Mass Media

Research misconceptions frequently arise from sensationalized or incomplete reports in the mass media. Confusion can result when study findings are presented from a single study, often without context or regard to the rigor of the study, as in the inoculation–autism scare of 1998. The report relied on one poorly conducted study that failed to rule out bias and alternative explanations. The media coverage of this story and the supposed autism “epidemic” contributed to the controversy (Lewandowsky et al., 2012). Unlike news reporters, researchers are seldom willing to rely on one study to draw strong conclusions. Their reliance on multiple studies allows for self-correction within the scientific process. In the case of inoculations, subsequent research demonstrated that inoculations had never caused autism (Offit, 2008), and diagnostic substitution appears a likely explanation for the earlier findings. During the period of the supposed epidemic rise of autism, reports of mental retardation, learning disabilities, and developmental language disorders decreased as reports of autism increased (Bishop, Whitehouse, Watt, & Line, 2008; Shattuck, 2006). Unfortunately, the media drama led to an increase in the prevalence of preventable diseases among children, such as measles outbreaks in England (Smith, Ellenberg, Bell, & Rubin, 2008).

Confidence in Research Results

There is a common misconception that any school program or practice submitted to rigorous evaluation must be deemed successful.

But even programs shown to be effective in a research study may have such small effects, or such little confidence in effects, that they are unlikely to work in schools. Researchers must also be able to present the results of their work in an understandable way, without overstating their claims and without overreliance on complex statistical details. Complicated, obscure, or nonsensical presentations can sometimes serve to favorably bias interpretations, but without a rationale (Sokal & Bricmont, 1998). One study demonstrated that individuals with experience and advanced degrees in the social sciences and education rated research abstracts more highly when they included an irrelevant mathematical statement (Eriksson, 2012). Statistics quantify results, but they are not the heart of scientific research. Researchers should be clear about the magnitude of the intervention effect and the level of confidence in the results of their studies. In this way, the scientific process not only can support successful programs, but also can rule out poor ones.

Stages of Research

A program of research on interventions for school-related behavioral disorders, as with nearly any educational content area, involves several steps. The stage model of behavioral therapies research (Onken, Blaine, & Battjes, 1997) articulates three progressive stages of development and evaluation of behavioral interventions: initial intervention development and preliminary or “pilot” research; tests of the intervention in ideal conditions; and tests within real-world situations. This stage model thus moves a proposed intervention from innovation to efficacy to transportability research. Stage I consists of program development, followed by feasibility and pilot testing of new behavioral interventions. Stage II typically employs experimental trials to evaluate the “efficacy” of interventions—the power of the interventions to produce effects—in ideal circumstances. Stage III evaluates whether an efficacious intervention will produce the desired results in practice; this stage is often called “effectiveness” research. Stages II and III actually represent a continuum of research, with the descriptions below anchoring the

ends of the spectrum. A fourth stage, “scale-up” research, is not made explicit in Onken and colleagues’ model, but addresses the adoption and implementation of interventions.

Stage I: Development and Pilot Testing

Interventions begin with an idea, sometimes derived from theory and sometimes through observations. Researchers expand the idea into an intervention approach; this process can take weeks, months, or years, and it often involves researchers as well as relevant stakeholders, such as students, teachers, other practitioners, administrators, and parents. Stakeholders help ensure a balance among a relevant theory of behavior change, practical considerations, and ideological concerns.

Stage I research usually entails an iterative process of intervention development and assessment, in which the intervention developer interweaves development activities with information-gathering activities intended to aid development. Emphasizing the iterative nature of Stage I research, Rounsaville, Carrol, and Onken (2001) advise a sequence of substages for initial program development, feasibility testing, preliminary testing of intervention effects, and further development. Formative assessments may be conducted to identify needs; develop communication strategies; determine specific intervention features, requirements, and implementation specifications; and plan for formal evaluation. During this stage, researchers should consider participatory research methods to judge the feasibility and acceptability of the planned intervention approach to the intended target population and other stakeholders, such as policymakers and potential program adopters (Green, Daniel, & Novick, 2001; Klesges, Estabrooks, Dzewaltowski, Bull, & Glasgow, 2005). Typical methods for formative assessment include case studies, focus groups, task analysis, surveys, and literature reviews (Eng, Gustafson, Henderson, Jimison, & Patrick, 1999). Feedback loops, such as usability testing and consumer satisfaction, are especially helpful during program development.

Once the intervention has been developed, pilot testing aims to more formally demon-

strate stakeholder acceptance and engagement, feasibility of the intervention delivery approach, and educational or clinical significance of the intervention effects (Rounsaville et al., 2001). Pilot studies may or may not rely on experimental research designs, and are typically too small to be broadly applicable; however, they serve the important function of demonstrating whether the developed intervention is worth the investment in more rigorous, expensive, reliable, and generalizable research.

Stage II: Efficacy Trials

Once a program has been deemed feasible, investigators test its efficacy through experimental research. Efficacy trials demonstrate whether an intervention will achieve the desired outcomes under optimal conditions. This is an important stage in the research process, as it has the potential to establish whether an intervention positively affects the lives of students or fails to perform as expected. The success of a research trial lies not in the results of the program being studied, but in its ability to reduce bias, misinterpretation, or alternative explanations. Hence efficacy trials require experimental research methods whenever possible.

Ideally, an intervention would be submitted to two or more efficacy trials (Flay et al., 2005). Because efficacy trials take place in optimum, controlled circumstances, an initial supportive study will not necessarily generalize to all schools, students, and teachers. An efficacy study may recruit schools, their staff members, and students to participate, but investigators may also pay the associated costs for teachers, school psychologists, or other interventionists to implement the program. To provide additional control over the study and reduce alternative explanations, the investigators may define procedures and specifications that limit enrollment to a specific subset of schools and students. For example, a study may be conducted only in schools that have already implemented a particular set of behavioral practices, such as schoolwide positive behavioral interventions and supports. This type of experimental control—comparing an intervention to “business as usual” within consistent and known school environments—gives researchers a better understanding of how

their intervention works. By controlling intervention implementation and the study or school context, researchers reduce potential misinterpretations of study results and rule out alternative explanations.

The same controls used to improve interpretation also limit generalizability. Too often, educators adopt an intervention after only one test of its efficacy. The results of a sole efficacy trial may not be replicable in different contexts. As researchers conduct additional studies, however, and show that the intervention works in multiple contexts, with different groups of students, and with other variations, they increase the generalizability of the results. An important limitation of most efficacy trials is that they provide financial or other supports that are often not available within typical schools. Interventions should be designed to account for the realities of educational environments, and this is why guides on the best research practices recommend the experimental evaluation of interventions within real-world settings and with the resources available to educators (Flay et al., 2005).

Stage III: Effectiveness Trials

Effectiveness trials examine interventions under actual conditions and with real-world resources. The effectiveness test is warranted if researchers have demonstrated that an intervention successfully improves the intended student behaviors, preferably in two or more efficacy trials. Effectiveness trials then test the intervention in schools facing the practical and resource-related challenges that are typical today. Like efficacy trials, effectiveness trials generally employ experimental research designs. Because of their emphasis on generalizability to a wide array of instructional contexts, such as multiple types and sizes of schools, effectiveness trials usually require large samples.

At this stage, researchers no longer rely on paid interventionists or other resources unavailable to schools for intervention implementation. Additional resources may be used to evaluate the program—such as self-report measures or observations of teacher or student behavior—but should not include the costs of the intervention itself or assessments used for intervention purposes, such as those that guide educators in imple-

mentation improvements. This restriction has been built into some funding mechanisms. For example, the Institute of Education Sciences limits funds associated with intervention activities to 25% of the grant award in effectiveness studies. In contrast, funding for efficacy trials has no limit on intervention costs.

Key issues in Stage III research are generalizability, implementation, and cost-effectiveness, as well as social validity issues such as acceptability to consumers (including educators, their students, and parents). In contrast to Stage II, greater emphasis is placed on “external validity,” or the degree to which the study is valid outside the context of a small sample of study schools. To that end, effectiveness researchers seek diverse and representative samples of schools, students, and teachers from the target population.

Because effectiveness studies typically involve multiple settings, the intervention may have to be adapted to fit a particular setting. In general, the evaluation activities, methods, and reporting criteria for effectiveness research are the same as those in efficacy research, but with more attention paid to participatory process evaluation because of the inclusion of more varied subjects and settings. Also important is long-term follow-up to assess the maintenance of the intervention within schools or other settings (Glasgow, Vogt, & Boles, 1999).

Intervention Implementation (Scale-Up)

Historically, the scale-up trial has been either ignored or addressed within Stage III. “Scale-up” or “dissemination” research tests the ability of educational systems (such as schools or districts) to implement an intervention as intended with the resources available to them. Compared to the previous three stages, scale-up research is less focused on the ability of the intervention to produce changes in student behavior. Scale-up research assumes that the intervention has been demonstrated to be effective through successive efficacy and effectiveness research. In scale-up evaluations, researchers address whether teachers, school psychologists, instructional assistants, and administrators will adopt and implement the intervention as intended. To this end, they

gather data and evaluate the degree to which the intervention is adopted, implemented, and sustained.

The National Implementation Research Network (NIRN) has defined “implementation” as “a specific set of activities designed to put into practice an activity or program” (Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005, p. 5). NIRN’s work suggests a sequence of stages necessary for successful implementation: exploration and adoption, program installation, initial implementation, full implementation, innovation, and sustainability. The exploration and adoption stage identifies programs and explores evidence-based solutions to address problems, drawing on results from rigorous research. To enhance desired outcomes, programs should be installed and implemented with as much fidelity as possible to the original designs, but adaptations and innovations may be needed to fit the community, school, students, and staff. Sustainability, often overlooked, is an integral part of the implementation process and must be kept in mind throughout all stages.

Rigorous Evaluation

The rigorous evaluation of an intervention demands a well-designed study. Research design provides the basic plan for building a study that will be capable of determining whether the intervention caused the desired change in behavior. In designing a study, researchers specify the type of schools in which they intend to work; the process for recruiting administrators, teachers, and students; the method for obtaining consent from parents; the objective measures they will collect and the procedures by which they will collect them; and the approach to be used for examining the data obtained from the measures.

In social science and educational research, experimental designs are meant to help researchers answer questions about how a particular set of events causes another set of events, or whether an intervention achieves its desired outcome. Often the desired outcome is positive change in the behavior of a student, or group of students, after the administration of the intervention. But student behavior may change for many reasons

unrelated to an intervention, and it is very difficult to test two different treatments—for instance, business as usual and a new intervention—with the same student while holding all other conditions constant. For instance, a researcher who plans to test the First Step to Success intervention for behaviorally challenging students could try the intervention one day and not the next, but each day is filled with differences from the previous day, making it impossible to sort out the intervention effects from other changes. Carefully chosen research designs can help overcome this challenge. This section examines three experimental research designs, focusing on the underlying logic rather than details about recruitment, consent, assessment, and statistical analysis. Each design, in its own way, addresses the basic question about cause and effect.

Definition of Terms

A brief review of basic vocabulary is helpful in any discussion of research designs. Specifically, the concepts of “units,” “conditions,” and “experimental control” are central to research design considerations.

All research studies about student behavior involve a participant sample. It might be a sample of schools, classrooms, or students, or a sample of assessments of the same student over time. These entities are called “units.” The unit under study might be the school in a trial of a schoolwide behavioral program or an individual in a single-case trial of a student with a severe behavioral disorder. The unit is the entity about which the researcher wishes to generalize results from the experiment. The researcher who plans to test whether a new curriculum improves instruction should choose teachers as the units of study, in order to generalize the improvements associated with the curriculum and its delivery across both teachers and their students.

Most studies include two or more “conditions,” such as a treatment condition and a control (comparison) condition in a two-arm study. Intervention conditions represent groups of units; that is, each unit is assigned to one of two or more conditions. To compare and interpret differences between conditions, it is essential to know what is happening with the units in each condition. For instance, one group of students may be

assigned to receive a promising new intervention, while students in another group continue to do their work as usual. The former condition is called the “active intervention” condition, and the latter is typically referred to as “business as usual.” A different study could compare two active intervention conditions. Yet another kind of study could assign all assessments of an individual before a certain time point to one condition and measurements taken afterward to another condition. The assignment of a unit to a condition is often called the “independent variable,” because it is ideally independent from all other activities or characteristics of the units. This independent variable should be entirely under the researcher’s control.

The goal of experimental studies is to demonstrate “experimental control.” Researchers demonstrating experimental control are able to show that the outcome was influenced by the intervention and that alternative explanations can be ruled out. Experimental control has been demonstrated if (1) the outcome, also called the “dependent variable,” changes with systematic implementation of an intervention, the independent variable; (2) the outcome changes coincide with intervention implementation; and (3) no other event can explain the outcome changes. The three research designs described below allow for causal inferences because they can demonstrate experimental control.

Experimental Research Designs

The three kinds of experimental designs that allow statements about cause and effect are the RCT, the RCT-related regression discontinuity (RD) design, and the single-case study. All three offer advantages over alternatives such as correlational research, case studies, or comparisons between individuals or groups that were self-selected, nominated, or chosen in such a way that they may differ on important but potentially unmeasured factors.

Randomized Controlled Trials

As the name suggests, RCTs require the random assignment of units, such as students, to two or more treatment conditions (Judd & Kenny, 1981; Shadish, Cook, & Campbell, 2002)—a mechanism that controls for a wide array of environments, background

characteristics, and abilities. In a study that randomly assigns 50 students to one of two intervention conditions, it is unlikely that any differences in student behavior will result from differences in their academic performance, behavioral skill set, parent income, or numerous other characteristics. Researchers assume that the groups of students assigned to the interventions are equivalent on all relevant baseline characteristics except for exposure to the interventions under study.

In contrast, consider a study testing a play-based behavior intervention in which the researcher assigned the 25 most interested students to the intervention condition, leaving the 25 least interested students in the comparison group. Results from such a study would fall prey to multiple explanations; it would be impossible to say whether the intervention caused group differences. This study is weakened by “selection bias,” which occurs when a systematic factor, such as interest in the program, determines group membership. More interested students may behave differently from less interested students, regardless of how well the program works. A similar situation would arise in a study that compared teachers selected by their principal to receive an intervention to those who were not selected.

RCTs rely on a second major assumption: A sample of units can reasonably represent the full population of units. This principle forms the basis for the widespread use of survey research, correlational studies, and opinion polls. Logically, an attribute of a population 1 million strong could be easily represented with data from all but one member. Even a survey of 100,000 members, just 10%, would probably represent the total very well. Often even a few hundred members can provide a reasonable estimate of a much larger population. In an RCT, the same principle applies, but here a researcher is primarily interested in a limited set of characteristics: the behaviors expected to change due to the intervention under study. With random assignment of an adequate number of students to control for background characteristics, researchers can assume that sufficiently large differences in student behavior generalize to the population of similar students.

These twin assumptions—of equivalence due to random assignment and of

representativeness of the sample to a larger population—allow for causal inferences through the “potential outcomes” framework (Holland, 1986; Raudenbush, 2008; Rubin, 1974, 1978, 1986, 2005; Sobel, 1996, 2008). Because those receiving an intervention cannot also not receive the intervention, and vice versa, an outcome can only be observed under one and not under both conditions. In interventions with students who have behavioral disorders, “potential outcomes” refer to the behaviors the students would have exhibited had they been exposed to a different condition from the one assigned. The potential outcomes approach presupposes that the outcomes of units in Intervention A are similar to the outcomes that those in Intervention B would have experienced if they had instead been assigned to Intervention A. The latter condition represents potential but unmeasured outcomes, and because students were randomly assigned to each condition, the researcher can make the assumption that the differences in how students respond to the conditions should be similar, even though no students have experienced both.

The potential outcomes model includes one other key assumption: the presumption that one unit does not influence another unit. This can happen when students have been randomly assigned to classrooms and treated in groups (Baldwin, Murray, & Shadish, 2005; Raudenbush, 2008). In such cases, it is possible that a single student—perhaps a particularly engaging but inappropriate student—can influence the class. In addition, because all students are taught by the same person, the teacher’s behavior management skills may influence multiple students similarly. In both cases, the influence of students on each other, or of the teacher on the students, increases the potential for alternative explanations such as teacher effects. Thus researchers may make causal determinations only when random assignment is coupled with the ability to make inferences from a sample to a population and when units are independent.

Regression Discontinuity Studies

The research design for an RD study is similar to that of an RCT, with one critical design difference and a key limitation (Judd & Kenny, 1981). Rather than randomly assign-

ing students or schools to a condition, as in an RCT, researchers in an RD study assign students or schools to a condition according to a specific score, the “cutoff point,” on a specific measure called the “assignment variable.” For example, an RD study might specify that all students scoring below a certain value on the Walker–McConnell Scale of Social Competence and School Adjustment (WM; Walker & McConnell, 1993), the assignment variable, would receive an intervention, whereas all students scoring at or above that value would not. Although students in the two conditions would clearly differ, researchers would know precisely how they differed because the assignment to treatment conditions was based on a measure collected on all students. As a result, those differences could be accounted for in analysis of the data. The data-analytic specifics are somewhat complicated (Bloom, 2012), but the precise knowledge about how students were assigned to the two conditions would make it possible to compare students having scores surrounding the assignment variable cutoff point.

The key limitation of an RD study is that researchers can only generalize differences between conditions to students around the assignment variable cutoff point. For example, researchers who assigned students scoring below 10 on the WM to an intervention might find that they performed better than students at or close to the cutoff point of 10. If so, they could generalize the results to similar students who scored near 10 (say, those who scored between 8 and 12), but could not argue that the intervention would work for students who scored much higher or lower. RD trials also require a larger sample of students, typically between two and three times as many as an RCT (Cappelleri, Darlington, & Trochim, 1994). The larger sample of students and limitations in generalization represent tradeoffs, but an RD study may be the best option if an RCT is not possible—for instance, in a population of students with severe behavioral disorders, for whom doing nothing would be impractical and unethical. The RD design offers a way to investigate the value of interventions in scenarios that do not lend themselves to other designs. In these cases, the increased sample requirements and limitations of generalizability of RD studies are preferable to using untested interventions.

Single-Case Studies

Single-case research designs bypass the application of potential outcomes and explicitly assume that researchers can indeed assess individual units under two or more distinct conditions separated in time. Single-case researchers make causal claims, but under a different set of assumptions from those used for the RCT. The basic logic is that change in the outcome, or dependent variable, occurs in a way that is highly unlikely to happen by chance (Horner, Swaminathan, Sugai, & Smolkowski, 2012). For example, suppose a researcher intervenes with a single student, and the student’s behavior improves. The intervention may or may not have caused the reduction in the student’s problem behavior. There may be alternative explanations. Changes in the child’s environment may have coincided with the intervention and change in behavior. In a single-case study, researchers seek to demonstrate experimental control—control over the outcome measure with the intervention—by changing the outcome three or four times, depending on the design specifics.

One form of single-case trial is the ABAB reversal design. The A’s and B’s refer to different conditions or phases of the study, with A phases usually representing baseline periods without treatment (business as usual), and B phases typically representing intervention. The change from the first A to the first B represents one demonstration of experimental control. If an intervention to increase student on-task behavior works as expected, limited on-task behavior should be seen in Phase A, and an increase in on-task behavior should be apparent during Phase B. Once the student responds to the intervention, the intervention is stopped and the study makes the transition to the second Phase A—back to baseline. If the intervention has been responsible for the increase in on-task behavior, the student should decrease on-task behavior when the intervention is withdrawn. This provides the second demonstration of experimental control. Finally, the researcher reapplies the intervention to increase on-task behavior. If the student increases on-task behavior, there is a third demonstration that the intervention is responsible for the change in on-task behavior. This process has resulted in three changes in student behavior across time and

has demonstrated that the changes probably occurred because of the application or removal of the intervention. The study design rules out alternative explanations because unplanned student–teacher interactions, parental activities, environmental changes, and other external variables are unlikely to coincide with all three deliberate phase changes.

In single-case studies, researchers must collect enough data during each phase to document that student behavior has stabilized. Single-case studies require many measurements of a single unit, whereas RCTs rely on measurement of many units. Because single-case trials must measure the student behavior that the intervention is expected to change, these designs can be useful for testing interventions targeting student behavioral disorders in schools, but may be more difficult to apply to an academic intervention, such as early literacy, in which students accumulate knowledge over time. Single-case studies are particularly useful during intervention development, as they allow for greater flexibility with the implementation and details of the intervention.

There are various useful single-case designs, all requiring at least three or four demonstrations of experimental control at different points in time. In general, these study designs show all the data collected and allow readers to make independent judgments about the extent of empirical support for experimental control. However, single-case experiments are not case studies. Although the name suggests a single participant, some designs use several participants (Arnold, 1997; Kennedy, 2005). The most important difference between single-case designs and case studies is the rigor that allows a causal interpretation. Additional details about single-case research are provided in Horner and colleagues (2012), Zhan and Ottenbacher (2001), Kazdin (2011), and Kennedy (2005).

Demonstration of Effects

The demonstration of an intervention effect requires two more important considerations beyond the research design logic. Each research design compares two or more conditions. Researchers can usually fully explain the intervention under study, but rigorous

research demonstrates its value only in reference to the comparison condition. Hence it is essential to clarify the conditions with which the intervention has been compared. The intervention must also improve the targeted outcomes among more than the sample of units (e.g., students or schools) used in one specific study; that is, the study must be designed to allow generalization.

Comparison Condition

In any intervention evaluation, researchers specify not only the intervention being tested, but also the control condition to which the intervention is compared. The control condition, or “counterfactual,” refers to what might have happened in the absence of the intervention. A clear understanding of the counterfactual is central to interpretation of intervention effects. The impact of an intervention on student behavior may appear quite different when it is compared to effective schoolwide and classroomwide behavior management practices than when it is compared to chaotic environments. Misunderstandings about the counterfactual can lead to the spread of misinformation.

A recent What Works Clearinghouse (WWC) review of the Reading Mastery program for students with learning disabilities demonstrates how the evaluation of a study depends fundamentally on the counterfactual or comparison condition. The WWC reviewers presented flawed conclusions because they had inadvertently selected two studies with inappropriate counterfactuals. One study compared Reading Mastery Fast Cycle to a similar program created by the same authors, called Horizons Fast Track (Cooke, Gibbs, Campbell, & Shalvis, 2004). The second study compared the Reading Mastery program to Reading Mastery plus a 45-minute-per-day supplemental program (Herrera, Logan, Cooker, Morris, & Lyman, 1997). The reviewers concluded: “Reading Mastery was found to have no discernible effects on reading comprehension and potentially negative effects on alphabets, reading fluency, and writing for students with learning disabilities” (U.S. Department of Education, 2012, p. 2). The review, which was later removed from the WWC website, had based its conclusions on studies that had compared Reading Mastery to (1) essentially a newer version of itself (which found, not

surprisingly, no significant differences) and (2) the same Reading Mastery program plus daily additional instruction (which found potentially negative effects). The example serves as a caution that intervention results must always be interpreted within the context of the comparison condition.

For researchers, the choice of what to offer a comparison group should be driven by factors such as existing knowledge about the relative efficacy of the proposed experimental and control interventions, appreciation of the range of interventions available, and current practice in the setting in which the research is being conducted. A good counterfactual is neither so intensive that schools are unlikely to use it nor so limited as to be contraindicated. Business as usual, or the absence of intervention, is often used as a comparison for testing new interventions and typically represents a good balance. Sometimes, however, business as usual may not be sufficient to control for the time or attention received in the intervention condition. Researchers may choose to compare the experimental intervention to an established intervention if they hypothesize that the new intervention represents an improvement over standard treatment because of its ability to address the targeted behaviors or reduce costs.

Generalization

Ideally, to test a hypothesis, an entire population would be sampled. In reality, because sampling a whole population is usually not possible, well-designed studies draw a sample representative of the whole population so that results can be generalized to that population. To understand how results from a study represent schools or children as a whole, the key is to sample a reasonable representation of the population, and then gather data about the sample that can be compared to the wider population. For financial and other pragmatic reasons, many experimental studies do not select a representative sample. In such cases, research results can be generalized, but only to populations similar in respects relevant to the intervention. For interventions in behavioral disorders, a student's first language may not be critical, but gender, socioeconomic status, and history of problem behavior may be.

Selection of the unit of study, such as the student, teacher, or school, is key to the interpretation of the results. Consider a study that assigns 50 students each to one of two classrooms and then tests a new behavior management strategy with one teacher in one classroom (Classroom A), while the other teacher continues to manage the other classroom as usual (Classroom B). In this study, if the intervention appeared to work—if the students in Classroom A seemed to behave better than those in Classroom B—several alternative explanations would be possible. For instance, the teachers might differ considerably in training and experience, or the classrooms might differ in organization, layout, schedule, or other features (such as hallway noise; Kartub, Taylor-Greene, March, & Horner, 2000) that might influence student behavior. In studies of classroom programs and curricula, the use of a small set of teachers can lead to “teacher effects,” or differences between conditions that are really caused by differences between teachers. A better research design would be to randomly assign intact classrooms, and their students, to experimental conditions. This allows for generalization across teachers and limits alternative explanations.

Evidence

Increasing emphasis has been placed on the importance of evidence-informed school programs and evidence-based decision making (American Psychological Association, 2005). Definitions of what constitutes “evidence” have been debated, but most agree that evidence is necessary for researchers, practitioners, and policymakers in conducting studies and implementing research findings. Evidence may include a variety of research and nonresearch sources, such as reviews, research trials, quality improvement data, and case studies, but the best evidence for intervention effectiveness arises from rigorous evaluations.

Sources of evidence can be categorized into levels, such as the model developed by Melnyk and Fineout-Overholt (2005) that includes seven levels rated from strongest to weakest. The highest levels of evidence emerge from systematic reviews of all relevant RCTs (Level I) and from at least one

well-designed RCT (Level II). RD and single-case designs offer a similarly high level of evidence. In general, the stronger the evidence, the higher the likelihood that it is valid and relevant for a particular situation. Although the strongest levels of evidence are the ultimate goal, lower levels of evidence may be helpful during the intervention development phase to build understanding of program components, and in feasibility studies to determine whether the intervention is acceptable and sustainable in its intended settings. Results from trials without randomization, from case-control studies, or from correlational research and qualitative studies must be viewed with caution: They may sometimes add to the knowledge base for a particular intervention, but they can also mislead.

In evaluating interventions, researchers and practitioners focus on evidence of efficacy and effectiveness (answering questions such as “Is this intervention producing desired outcomes?” and “Is it producing undesirable outcomes?”) and the strength of evidence (answering questions such as “How rigorously has the intervention been evaluated?”, “How convincing is the evidence that the intervention produces the desired outcomes?”, and “Is there good evidence that something other than this intervention would produce the desired outcomes?”).

To help researchers and practitioners evaluate and compare evidence from research findings, several useful frameworks have been proposed for standardized reporting of clinical trials. These frameworks should be considered at all stages of research, including design, implementation, reporting, and interpretation. The Consolidated Standards of Reporting Trials (CONSORT) framework (Schulz, Altman, & Moher, 2010) includes a 25-item checklist and flow diagram of the enrollment, allocation, follow-up, and analysis phases of an RCT. In order to expand the CONSORT statement to address external validity further, and to assist in the translation of research into practice, Glasgow and colleagues (1999; see www.re-aim.org) developed the RE-AIM framework for behavioral health interventions. Briefly, the RE-AIM framework includes five dimensions—reach (i.e., number, proportion, and representativeness of

participants); efficacy or effectiveness (i.e., impacts on important outcomes); adoption (i.e., number, proportion, and representativeness of agents who implement the intervention); implementation (i.e., fidelity to intervention model); and maintenance (i.e., long-term effects and program sustainability)—relevant to evaluating the potential for dissemination and public health impact of interventions. The combination of CONSORT and RE-AIM represents important design considerations and reporting criteria for both efficacy and effectiveness trials. Ideally, researchers fully understand these concepts and incorporate them throughout the entire development and evaluation process.

Summary

The principles presented in this chapter are exemplified in the real-world development and evaluation of the Triple P—Positive Parenting Program, developed by Sanders and colleagues (1977–present) at the University of Queensland. Triple P is a multilevel program designed to prevent severe behavioral, emotional, and developmental problems in children by boosting parental knowledge, skills, and confidence. The program consists of five tiered levels of intervention: universal parent information (Tier 1), a brief selective intervention for parents of children with mild behavioral problems (Tier 2), a longer intervention for parents of children with mild to moderate behavioral issues (Tier 3), intensive intervention for parents of children with more severe behavioral problems (Tier 4), and a family intervention for families with persistent child behavioral problems or family distress (Tier 5). As related in Sanders, Markie-Dadds, and Turner (2003), the Triple P intervention has been systematically tested with a series of controlled evaluations since 1977. The evidence base for Triple P progressed from single-case efficacy trials to effectiveness RCTs and then scale-up studies, and each tier of intervention and delivery modality within level was evaluated in settings ranging from university clinical research facilities to community health services. Initial research showed that parents could learn to implement the program strategies (e.g., Sanders & Christensen, 1985; Sanders & Dadds, 1982; Sanders & Glynn,

1981). Additional program components were designed and tested to help parents in high-risk situations (Sanders & Dadds, 1982). Controlled trials were conducted to improve the program, evaluating additional intervention components targeting family risk factors, such as marital conflict (Dadds, Schwartz, & Sanders, 1987) and depression (Sanders & McFarland, 2000). RCTs were launched to compare the efficacy of different variations of the Triple P intervention (Connell, Sanders, & Markie-Dadds, 1997; Markie-Dadds & Sanders, 2006). Large-scale population trials evaluated and then replicated findings for the group version of the program, while program developers continued to study the effectiveness of Triple P programs delivered through new modalities (e.g., via the media and through primary care nurses) and targeting new problems. As a result of this systematic development and evaluation process, strong evidence supports Triple P according to multiple criteria: replicability of findings, clinically meaningful outcomes, effectiveness of different levels of intervention, consumer acceptability, and effectiveness with a range of family types.

Rigorous evaluations, like those conducted for Triple P, help researchers and practitioners develop, evaluate, and implement interventions on school-related behavior disorders. But common sense is valuable, too. The rigorous research designs discussed here are based on logical reasoning and aim for high levels of scientific evidence. Yet they are only methodological tools in the hands of researchers seeking solutions to practical problems. To use these tools successfully, researchers must think and act critically. An elegant plea for common sense in evidence-based research was made by Smith and Pell (2003) in their tongue-in-cheek review of the literature on the use of parachutes to prevent death and major trauma related to gravitational challenge. The systematic review found that no RCTs on the topic had been conducted. In the absence of RCT evidence, the authors offered two choices: Either use common sense when considering the potential benefits and risks of parachutes, or invite protagonists of evidence-based science to participate in a “double blind, randomised, placebocontrolled, crossover trial of the parachute” (p. 1460). Smith and Pell remind us that research is more than a col-

lection of RCTs. Critical thinking is also required. In the field of education, researchers and practitioners must actively and skillfully interpret research evidence to reach justified conclusions about intervention feasibility, efficacy, effectiveness, and sustainability. The ultimate goal is to identify and implement evidence-based interventions that will truly improve student outcomes.

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Establishing an Evidence Base

Lessons Learned from Implementing Randomized Controlled Trials for Behavioral and Pharmacological Interventions

Steven R. Forness, Hill M. Walker, and Loretta A. Serna

Concurrently with the changed landscape for evidence-based practices in school settings over the past decade, there has been a growing interest in prevention—driven, in part, by early intervention studies demonstrating very impressive outcomes that persist across multiple decades (see Detrich, Keyworth, & States, 2008; Strain & Timm, 2001). Some of these investigations have featured randomized controlled trials (RCTs) and longitudinal designs combined with high levels of implementation fidelity. Hawkins, Catalano, Kosterman, Abbott, and Hill (1999), for example, showed that early intervention (but not later intervention) for young children enrolled in schools serving high-risk neighborhoods effectively prevented a series of health risk outcomes at age 18, including delinquency, substance abuse, school dropout, low achievement, sexually transmitted diseases, and multiple sexual partners. Their intervention involved 643 students from low-income urban elementary schools who were randomly assigned to one of three groups: early intervention (received the intervention in grades 1 and 2), later intervention (received the intervention in grades 4 and 5), and control (did not receive the intervention). The intervention included parent education, teacher training and support, and direct skills instruction for individual students. The Perry Preschool Pro-

gram offers another seminal example of the use of an RCT involving economically disadvantaged preschoolers that has produced widely cited results in social, academic, and economic domains favoring intervention over control participants. These advantages for the Perry Preschool intervention children have been sustained over a follow-up period of more than 40 years (Barnett, 1985). Finally, Lynch (2004) has reviewed a series of high-quality early childhood development programs that demonstrate powerful outcomes, which are expressed in highly favorable cost-benefit ratios for students exposed to them. These high-quality programs return, on average, between \$4 and \$8 for every dollar invested, even after adjustments for inflation and subtraction of program costs.

It is important to note that the impressive results of the above-cited studies are the clear exceptions rather than the rules in research conducted within educational and social contexts. A significant number of large-scale, federally funded studies have recently been judged to be failures, in that they have not produced positive outcomes that are superior to those resulting from usual-care (control) conditions in school settings (Viadero, 2009). In an insightful analysis and discussion of these reports, Gersten (2009) argues that findings of “no

effects” in large-scale studies are attributable in part to participating teachers’ only partially implementing key components of the programs being evaluated, and/or fully implementing them but with low levels of quality. The absence of adequate monitoring, supervision, and technical assistance for intervention teachers is also likely to be related to these disappointing outcomes. Gersten notes further that these large-scale RCTs are still valuable even though they produce “no effects,” since they point the way toward potential new pathways for research, and they refute conventional wisdom among educators about what it takes to raise student achievement levels. This is not an easy case to make to educators and funders, given the costs and school accommodations that are usually associated with these studies. At present, it is obvious that a great deal remains to be learned about successful implementation of large-scale evaluation studies in school settings that combine RCT designs with longitudinal assessments over time.

Collectively, these studies’ use of RCTs and longitudinal assessments across many years, showing the persistence of achieved gains, have established them as exemplars of scientific research addressing problems and issues of great societal importance. They have demonstrated what is possible in the development of evidence-based practices that have a strong impact on outcomes highly valued by our society. These studies have considerably raised the bar regarding *expectations* for research conducted in pre-school and regular school settings.

The goal of this chapter is to review critical issues in the implementation of RCTs within school and related settings, and to discuss our own experiences in terms of lessons learned from having participated in their design and implementation. The chapter is divided into three main sections. In the first, we briefly describe RCTs to evaluate a universal curricular program, Social Skills in Pictures, Stories, and Songs (SSPSS), as a primary prevention for teaching self-determination skills to at-risk kindergarten students (Serna, Nielsen, & Forness, 2007; Serna, Nielsen, Lambros, & Forness, 2000). In the second section, we investigate an early intervention program, First Step to Success (FS), in which several RCTs have been used

to establish its efficacy (Seeley et al., 2009; Walker et al., 1998, 2009; see also Walker et al., Chapter 29, this volume). Obstacles encountered, potential solutions, and lessons learned are also described. In the third section, we provide an overview of some recent advances in RCTs as exemplified by new studies from child and adolescent psychiatry, which may begin to transform RCT research in the future and influence how we judge it (Mitka, 2010). We conclude by describing some guidelines for investigators and school professionals to consider when designing and conducting RCTs within today’s school settings. These recommendations are derived from our own experiences in this regard and from analysis of the literature on RCTs from school-based and psychiatric perspectives. Note that we have chosen to highlight the selected interventions not only because we have each been involved, directly or indirectly, in their respective RCTs, but also because they represent salient examples of the three levels of prevention (primary, secondary, tertiary) within the response-to-intervention (RTI) approach that has now begun to permeate our field (Fuchs, Fuchs, & Compton, 2012; Hawken, Vincent, & Schumann, 2008).

Primary Prevention Trials Using Universal Intervention Approaches

The first challenge in developing an RCT for a *primary* prevention program of behavioral intervention is that it requires a far more pervasive change in the culture of the host school setting, in that the intervention target is not just one child but entire classrooms. Steven Forness’s prior experience in a large, multisite, longitudinal study of Head Start suggested a possible solution to this challenge (Forness, Cluett, et al., 1998; Redden et al., 1999). A core classroom focus in Head Start classrooms was an overwhelming emphasis on pictures, stories, and songs as literacy development activities. In order not to disrupt the established culture of these preschool classrooms for a separate behavioral intervention, the solution was to work within these routines. This idea eventually led to a collaboration with Loretta Serna in what turned out to be a 6-year research project (1997–2003) funded by the U.S. Admin-

istration on Children, Youth and Families (ACYF) and conducted in Head Start classrooms that fed into the Albuquerque Public Schools (APS). ACYF is the research and evaluation agency for Head Start, which was then responding to a federal mandate to enhance mental health services in preschool programs (Lopez, Tarullo, Forness, & Boyce, 2000).

The primary prevention that developed was to embed the classroomwide teaching of behavioral and social skills into these existing literacy lessons by using stories of animal characters, in which the animals faced dilemmas that required them to learn adaptive social and behavioral skills. Based on an extensive review of the preschool literature, four skills were targeted in separate stories: following directions, sharing, problem solving, and managing oneself in a group (Forness, Serna, Kavale, & Nielsen, 1998; Forness et al., 2000).

RCTs in Preschool

The first RCT was more in the realm of an efficacy study, in that a highly trained master's-level preschool teacher, who was a recent graduate of the University of New Mexico, served as the lead teacher in the experimental classrooms during twice-weekly lessons. The curriculum used was eventually published as SSPSS (Serna et al., 2007). There were three experimental classrooms with a total of 53 children, and two control classrooms with a total of 31. Compared to controls, who received only literacy stories without the lessons on social or behavioral content, experimental participants obtained better scores on all 10 mental health outcome measures, with the differences on five of these being significant. The effect size differences ranged from 0.4 to 0.9 (Serna et al., 2000).

In the third and fourth years of this work, two more RCTs were conducted that were closer to effectiveness studies. In both RCTs, indigenous Head Start teachers were briefly trained with the SSPSS teacher's manual at the beginning of the school year. They implemented the program largely on their own for the 12-week implementation period, although they did complete a fidelity checklist with university research staff at the end of each lesson. In both trials, there

were 97 and 98 preschoolers, respectively, across three experimental and three control classrooms each year. The first of these trials resulted in only a partial replication at best, with just a quarter of the outcome measures on symptom or related checklists being statistically significant, and effect sizes averaging only about 0.33 (Serna, Nielsen, Mattern, & Forness, 2003).

The second of these trials, however, was designed not only to assess effectiveness of the SSPSS, but also to do so across two different types of outcome measures. As noted above, almost all outcome measures in the two previous RCTs were checklists (completed by teachers or parents) of behavioral or emotional symptoms and functional impairment. Such measures are traditionally more characteristic of mental health studies and were in keeping with a set of core measures encouraged by the ACYF, so that the various projects it funded could compare findings across research sites (Feil et al., 2005). Given the modest partial replication of results on such outcomes, it seemed prudent to explore results on more traditional measures from applied behavior analysis, involving direct observation of skills taught in the SSPSS. In this last RCT, therefore, both rating scales *and* direct observation of skills demonstrated in the classroom were used as outcomes. Operational criteria for direction following, sharing, problem solving, and self-management were developed for observation in structured situations and served as additional outcome measures in pre- and posttesting.

In this final RCT, findings were quite similar to the partial replication results from the previous trial on mental health outcomes (rating scales). On behavior-analytic outcomes (direct observations), however, findings were enormously encouraging. For all four skills, both during baseline for preschoolers in the experimental classrooms and over the entire 12-week period for the controls, children demonstrated skilled performance approximately 20–40% of the time, on average. After each 3-week period of skill(s) instruction, children in the experimental classrooms demonstrated the previously taught skill, on average, well over 80% of the time, with virtually no overlap with baseline data or data for control participants (Serna, Forness, & Mattern, 2002). This

keeps open the possibility that such skill development may in fact lead to improvement in mental health outcomes, but may do so over a much longer period.

Advantages of RCTs in Universal Intervention

The last year of this project was spent in data analysis, writing, and dissemination activities; however, since the original RCT was relatively large, project staff members were also able to conduct a modest follow-up of preschoolers from the original RCT, who were then completing third grade (Forness et al., 2003). Of 84 children, the staffers were able to locate and complete a School Archival Records Search (SARS; Walker, Block-Pedego, Todis, & Severson, 1991) on only 18 of them, but these participants were demographically similar to those we were unable to locate. On an omnibus measure of SARS domains, children who had been in SSPSS classrooms did slightly but significantly better. In addition, this project became part of a consortium of other Head Start research partnerships, including one with the University of Oregon, in which five projects pooled data from a core set of outcome measures to examine emotional or behavioral disorders in over 1,700 preschoolers (Feil et al., 2005).

Another advantage of these RCTs was that the initial sample size was modest, but still large enough for a separate examination of those few children across study conditions who, at pretesting, scored above the clinical cutoff points on specified teacher ratings of behavioral and emotional symptoms as well as functional impairment. Most of the at-risk children in the experimental group lost their clinical status at posttesting, while the control group condition was characterized by having an even greater number of children move into the clinical range on these measures by the end of the trial (Serna, Lambros, Nielsen, & Forness, 2002). Such children would likely have become valid candidates for the FS intervention as they entered the primary grades, had this secondary prevention strategy been available in the APS at the time. The advantages of these RCTs thus included (1) demonstrating the degree of differences across conditions for the efficacy versus effectiveness of primary prevention outcomes; (2) documenting the

responder status of children in the clinical range who were *not* specifically targeted by a classroomwide intervention; and (3) providing the opportunity to compare primary prevention outcomes on theoretically different measures. These advantages seemed to offset the many difficulties inherent in conducting RCTs under such demanding circumstances as those found in many Head Start classrooms.

Secondary Prevention Using School-Based RCTs

Hill Walker has been the principal investigator in two RCTs of the FS early intervention program, as well as a co-investigator in one large-scale effectiveness trial of this program that was recently concluded. The FS program universally screens, in multiple stages, for children in elementary school classrooms who have not responded to the usual behavioral contingencies available in typical classrooms (Walker et al., 1998). Children who meet clinical cutoff points for problem behavior are then provided with a systematic 6- to 8-week intervention, in which cooperating teachers are trained to focus on their academic engagement and performance, and to ignore their inappropriate behavior. FS also has a weekly home consultation component to develop the social skills necessary for school success. The focus child of the FS intervention earns points and praise, which are exchanged for group activity rewards at school and shared equally with classmates, and for individual rewards at home as prearranged with parents. Walker and colleagues provide a more detailed program description and discuss the evidence base for FS in Chapter 29 of this volume.

RCTs in Elementary School

The first study was a small-scale RCT designed to begin establishing the efficacy of the FS program; it involved 46 participants divided into cohorts of behaviorally at-risk students enrolled in the primary grades (see Walker et al., 1998). The two cohorts were exposed to the FS program in successive school years within regular classroom and playground settings. The investigators were required to use an RCT design with a wait-

list control group, as the host school district would not participate in the absence of this feature. Thus the FS intervention was provided to control group students in the next school year. While follow-up data were recorded across subsequent school years for all 46 cases, they were not particularly useful in the absence of an untreated control group to serve as a comparative standard for evaluation of maintenance effects.

Following recruitment and training of behavioral coaches in the FS program (school psychologists or related service professionals in the local district), it became necessary to have weekly meetings to deal with fidelity compliance issues and to troubleshoot the program. It also became clear that a coach could not handle more than one to two FS cases at a time while employed full-time in an ongoing school staff role. This RCT was judged to be a success, based on results favoring the FS intervention students over wait-list controls. The average effect size across five outcome measures (i.e., four Likert teacher ratings, including the Achenbach Child Behavior Checklist Aggression subscale, and one classroom observational measure of academic engaged time) was 0.86 (see Walker et al., 1998).

The other efficacy trial of FS was supported by a large center grant to Walker from the IES that ran from 2004 to 2008. Main effects outcomes from this study are reported in Walker and colleagues (2009). This RCT was conducted within the APS, which is the 17th largest school district in the United States, and its student body consists of approximately 72% students of color. Seventy percent of the APS student body was eligible for free and reduced-price lunches during the study period. All student participants were enrolled in grades 1–3, and 73% were male. Students were selected for study participation who had externalizing behavior problems as indicated by their profiles on the Systematic Screening for Behavior Disorders (SSBD) procedure (Walker & Severson, 1990). Target students were randomly assigned to either an intervention group or a comparison control group. A total of 200 behaviorally at-risk students, recruited from 34 of the 84 elementary schools in the APS district, participated in the study. There were 101 intervention students who received the FS program, and 99 control students in

the usual-care condition, who received APS regular program offerings.

APS was selected as the host site for this study for two primary reasons. First, it was judged necessary to test the efficacy of FS within a large urban school district that had considerable diversity in its student body. Prior research on FS had been conducted in mostly suburban and a few rural school districts that had relatively low population diversity. Second, Elliott and Mihalic (2004) have noted that large-scale efficacy and effectiveness trials often require a local champion. Serna, along with the APS mental health coordinator, performed this role for us and was a co-principal investigator throughout this study. Several members of the research team knew her from our joint participation in two prior Head Start–University Partnership grants. Not only was Serna fresh from designing and conducting her own RCTs, as noted in the previous section, but she also became an advocate within APS for our investigators in securing consent for the efficacy trial. She introduced us to the top administrative officers of APS. We invested a good part of year 1 of the study in gearing up activities and hiring and recruiting key staff, both at the Oregon site where the study was housed and in Albuquerque (the local research staff included some outstanding graduate students from Serna's program at the University of New Mexico).

We had an initial meeting with APS officials (the school superintendent, special education director, research director, and coordinator of mental health programs) in which the FS program was described, and details of the study and its requirements were presented. A candid discussion of the study's potential benefits to the investigators and to APS followed. This meeting went well, and a decision was made to go forward with the study and to have the investigators report to the special education director for APS, who also had responsibility for several district programs serving at-risk students. She was assigned to be our contact person for implementation and logistical tasks related to carrying out the study. From this point forward, we negotiated details and requirements of the RCT primarily with this director and her office. The APS research director also played an important advising and consulting role in problem-solving solutions to

district policy issues relating to data collection procedures throughout the study.

We have found it critically important to have an “invested” project manager or co-manager who is a member of the administrative or support staff of the host school district or community agency in which the RCT is conducted. Such a project manager, who also serves as a champion of the intervention being tested, is able to respond much more directly to the needs of university research staff as the project moves through the planning and implementation stages than are the university staffers, who must in effect “petition” for such assistance. Recruitment of such a project manager not only signals to other school district or agency administrators the potential value of the project, but also communicates at least some sense of “ownership” of the project by the host agency, including an investment in its successful completion. (See the Acknowledgments.)

Years 2 and 3 of this RCT were devoted to implementing the intervention, and year 4 was focused on follow-up assessments, implementing a maintenance roadmap procedure to facilitate the transfer and sustainability of achieved treatment effects, data analysis, and writing tasks. We divided the sample into two cohorts, and exposed half to the intervention in year 2 and the remaining half in year 3. Below, we briefly describe some major project tasks, occasional obstacles encountered, solutions developed for them, and some key lessons learned in the process.

Recruitment of Coaches

The FS program is delivered by behavioral coaches who can serve teachers in a consultative role over a 3-month implementation period while investing 40–50 hours of time out of their ongoing schedules. It is often a challenge to find school staff members who can fulfill this role. The APS mental health coordinator made her staff of 11 specialists available for this role, and the project site manager used her contacts and relationships with other pools of staff to recruit the remainder. Following training in the FS program, all coaches were assigned cases; they were monitored regularly, and their program implementation was supported by the

site manager. To provide adequate incentives and to compensate coaches for their time and effort (much of which occurred outside normal working hours), the APS administration supported our paying the coaches a stipend for each FS case completed. This compensation arrangement seemed to make a real difference in coaches’ motivation levels and willingness to “go the extra mile” with target students and/or families and teachers who were difficult cases.

Training and Follow-Up Technical Assistance in FS Program Implementation

All FS training of coaches and regular teachers was conducted by Annemieke Golly, who is a coauthor of FS and has trained thousands of professionals in the program over the past 15-plus years. Coaches received training in how to implement FS effectively within a comprehensive 3-day workshop, in which teachers of FS target students also participated for 1 day. The FS program materials are highly manualized and are packaged within a kit that contains both nonconsumable (implementation manuals) and consumable (red and green point cards, activity cards for parents, etc.) items.

Teachers and coaches participated in technical assistance and troubleshooting sessions, which were conducted both via long distance and on site. Weekly conference calls were scheduled to enable the FS trainer, on-site program manager, and coaches to deal with implementation issues and procedures. In addition, the FS lead trainer (Golly) was available for consultation at any time by email and phone throughout the study.

Delivery of the FS Program

As noted above, in order to reduce implementation logistics to manageable levels, it was decided to divide the APS sample of 200 cases into two cohorts; cohort 1 intervention participants received the FS intervention during year 2, and cohort 2 participants received it during year 3. The members of each cohort were further subdivided into thirds and randomly selected to receive the intervention in each of three waves within each year. There were no statistically significant differences between cohorts 1 and 2 on any of our outcome measures.

Monitoring and Sustaining Implementation Fidelity

We developed two measures to monitor FS implementation fidelity—a long and a short version. The short version was used by the project manager to monitor, supervise, and retrain coaches who had trouble maintaining program fidelity and/or had difficult cases. The longer version was recorded by project staff members and focused on assessing whether core FS components were being applied and, if so, how well they were being applied.

Managing Staff Communications

Given the complexity of this study, and the fact that the headquarters of the project were in Oregon and the implementation site was in New Mexico, it was imperative to establish and maintain good communications. Thus we invested in video conferencing capability and scheduled weekly conference sessions, lasting 1–2 hours each, throughout project years 2–4. The principal investigators and key staff in Oregon and New Mexico participated in these weekly sessions. They provided an indispensable forum for making decisions and resolving obstacles as they arose. These sessions dealt primarily with overall project issues. More micro-level issues and decision making related to FS implementation were the focus of the weekly technical assistance calls by other staffers.

We also scheduled weekly data collection management calls, which were focused on issues such as training observers to acceptable accuracy standards; monitoring and recalibration of observers; distribution and collection of instruments from teachers and parents; access to school archives; the scoring and transmission of data; and the management, cleaning, storage, and analysis of collected data. Numerous troubleshooting issues arose during data collection periods, which were resolved during these calls and through follow-up consultations.

Key Lessons from School-Based RCTs

As is already evident, we all learned several lessons (often the hard way) in conducting the series of RCTs described above. In the interest of brevity, we refer primarily only

to the FS RCTs, since the lessons from the FS and SSPSS RCTs were very similar. We should first note that the APS does not have a history of approving large-scale RCTs and complex evaluation studies such as this one. Its choice to support this study was likely due to several factors: (1) The APS decision makers saw a growing population of students experiencing behavior problems at school and viewed the study as a resource for addressing this need; (2) the study had the support of the APS research director, who appreciated its potential and endorsed our use of the classroom as the unit of analysis; (3) we were known to the top-level decision makers of APS from our prior research; and (4) we had a local university-based advocate and champion (Serna) who had collaborated with the district on prior occasions. Had we not designated the regular classroom as the unit of analysis, it is doubtful that the study would have been approved. Also, we agreed to provide training in the FS program to all APS staffs and schools that wished to receive it following the study's conclusion. The continuing support of the APS administration, which included investing some district resources in FS implementation, made this study possible (again, see the Acknowledgments).

This RCT was judged to be a success, based on the main effects outcomes achieved and the clear demonstration that the FS program is efficacious when applied in a large urban district with a high level of student diversity (see Walker et al., 2009). Other challenges to the study were the extent of poverty in the Albuquerque areas served by APS, as well as the relatively high level of students and families for whom English was a second language. The FS intervention also proved to be efficacious when evaluated for students within the sample who had symptoms of attention-deficit/hyperactivity disorder (ADHD) (Seeley et al., 2009). Across a series of Likert ratings by teachers and parents of target FS and control participants, as well as direct observations of academic engaged time, effect sizes ranged from 0.44 to 0.87.

To our disappointment, we found that treatment gains produced by the FS intervention tended not to generalize into the next school year, when both teachers and the composition of peer groups changed.

This outcome called for the development of a maintenance roadmap designed to preserve gains after the FS intervention ended and to facilitate their transfer across time and settings. We will report on this issue in future publications.

To some extent, this study was a high-stakes gamble. That is, the investment of time, effort, and financial resources to conduct such a large-scale study was obviously huge. However, we believed that the FS program was ready for a large-scale trial of its efficacy, based on a series of studies using single-case and quasi-experimental designs, and showing clear evidence that it consistently produced positive effects (see Walker et al., Chapter 29, this volume). Twelve years of federally funded research had been conducted on the program prior to the initiation of this RCT. On balance, given how it turned out, we would say the study was worth it.

A 5-year effectiveness trial of the FS program, also funded by the IES, has recently been successfully concluded (see Sumi et al., 2013). The goal of an effectiveness trial differs from that of an efficacy investigation, in that the intervention is evaluated under normal conditions and routines of the host school district or agency, and investigators and developers are much more removed from the implementation process. As noted in the first section of this chapter, effectiveness trials are conducted in the real world of the classroom or community, largely by indigenous personnel. They are usually preceded by successful efficacy trials, in which university research staff tend to conduct the intervention (or at least are more intensively involved), and in which the intervention context is more tightly controlled; these factors facilitate greater isolation of specific intervention effects on the outcome variables used.

Mary Wagner and her associates at SRI International were the principal investigators for this effectiveness trial, and they also served as the host organizational headquarters for this study. The roles of the Oregon investigative team in the SRI effectiveness trial were (1) to train behavioral coaches and teachers in the FS program; (2) to provide follow-up consultation as requested from participating sites; and (3) to deliver technical support on measurement and assessment procedures. SRI staff members had full

responsibility for all other implementation tasks and logistical details of this effectiveness RCT. This large-scale study was conducted in five sites across the United States and involved 432 student participants. The level of complexity of this RCT, as compared with the efficacy RCT conducted in APS, pales by comparison. However, this effectiveness trial provided a solid test of whether the FS program could be applied effectively in a variety of school district sites with a greatly reduced role for its developers, while still producing socially valid outcomes. (See Sumi et al., 2013, for details and results of this study.)

Key Lessons to Be Learned from RCTs Conducted in Psychiatric Contexts

Although the challenges of conducting RCTs in school settings are exceedingly complex, as is obvious from the discussion above, the standards for RCTs are evolving in such a way that future studies of this type may prove even more challenging (Mitka, 2010). The field of child and adolescent psychiatry has become, in many respects, a clinical partner in school interventions for children with emotional or behavioral disorders. Since Steven Forness is also a faculty member in a department of psychiatry, we have chosen to discuss in this section *potential* lessons from some child or adolescent psychiatry RCTs in which he participated in early planning sessions or which, in many cases, were conducted in his assigned hospital or clinic settings. It is instructive to examine the evaluation of RCTs in the psychiatric field. Psychopharmacological interventions, in particular, may in fact come to be viewed as tertiary prevention or as interventions to be applied when children fail to respond adequately to the primary or secondary interventions described above (Forness, 2012). It seems clear not only that RCTs in child and adolescent psychiatry may possess greater scientific rigor, but that some psychiatric interventions, particularly psychopharmacology, may rival behavioral interventions commonly used with children in school settings (Forness, 2005; Forness & Beard, 2007; Forness, Kavale, & Davanzo, 2002). Child and adolescent psychiatrists also seem more vigorous in pursuing the

integration of such evidence into their clinical practice (March et al., 2007).

One of the most important recent advances in psychiatry and other medical professions is comparative effectiveness research (Alexander & Stafford, 2009). In this approach, the assumption is that it is not enough for a new treatment or intervention to be significantly superior to a control condition; it must also rival or exceed rigorous application of an existing best practice. In child and adolescent psychiatry, such comparative effectiveness research has focused primarily on comparing psychopharmacological treatment directly with behavioral or cognitive behavioral interventions. Forness, Freeman, and Paparella (2006) have reviewed six of these published RCTs in detail. Not only did these studies address externalizing and internalizing disorders, but nearly all were conducted in school settings or used at least some school-related outcome measures. Since this initial review, another six such RCTs have been published, and two of the initial studies have conducted additional follow-ups (Forness & Badwan, 2008). Such studies have been instructive in terms of evolving strategies that might enhance RCTs in school-based research (Paparella & Forness, 2009). Some of these studies are also discussed in considerably more detail elsewhere in this handbook (Konopasek & Forness, Chapter 26).

One important lesson derived from these studies is the advantage of having an active comparator against which to measure the strength of the target intervention over time (Mitka, 2010). Perhaps the best example of this is the Multimodal Treatment of ADHD (MTA) study, for which an 8-year follow-up has recently been published (Molina et al., 2009). In this study, involving nearly 600 children with ADHD, the participants were simultaneously treated across six different sites within four groups—three treatment groups and one usual-care control condition (MTA Cooperative Group, 1999a). The first group received a dual-component treatment involving a combination of stimulant medication and an intensive behavioral intervention delivered in both school and home settings. The second group received treatment with medication only, and the third received the behavioral intervention only. It should be noted that the behavioral intervention

was quite impressive, in that it began with 3 months of individualized home-school behavioral treatment, followed by 8 weeks of a day-long summer treatment program involving both school and social-behavioral intervention, followed by another 3 months of home-school treatment combined with a part-time school aide in the classroom; it concluded with a final half year of periodic teacher and parent consultation. This intervention cost nearly six times as much as the stimulant treatment, including monthly doctor visits (Jensen et al., 2005). The fourth group was intended as a control group, but ethical considerations allowed parents to obtain either behavioral or medication treatment outside the study at their own expense. It is instructive that about half of parents in this group opted for medication, with only a handful choosing behavioral intervention.

At the end of the 14-month active treatment phase, primary outcome measures tended to significantly favor combined over medication-only treatment, but both were significantly better than behavioral intervention alone, which in turn did not differ significantly from the control condition (Conners et al., 2001; Swanson et al., 2001). As time passed, differences diminished, so that the four groups were becoming indistinguishable from each other by the 2-year follow-up assessment (MTA Cooperative Group, 2004). By that time, however, the treatments themselves had become almost indistinguishable, since after the active phase ended at 14 months, only about 70% of the combined and medication-only groups remained on medication—but about half of the behavioral and control group participants switched to medication. An important finding was that at the 8-year follow-up, when these children were in high school, this entire sample of children with ADHD, regardless of initial treatment, remained appreciably improved on baseline measures of symptoms and functional impairment. On most measures, however, they still performed significantly below a matched follow-up sample of children without ADHD (Molina et al., 2009). Results such as this provide a rich portrait of the differential potential for each treatment, if maintained as such during the active treatment phase, as well as the limitations of such treatments over time. To date, only one other study has

even approached this level of rigor, and it involved adolescents with depression who were only followed for 3 years (Treatment for Adolescents with Depression [TADS] Team, 2007).

In this same vein, another study compared three groups to determine whether adding an educational and behavioral intervention would improve their performance over and above the benefit of medication alone (Klein, Abikoff, Hechtman, & Weiss, 2004). A total of 129 children with ADHD were titrated on stimulant medication, and 103 who responded adequately were divided into three groups. The first group continued to receive medication over a 2-year period. The second group continued on medication, but also received 4 hours of weekly intervention devoted to academic tutoring, social skills training, individual problem-solving therapy, and systematic parent training. The third group served as an attention control or sham treatment group. They received homework supervision, supervised play, conversation with a psychology graduate student, and support sessions, all designed to provide 4 hours of weekly contact but without the ingredients of the "active" treatment. All three conditions were manualized to ensure fidelity (and especially avoidance of active therapeutic intervention in the third group). After 2 full years of treatment, not only were there no differences on a wide variety of outcome measures between the medication-only and the multimodal treatment groups, but there were also no differences between the active and the sham treatments (Abikoff et al., 2004; Hechtman et al., 2004). This latter finding gives rise to questions about the relative effectiveness of behavioral interventions when the variable of professional attention remains uncontrolled.

Another way to consider active comparators in RCTs is to examine the *dosage* of treatment. In a study with far-reaching implications, Fabiano and colleagues (2007) varied not only the dose of stimulant medication but also the dose of behavioral intervention, and compared single and combined elements of each. In this randomized crossover study, 48 children with ADHD were provided with 3-week blocks of a day-long behavioral summer treatment program. One 3-week block involved high-intensity behavior modifica-

tion (HBM), with standard classroom rules, daily home-school point systems, individual behavioral programs, and time-out procedures. Another 3-week block involved low-intensity behavior modification (LBM), with only social reinforcement for classroom rules, sit-out instead of time-out procedures, and weekly home-school points. The level of intensity was thus somewhat comparable to that of a schoolwide positive behavioral supports program (Bradshaw, Mitchell, & Leaf, 2009; Horner et al., 2009). The last block involved no behavior modification (NBM), with behavioral interventions suspended. Stimulant medication was also randomized daily during each 3-week block to placebo or stimulant medication (methylphenidate) at 0.15, 0.30, and 0.60 mg/kg. Outcome measures involved counts of rule violations and classroom work completed, along with symptom ratings.

Among the more interesting findings in this study were that the LBM and HBM conditions did not significantly differ, but both were significantly better than the NBM condition. There was linear improvement across the three doses of medication, all of which were significantly better than placebo. In general, HBM alone was as good as the higher doses of medication alone. The most interesting finding was that the *combination* of LBM and the lowest dose of medication was equivalent to either HBM alone or the highest dose of medication alone. The design and results of this RCT have profound implications for the reexamination of assumptions about intensity levels needed for behavioral interventions, as well as the advantages of *combinations* of low-intensity interventions.

RCTs in child and adolescent psychiatry have also begun to address the issues of treatment nonresponders and children with comorbid disorders that affect their responses to treatment. One pair of RCTs represents a novel solution to the question of nonresponse to treatment. The TADS, cited earlier, involved a sample of 439 adolescents across 13 sites (TADS Team, 2004). Four groups were randomized over 12 weeks at each site to a selective serotonin reuptake inhibitor (SSRI), in combination with cognitive-behavioral therapy (CBT), SSRI alone, CBT alone, or placebo. The results

were very similar to those of the MTA study, in that combined treatment was significantly better than SSRI alone, which in turn was significantly better than either CBT alone or placebo. The latter two conditions did not differ significantly from one another. The Children with Anxiety Multimodal Study (CAMS) also essentially replicated these results in children and adolescents with anxiety disorders in the acute phase (Walkup et al., 2008). However, the TADS long-term follow-up of 36 weeks, like the follow-up of the MTA study, showed no significant differences among the three treatment groups; all nonetheless remained improved over baseline (Kennard et al., 2009).

A cost-effectiveness analysis in TADS showed CBT to be twice as expensive as medication treatment; however, costs of services outside the project reversed this finding, primarily due to hospitalization for a relatively small number of adolescents with possible treatment-emergent suicidality in the SSRI-only group (Domino et al., 2009). Suicidality typically is measured by ratings of suicidal thoughts and/or number of suicide attempts. The Treatment of Resistant Depression in Adolescents (TORDIA) study in essence took up where the TADS left off (Brent et al., 2008). Although TORDIA was a completely different study, it involved 334 adolescents with depression who had previously not responded to SSRI medication in the community, and thus resembled the TADS participants in the acute phase of the medication-alone condition. They were randomized to receive either another SSRI or a selective norepinephrine reuptake inhibitor (SNRI), and were then further randomized in each group to receive CBT or medication alone. Although response to each medication did not differ across conditions, CBT combined with medication resulted in a much higher rate of response (Brent et al., 2009).

Although initial severity of disorder has an effect on outcome, comorbidity in the MTA study was also a significant moderator of response. This RCT was sufficiently large that analyses could be conducted among children with ADHD who also had an anxiety disorder, oppositional defiant disorder, conduct disorder, or all three (MTA Cooperative Group, 1999b). Findings suggested that children with comorbid anxiety disor-

ders seemed to respond equally well to either medication or behavioral intervention. Children with comorbid oppositional defiant disorder or conduct disorder only seemed to respond to combined treatment, and children with all three disorders responded only marginally even to combined treatment.

Note that “responder analysis” appears to be a particular advance in this series of RCTs. Such an analysis goes beyond tests of significance and effect sizes across means of various treated and untreated groups. It addresses instead whether “cure” appears to occur in treated or untreated children with these psychiatric disorders. The term “cure” is somewhat misleading in this context, but is operationally defined by the fact that after treatment, a child no longer meets clinical cutoff criteria for a disorder on diagnostic behavioral rating scales and/or related scales of functional impairment. This is an outcome standard that, until recently, has largely been missing from applied behavior analysis and from a majority of RCTs conducted in school-based research (Forness, 2005; Forness & Beard, 2007).

In summary, this series of RCTs in child and adolescent psychiatry demonstrates some important advances that have not necessarily characterized previous RCTs in school-based research. First, *comparative* efficacy or effectiveness seems to provide a more demanding standard for outcomes; in essence, researchers are asking not just whether a potential intervention is better than nothing or better than business as usual, but whether it is better than the next best thing. Second, some of these RCTs have addressed just how much intervention (dosage) is needed to do the job, and whether *combinations* of treatments (even at lower dosages) may be better than individual treatments used alone. Third, some RCTs have begun addressing potential treatment “failures” (children with comorbid disorders or those who have not benefited from community treatments) at the outset, to accomplish more effective augmentation of intervention earlier in the treatment process. Lastly, these RCTs have also begun to address whether interventions result in improvement to the point where some children seem no longer to meet diagnostic criteria for the disorders in question.

It seems critical to note here, however, an important phenomenon observed across a large series of both medical and behavioral treatment studies such as those we have been discussing herein (Pereira, Horwitz, & Ioannidis, 2012). Even in relatively well-designed intervention studies, impressive original effects seem to diminish over time in both follow-up and replication research, so that an original evidence base may subsequently begin to appear less and less persuasive. Thus, as even our own research described herein has shown, the translation from implementation and generalization to sustained actual practice deserves careful monitoring. The emerging field of implementation science promises to be the next critical stage of ensuring that evidence-based practice can be scaled up to transform school interventions permanently (Cook & Odom, 2013).

Guidelines for Investigators in Conducting RCTs within Today's School Contexts

School professionals have long relied primarily on meta-analyses for determining evidence-based practices for children with behavioral or learning disorders (Forness & Kavale, 2001; Maag & Katsiyannis, 2010). It may well be that standards of evidence instead will begin to favor the more rigorous and demanding criteria of RCTs, especially well-designed comparative effectiveness trials (Hennekens & DeMets, 2009). However, Cook, Tankersley, and Landrum (2009) have nonetheless recently shown that single-case research is currently more likely to meet quality indicators than group experiments such as RCTs. The challenge for those conducting RCTs in school settings would seem to rest not only upon maintaining scientific rigor in these demanding circumstances, but also in rising to the next level of scientific rigor and precision, as exemplified by the psychiatric RCTs just discussed.

Based on lessons learned as described in this chapter, we believe that certain conditions should be in place for an RCT to be successful in today's schools. These are listed below and are recommended not only to education and mental health researchers, but also to school professionals and other practitioners.

1. The host school district (or districts) should be at a point where it is receptive to the innovation being tested and is open to a collaborative partnership in a trial test of it.
2. Key educational decision makers need to be on board in supporting the study and should be able to see its potential benefits clearly.
3. There has to be a local champion (or champions) who is in a powerful position to support the intervention and advocate for the intervention being evaluated.
4. The host site and the investigative team need to be willing to negotiate the terms of the RCT so that its strength and integrity are not compromised.
5. The intervention approach or strategy needs to be well manualized to facilitate training of key staff, and to allow not only high-quality implementation but also easier adoption.
6. It is essential that staff members from the host school district(s) be hired whenever possible in conducting the study, so as to increase district investment in and ownership of the study.
7. Special care may have to be taken in the future as standards shift to comparing any new intervention with the next best intervention available, in order to convince host school districts of potential benefits that may help them direct their increasingly limited resources to the best effort.
8. It is of the utmost importance that all RCT staffers display good citizenship and maintain excellent communications with host district decision makers and other key staffers.

As a general rule, adherence to these guidelines should result in a continuing relationship with host settings, so that collaborative partnerships will be possible in the future and that findings of such studies will prove both helpful and relevant to practitioners. The standards for evidence-based practice for early intervention, directed toward potential mental health disorders in school children, are increasing substantially (Maag & Katsiyannis, 2010). We hope that the lessons and guidelines provided in this chapter may assist new researchers in avoiding some

of the pitfalls and enhancing the implementation of RCTs they hope to conduct in pre-school and school settings.

Acknowledgments

We were fortunate in being able to hire for our FS RCT an on-site project manager, Beth Graham, from the internal staff of APS. Beth was also a doctoral candidate in special education at the University of New Mexico, and her advisor was Loretta Serna. She remained in this position throughout the next 3 years and was probably *the* most critically important staff member in accounting for the overall success of this RCT. Her ability to cope effectively with the myriad demands and pressures of conducting such a large-scale study was outstanding. Another APS staff member with whom the site manager and the investigative team worked effectively was the APS mental health coordinator, Debra Duncan. Debra was an invaluable advocate within the administrative ranks of APS for the study and its expected benefits, and served as a local champion throughout the study's duration. The implementation process could not have been carried out successfully without her skills and dedicated effort.

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Epilogue

Science, a Harsh Mistress

James M. Kauffman

As I have noted in the Prologue, science is a harsh mistress—difficult, demanding, and uncompromising about fidelity to the scientific method. *Saying* that we should have a science of emotional and behavioral disorders (EBD) is the easy part, as I have suggested in the Prologue. Actually demanding scientific evidence before implementing a practice in schools is much, much harder, primarily because it requires rejecting at least *some* evidence (if not much evidence) as unscientific. The chapters in this book are anecdotal testimony to this fact.

In every profession, there are those who will contend that they cherry-pick wisely from the best of two kinds of understanding—science and some alternative. They maintain a belief in nondiscrimination between the claims of science and alternative claims. Science writer Michael Specter comments on the contention of a well-known physician, Andrew Weil, that he combines science *and* its alternatives:

“I believe in magic and mystery,” he [Weil] wrote in *Healthy Aging*. “I am also committed to scientific method and knowledge based on evidence. How can this be? I have told you that I operate from a both-and mentality, not an either-or one.”

Sorry, but that’s not possible. Either you believe evidence that can be tested, verified,

and repeated will lead to better understanding of reality or you don’t. There is nothing in between but the abyss. (2009, pp. 165–166)

At the very least, Specter’s conclusion holds for thinking about a given phenomenon. True, there are those who hold both scientific and religious beliefs (e.g., the eminent scientist who headed the Human Genome Project also argues for the existence of God; see Collins, 2006). But, someone cannot hold both kinds of assumptions or beliefs about the same phenomena (e.g., Collins cannot pursue a science of genetics in which he believes that gene sequences are determined by both natural and supernatural forces).

Moreover, one might question whether the evidence Collins (or anyone else) uses to support arguments for religious belief meets scientific standards.

Discriminating science from nonscience requires risking the disappointment if not fury of those who make claims that are not supported by a science of EBD. Furthermore, a science of EBD requires linear thinking and logic (see Engelmann, Bateman, & Lloyd, 2007; Engelmann & Carnine, 2011; Kauffman, 2011). That is, assertions about EBD have to reflect careful thinking, using all of the reliable, relevant information at hand in a logical way. This requires reject-

ing the assertions of those whose claims do not reflect such thinking. Rejecting certain claims and the poor thinking that supports them requires acts of discrimination that many educators are not willing to make. Educators may be unwilling to make discriminations because if they do they will be called biased or worse. The threat of slander is a powerful tool of those who prefer the ease of assertion or conclusion without the demanding work of science.

Much of what is considered “evidence” in education does not measure up to the demands of science. Moreover, science usually proceeds slowly, carefully, and with much internal debate and criticism, confusing and disappointing those who demand quick and unambiguous answers that leave no room for serious doubt. Breakthroughs are rare in all of science and are virtually never achieved in education, except in Hollywood portrayals and advertising hype.

In all scientific endeavors, withering challenges must be faced. Pseudoscience is much easier. It often offers false hopes that the public seems to love. Many people revel in the idea of a breakthrough or miracle, but science and mathematics disallow true miracles. The gullible may well see a result as a breakthrough or miracle, but the hard, discriminating realities of science require careful experimental design and replication before a breakthrough can be considered legitimate or confirmed. Furthermore, some things will never happen, simply because they would violate a well-established mathematical or scientific law or principle (see Park, 2000).

At the beginning of the 21st century, all of education seems firmly planted in the non-scientific tradition, in which authority and ideology are preferred over rigorous inquiry and reason. Making EBD a science would be highly desirable and lead to better treatment in schools. However, a science of EBD would require a major shift in the way we think about teaching and learning, and this shift would have to occur in the instruction of both academic and social skills. The development of such a science would also require embracing achievable mathematical realities rather than fantasies (see Kauffman, 2010, 2011; Kauffman & Lloyd, 2011).

A sound, scientific understanding of the material world, including the basic concept

of evolution, is still rejected by many people. The prospects for a science of instruction and behavior management thus seem guarded. Today, data and their exact and rigorous scientific interpretations do not seem to matter to many educators. But to those of us who wish for a science of what we do, the data *do* matter.

At least data should matter a great deal, in at least two important ways. First, we must prepare teachers by training them in the use of the array of validated methods of instruction and management that our own rich scientific efforts have offered. Second, we must prepare them to be knowledgeable and critical consumers of research. Although daunting in themselves, these tasks alone may be insufficient. To accomplish our ultimate goal—to improve the lives of children and families—we must apply empirically sound practice in a systematic and sustained way. Before we can do this, however, we must resolve our troubled relationship with data. Data must matter to us, and come to matter to our students, our teachers and our society. Sound practice will become the rule only if we anchor our work in data, with the tools of science to guide us. It is often said that teaching is an art form. I prefer to think of it as a science. As Sagan (1996, p. 27) noted, “Science is far from a perfect instrument of knowledge. It’s just the best we have.” (Landrum, 1997, pp. 128–129)

A science of EBD is indeed possible. However, it will be very difficult to achieve, and it is likely to be achieved in the context of schools only with the insistence of educators and the support of the public. It will require a kind of skepticism that is not now evident among either educators or the public. Sagan (1996) has described how many people see the scientific method as “stodgy and grumpy” (p. 22), although it is critically important. And as Specter (2009, p. 159) wrote, “There is at least one compelling reason that the scientific method has come to shape our notion of progress and of modern life. It works.”

Giving up on science is easy. Even people who are usually scientifically inclined are tempted to say that if we cannot base arguments on data about the practice in question, then we have no basis for argument—for example, that in the absence of convincing data to show that special education (or a separate, dedicated special education) “works”

better than inclusion, we have no realistic alternative but to pursue the course of action that popular opinion declares equitable or morally superior or better than an alternative. But such dismissal prevents the kind of moral deliberation Neiman (2008) says is important in “no convincing data available” circumstances. Dismissal allows popular opinion to determine moral superiority by default, and it precludes our using data from legitimate analogies. Yes, we should anchor our arguments in data to the greatest extent possible, but the absence of data regarding a particular question is no excuse for giving up logical, linear thinking in searching for an answer to the question.

We could easily get pessimistic about seeing a shift from ideology to rigorous, skeptical inquiry and reason in the Enlightenment tradition in educating children with behavior disorders. Mark Twain is said to have commented, “There is no sadder sight than a young pessimist, except an old optimist” (see Twain, 1976, p. 946), and it is easy to assume that optimism fades with age and wisdom. But now is not the time to give up, even if rationality and science seem futile in the face of political tsunamis. Rationality and science will very likely prevail in the long run. Philosopher Susan Neiman (2008) explained why we should not give up fighting for rationality. She has encouraging words for those who work toward a science of anything, and I think this applies in the case of behavior disorders: “Will it [science or logical thinking] always win? Of course not. But do you really want to give up the contest from the start?” (p. 214). Biologist Edward Wilson (1998) observed that science has managed to beat the opposition every time and, in the end, triumph, even after setbacks.

The barriers to a science of EBD in the context of schooling are high. They include not only the difficulty of the task but misunderstandings of and opposition to the scientific method by educators, many other professionals, and much of the general public. Our quest for such a science must be per-

sistent, and although we may not achieve the acceptance of it in our lifetimes our quest and such a science are likely, eventually, to overcome the opposition. The chapters in this book are part of that quest for reliable scientific evidence—the quest in which we must persist.

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