

Advances in Learning and Behavioral Disabilities
Volume 25

Classroom Behavior, Contexts, and Interventions

Bryan G. Cook
Melody Tankersley
Timothy J. Landrum
Editors



CLASSROOM BEHAVIOR, CONTEXTS, AND INTERVENTIONS

ADVANCES IN LEARNING AND BEHAVIORAL DISABILITIES

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ADVANCES IN LEARNING AND BEHAVIORAL
DISABILITIES VOLUME 25

CLASSROOM BEHAVIOR, CONTEXTS, AND INTERVENTIONS

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Emerald Group Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2012

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British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-78052-972-1

ISSN: 0735-004X (Series)



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ISO 9001
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CLASSROOM BEHAVIOR, CONTEXT, AND INTERVENTIONS: THE SEARCH FOR SOLUTIONS TO COMPLEX PROBLEMS

Consumers of the popular media – radio, television, newspapers – undoubtedly develop a sense that our streets and schools are beset by frequent and extreme forms of violence from a generation of youth who are out of control. While the rare instances of extreme violence (e.g., school shootings) receive perhaps inordinate media attention, in truth school violence showed a steady decline in the first decade of the 21st century (e.g., [Mayer & Furlong, 2010](#)). In contrast, the most common problems teachers face on a daily basis include bullying, disrespect, truancy and tardiness, and general classroom disruption (see [Sprague & Nishioka](#), this volume; also see [DeVoe et al., 2004](#); [McFadden, March, Price, & Hwang, 1992](#); [Morgan-D'Atrio, Northup, LaFleur, & Spera, 1996](#)). Although these problems may be less severe in nature than overt acts of physical violence, their trajectory toward development of more harmful behaviors and their frequency makes addressing them critical to the effective and efficient functioning of schools, especially if we envision schools as positive learning environments in which children thrive (see [Scott](#), this volume).

Indeed, teachers consistently report that challenging behaviors of these sorts are the most stressful and demanding aspects of their work (see [Furlong, Morrison, & Dear, 1994](#); [Lane, Carter, Common, & Jordan](#), this volume). Extreme violence certainly demands attention, and its prevention should be a high priority, but it seems logical that the more common problems observed – problems that we know cost students and teachers valuable instructional time, and moreover can be precursors to the later development of more serious antisocial behavior (see [Walker, Ramsey, & Gresham, 2004](#)) – may be the most logical targets for our interventions.

To intervene effectively with these highly troubling, persistent problems, attention to at least three facets of the problem seems warranted: behavior, context, and interventions. Although usually interdependent and complex in their relationship, these facets require considerable attention as we seek to intervene effectively with students with learning and behavioral difficulties. In the following sections, we pose several key questions related to behavior, context, and interventions, and preview how the authors in this volume sought to address them.

BEHAVIOR

Several questions guide our analysis of behavioral concerns. First, are there in fact differences in children that predispose them to difficult behavior in school? For example, are there endogenous learning or behavioral characteristics, or learned behaviors that children bring to school, which make some children more likely to succeed in navigating the complex social and academic environments they will encounter? If so, can these characteristics be altered, can behaviors be changed, or can their impact be ameliorated through intervention? Reid (this volume) addressed many of these questions in his chapter on Attention Deficit Hyperactivity Disorder (ADHD), especially as the questions relate to academics. Using [Barkley's \(2006\)](#) theoretical work as a framework, and recent descriptive and longitudinal data, Reid discusses the academic status and trajectory of students with ADHD. Looking closely at possible causal factors for academic problems, Reid identifies and describes promising interventions, such as computer-assisted instruction, peer tutoring, and strategy instruction.

In considering factors that may influence behavior and learning, Dymnicki, Kendziora, and Osher (this volume) reviewed literature on the social, emotional, and behavioral development of adolescents, looking specifically at how development may differ in students with versus without learning or behavioral disabilities. Dymnicki et al. outline and discuss a number of challenges youth face, and then introduce and review the potential benefits of social and emotional learning (SEL) for adolescents with learning and behavioral disabilities. SEL provides a unifying concept for organizing and promoting school-based programs that have a positive impact on these domains of development. Dymnicki et al. offer a comprehensive review of SEL programs and describe a number of outcomes that have demonstrated positive impact on successful adolescent development.

The chapters in this volume by Reid and Dymnicki et al. look at characteristics associated with specific groups of learners and connect those characteristics to important elements of intervention. They show us how specific interventions can indeed be implemented in school contexts and result in significant positive outcomes for adolescents (Dymnicki et al.) and students with ADHD (Reid).

CONTEXT

Our second set of questions revolves around the context in which teaching and learning occur. What factors associated with the environment students are asked to navigate might either hinder or facilitate their success? The social and academic demands, the curriculum they are exposed to and standards to which they are held, and the teacher expectations for students to be responsible, independent, self-sufficient learners are all contextual elements that impact students. How can we know what contextual factors predict success rather than failure? Can we ultimately alter these contextual elements in ways that promote success?

Certainly, the context of the school includes important factors that may influence learners' behavior. Sprague and Nishioka (this volume) describe the background of bullying and harassment in schools and provide current data on the extent to which it occurs and the impact it has on all students – the bully, the victim, and bystanders. Amid the worrisome account of the context of many schools, Sprague and Nishioka describe school-wide solutions that have been effective in both preventing and responding to bullying and harassment, and offer key steps for developing a culture of respect.

According to Sprague and Nishioka (this volume), one of the critical components of developing a school context that is bully-free is to base interventions within a school-wide positive behavior support (PBS) program. Scott (this volume) addresses this recommendation with precision as he presents the key features of effective universal systems designed to prevent behavior problems from arising in schools. Scott systematically organizes the steps of developing, implementing, and sustaining PBS programs in schools, while providing examples that can be brought directly to school personnel to immediately enhance the context of their schools.

A number of other factors influence the context of schooling. In addition to programs that promote a positive climate and prevent bullying and harassment, schools must consider the contexts of policies within which schools operate. Jimerson, Haddock, and Brown (this volume) remind us of

the context of educational standards and accountability under which schools now operate. Unfortunately, within this context the practice of grade retention has risen. Jimerson et al. review the results of grade retention practices over the past 100 years and highlight the deleterious outcomes of the practice. The authors pay particular attention to the implications of grade retention for students with learning and behavioral disabilities. To provide contrast to the negative outcomes of grade retention, Jimerson et al. also identify evidence-based alternatives to grade retention.

The context of schooling is influenced not only by students and policies, but by teachers as well. Teachers bring many personal attributes into their classrooms and school buildings that also shape the context. Lane et al. (this volume) review the literature on teacher expectations for student behavior with a historical lens – noting how expectations have shifted in the changing educational contexts that legislation and inclusive practices have brought about. Through their comprehensive review, they not only identify expectations, but also describe how those expectations can facilitate programming, transitions, prevention, and intervention.

The research on teacher expectations must also be considered in light of teacher attributions for problem behavior. Wiley, Tankersley, and Simms (this volume) present the notion that the use of effective interventions for problem behavior may be closely related to teachers' attributions for why the problem behavior occurs. Using attribution theory to show how the causes individuals (teachers) assign to the behavior of others (students) influence whether they will respond to the problem, Wiley et al. argue that many teachers may require help to change their causal attribution of problem behavior before they will adopt and sustain the use of evidence-based interventions.

Both Lane et al. (this volume) and Wiley et al. (this volume) highlight the importance of exploring teachers' cognitions about expectations and attributions. Teacher training programs may provide opportunities to do just that. And as Brownell et al. (this volume) propose, teacher education (both preservice and inservice; general and special education) needs to be coordinated so that teachers can integrate the knowledge necessary to respond to students' learning and behavioral challenges. Specifically, Brownell et al. discuss the importance of a practice-based approach to teacher education that allows teachers to design and implement core and tiered evidence-based practices.

The context in which students learn and teachers teach has been referred to as “messy” (Bruner, 1996) – classrooms, school climate, teacher factors, and policies, to name only a few, vary tremendously across schools and

undoubtedly impact student outcomes. However, the authors of this volume show that even within messy contexts, we have practices that are effective and promote positive outcomes for students.

INTERVENTION

Decades of research have yielded considerable data on effective intervention for learning and behavioral problems (e.g., Forness, Kavale, Blum, & Lloyd, 1997). Despite this, persistent challenging behavior remains the norm in many classrooms, and academic failure continues at a high rate for students identified with, or at risk for, learning and behavioral disabilities (e.g., Landrum, Tankersley, & Kauffman, 2003; McEvoy & Welker, 2000). Among questions that remain unanswered are these: Are interventions supported by research truly as effective as we assume them to be? Can interventions be implemented in classrooms with integrity?

Gresham, Robichaux, York, and O'Leary (this volume) look at the effectiveness of social skills training interventions and conclude that for about 65% of students receiving such interventions, the outcomes are positive. The authors highlight *Social Skills Instruction: SSIS-Intervention Guide* as one approach to social skills training. In addition to providing an overview of the research to date and describing a specific approach, Gresham et al. also critique methodological and conceptual issues in social skills training interventions and suggest directions for future research in this area. Similarly, Smith, Taylor, Barnes, and Daunic (this volume) describe the value of cognitive-behavioral interventions (CBIs) to reduce student aggression in school settings. Not only do Smith et al. present a summary of the overall effectiveness of CBIs, but they also describe a specific school-based curriculum, *Tools for Getting Along*, as an example. Both Gresham et al. and Smith et al. respond to the question of intervention effectiveness and provide an example of how interventions can be implemented with fidelity in the classroom.

Adding to the list of effective interventions, Bruce, Lloyd, and Kennedy (this volume) discuss the ample evidence that self-monitoring, a robust and well-studied self-control procedure that is routinely used in schools with students with learning and behavioral disabilities, results in meaningful outcomes for students. To dig deep into what is most effective in implementing self-monitoring, Bruce et al. specifically address the question of whether focusing self-monitoring of attention to task or self-monitoring of academic performance will produce superior outcomes. As our knowledge

of interventions continues to grow, we must begin to determine features of the interventions that are crucial components for producing the best change, as Bruce et al. did.

Producing the best change is unquestionably the aim of intervention. But how do we know if interventions are actually implemented as they are intended to be implemented? Liaupsin, Ferro, and Umbreit (this volume) discuss the importance of assessing treatment integrity – the extent to which a given intervention is implemented as designed. As we expand and refine our evidence base regarding intervention research, we must ensure that we provide confirmation of treatment integrity. Liaupsin et al. describe models and measurement techniques for doing so, along with critical next steps for scholars as they labor to address the research-to-practice gap.

THIS VOLUME

The impetus for Volume 25 of *Advances in Learning and Behavioral Disabilities* was to offer evidence-based solutions to complex problems of behavioral concerns in schools. But as we considered the myriad areas of behavioral concern that are evident in schools, our questions lead us simultaneously in many different directions. We realized these were not simple questions about identifying individual solutions to specific behavioral challenges, but rather that it would be essential to consider the contexts of schools and the characteristics of learners and teachers if we were to approach a meaningful, coherent framework for analyzing and addressing behavior in classrooms.

We were fortunate to have leading authorities on learner behavior, school contexts, teacher variables, and interventions contribute to this volume. The bodies of work represented by the scholars who have authored chapters have individually and collectively moved our field forward in dramatic ways, and we are grateful to each of them for sharing their knowledge and expertise here. We hope their contributions, taken as a whole, provide a useful framework for not only analyzing, but ultimately solving the most pressing behavioral challenges teachers face in schools.

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TARGETS OF SELF-MONITORING: PRODUCTIVITY, ACCURACY, AND ATTENTION

Andrew Bruce, John Wills Lloyd
and Michael J. Kennedy

ABSTRACT

Self-monitoring has become one of the most widely employed self-control procedures in special education for students with learning disabilities and emotional or behavioral disorders. Although its success has been documented across age groups, settings, and diverse applications, researchers have continued to study the question of whether focusing self-monitoring on certain target behaviors – particularly attention to task or academic performance – will yield superior outcomes for students. We review 11 available studies that have examined this issue, classifying each study according to the ways in which the researchers had students monitor their own behavior. The results show only small differences among the different methods and indicate a need for teachers to continue exercising professional judgment in planning the use of self-monitoring.

People may behave differently simply because they know they are being observed, are being assessed, or are participating in a research project

(Haynes & Horn, 1982; Kazdin, 2010; Webb, 1966). Reactivity to assessment makes it difficult for scientists to extrapolate from experimental situations, where behavior was observed, to the natural situations, where behavior usually happens without obvious observation. Reactivity limits external validity in most research, making it difficult to generalize results from the contrived experimental situation to the normal, everyday situation. Pioneers in self-monitoring, however, stood reactivity on its head by using reactivity to assessment as a means of treatment (e.g., Johnson & White, 1970; Kanfer, 1970, 1975). If having people monitor their own behavior caused the behavior to change, so be it! When clinicians asked smokers to count cigarettes smoked or puffs puffed, smokers smoked or puffed less often, and when they asked people to count spoons-full consumed, people ate less (Mahoney, Moura, & Wade, 1973; McFall, 1970; McFall & Hammen, 1971; Romanczyk, Racey, Wilson, & Thorpe, 1973). Since the 1970s, research on self-recording or self-monitoring of behavior has increased dramatically.

Those early reports from clinical psychologists included some applications with children. For example, Maletzky (1974) tested self-monitoring with children such as “a 9-year-old boy [who] raised his hand repeatedly in class, waving it furiously in response to his teacher’s questions, despite not know the answers on many such occasions” (p. 109) and “an 11-year-old girl [who] was noted to be constantly out of her seat in class” (p. 110). Other researchers in the 1970s correctly hypothesized that interventions including self-recording and self-monitoring might also influence outcomes for students with disabilities. This research proliferated across the years and continues today (Lloyd & Landrum, 1990; Maag, 1998; Mooney, Ryan, Uhing, Reid, & Epstein, 2005; Reid, 1996; State & Kern, 2012). Whereas only a few studies examined the effects of self-monitoring with children with disabilities before 1980, a quick search of databases in 2012 revealed almost 1,000 references. In summary, clinical applications of self-recording or self-monitoring are commonplace in special and general education. Furthermore, efforts to teach students to record their own behavior – with varying degrees of detailed and precise training – occur every day in schools around the world.

The extensive research, beginning in the 1970s (e.g., Broden, Hall, & Mitts, 1971; Gottman & McFall, 1972; Hallahan, Lloyd, Kosiewicz, Kauffman, & Graves, 1979; Lovitt, 1973) and continuing in the 2000s (e.g., Legge, DeBar, & Alber-Morgan, 2010; Rafferty & Raimondi, 2009; Rock, 2005) resolved many important questions, but left others unanswered. In this laconic review, we provide background about self-monitoring, review

some of those key findings, and focus on one of the important unresolved issues: What is the appropriate target for students to record when they monitor their own behavior?

SELF-MONITORING AS A COMPONENT OF OR A COMPLETE TREATMENT

Self-monitoring is one of several self-control or cognitive-behavior treatment methods that gained popularity among researchers and practitioners during the 1970s and 1980s. Other interventions include self-instruction, self-reinforcement, goal-setting, and combinations of each (Kurtz & Neisworth, 1976; Lovitt, 1973; Meichenbaum, 1977). Some researchers add others (e.g., self-evaluation) to this list or distinguish among them in a more fine-grained manner (self-assessment versus self-recording or self-monitoring) for theoretical reasons or for the purposes of making explicit comparisons among components (e.g., Hallahan, Lloyd, Kneedler, & Marshall, 1982).

Educators may employ self-monitoring as a stand-alone intervention or as a component of other more comprehensive interventions. Self-monitoring is used as a stand-alone intervention when the targeted behavior is the ultimate goal of the intervention. That is, the reactivity effects of self-monitoring can be utilized as the sole means of behavioral change. Alternatively, self-monitoring can be used as part of a package in order to increase implementation of a treatment component, or when the desired behavior is more complex in nature (e.g., constructing a paragraph).

Self-Monitoring as an Intervention

Though self-monitoring has been conceptualized and implemented in different ways, there are certain characteristics common to all self-monitoring procedures. No matter the target of self-monitoring, students need to be trained to implement the procedure with accuracy and consistency. Training must also provide clear examples and nonexamples of the targeted behavior. The student must be fluent when making assessments of behavior to minimize interference with their academic work or misperceptions about their actual behavior.

After training, students implement the self-monitoring technique in their classroom. The first step in implementation is for the student to assess

whether the targeted behavior has occurred. This can be done in an intermittent or summative manner. In intermittent assessment, the students are prompted through an audible tone or by a mark on a worksheet to stop and compare their behavior to the targeted behavior (e.g., on-task, accuracy of work). In summative assessment, the student works on a task for a specified amount of time and only assesses his or her behavior at the end.

After assessing behavior, the student is required to record his or her assessment. How this recording is done is dependent upon the targeted behavior. Most versions of self-monitoring require the student to have a premade sheet of paper where he or she can systematically record behavior occurrences. If monitoring attention, the student would check yes if he or she were paying attention, or no if not paying attention when the tone sounded. If monitoring performance, a yes or no procedure no longer makes sense. Instead, a student monitoring productivity would record the number of problems completed or words written in the allotted time. If the student were monitoring accuracy, he or she would write a ratio of problems completed, or words written accurately, over the total number of problems or words attempted.

All studies included in this chapter tested the effects of self-monitoring procedures during academic seat work (i.e., math problems, spelling words, story writing), and not during other classroom activities. This focus makes sense as academic seat work provides an easily measured dependent variable against which different self-monitoring methods can be tested. Though self-monitoring of performance (SMP) does not lend itself to use outside of academic seat work (there is no work to monitor during instruction), there is no reason that self-monitoring of attention (SMA) cannot be used through an entire class period.

Components Analyses

Researchers have conducted extensive analyses of the components of self-monitoring. Heins, Lloyd, and Hallahan (1986) found that boys' levels of attending was higher under cued than noncued self-monitoring conditions, indicating that the cues for self-recording were important in producing higher levels of reactivity. Hallahan et al. (1982) demonstrated that when a student monitored his own behavior, his levels of on-task behavior were higher than when his teacher judged whether he was attending and then recorded his teacher's decision. So the "self" is important in self-monitoring. Further research demonstrates that the recording component

of self-monitoring leads to gains in on-task behavior over self-assessment alone (Lloyd, Hallahan, Kosiewicz, & Kneedler, 1982).

Self-monitoring has been applied in diverse settings and across age groups. Participants have been as young as 4 years of age (Workman, Helton, & Watson, 1982) and as old as adolescents (e.g., Hughes et al., 2002) and adults (Rudrud, Ziarnik, & Colman, 1984). Not only have the procedures been used in schools (e.g., McLaughlin, 1984), but they have also been in children's homes (e.g., Axelrod, Zhe, Haugen, & Klein, 2009) and in juvenile justice facilities (Young, Birnbrauer, & Sanson-Fisher, 1977) and athletic venues (e.g., Critchfield & Vargas, 1991).

Self-monitoring has proven effective at increasing achievement (Sagotsky, Patterson, & Lepper, 1978), on-task behavior (Marshall, Lloyd, & Hallahan, 1993; Thomas, 1976), class participation (Gottman & McFall, 1972), productivity (Harris, 1986; Wolfe, Heron, & Goddard, 2000), and academic accuracy (Maag, Reid, & DiGangi, 1993; Roberts & Nelson 1981) as well as other behaviors (see Joseph & Eveleigh, 2011; Shapiro & Cole, 1999). Furthermore, self-monitoring has been shown to be an effective intervention for students with learning disabilities (LD; Lloyd et al., 1982; Reid & Harris, 1993), emotional and behavioral disorders (EBD; McLaughlin, Krappman, & Welsh, 1985), attention deficit hyperactivity disorders (ADHD; Christie, Hiss, & Lozanoff, 1984; Harris, Friedlander, Saddler, Frizzelle, & Graham, 2005), intellectual disabilities (ID; Morrow, Burke, & Buell, 1985), and for students with no identified disability (Sagotsky et al., 1978; Thomas, 1976). In sum, self-monitoring has been shown to be a robust and effective stand-alone intervention.

Self-Monitoring as Component

Sometimes, however, self-monitoring is used not as an intervention by itself but as a feature in a more comprehensive intervention. Probably the most widely known example of this use of self-monitoring is its use in Self-Regulated Strategy Development (SRSD; Harris & Graham, 1999). As Harris and Graham detail, their full model of SRSD incorporates strategy instruction with self-monitoring (and goal-setting) in the Discuss It, Model It, Memorize It, Support It, and Independent Performance components of the model. Similarly, Montague's (2003) *Solve It* mathematics program adopts a cognitive strategy approach that includes a self-monitoring step in which students check their work at many of the stages of the strategy.

In contrast to interventions where self-monitoring stands alone as an intervention, in the cases of *Solve It* and SRSD, the purpose of self-monitoring is not to increase or decrease a specific behavior but to increase implementation of the targeted strategies. Even though self-monitoring is not the primary intervention, a meta-analysis of strategy instruction studies identified self-monitoring as one of the three most powerful elements of strategy instruction in SRSD (De la Paz, 2007). Self-monitoring is an effective means of increasing implementation of a targeted behavior, and as such it has the potential to be incorporated into a wide array of comprehensive interventions.

Summary

From these brief examinations of the research on self-monitoring, it is clear that the procedure has been applied across a wide range of general conditions. Not only do we know that it has worked with students who differ in many ways (age, gender, disability, and so forth) and that certain of its components are important for its success, but we also know that self-monitoring can be applied to different target behaviors. That is, students can be taught to monitor attention to task, various forms of behavior, academic performance, and many other actions. This last matter, the targets of self-monitoring, is the primary focus of our analysis for the remainder of this chapter.

COMPARISONS OF TARGETS FOR SELF-MONITORING

The relative benefits of SMA and SMP have been discussed repeatedly by scholars interested in this area of research (e.g., Snider, 1987) as well as the authors of experiments to which we shall turn in the subsequent section of this chapter. In this section, we will discuss the theoretical assumptions underlying SMA and SMP before turning our attention to the different methods for assessing and recording SMP.

Before we examine the relative benefits of SMA and SMP, it is necessary to define what behaviors these interventions seek to change. The three main behavior targets that emerge from the literature examined for this study are on-task behavior, academic productivity, and academic accuracy. SMA and SMP both attempt to affect behavioral change in these three

dependent variables, but they do so operating under different theoretical assumptions.

Examination of these theoretical assumptions will help frame the questions we seek to answer through the rest of the chapter. First, is attention a prerequisite to academic production? In other words, are the academic benefits observed from teaching moderated by whether or not the student was paying attention? Second, does academic production first require attention, or can a student's production increase while attention remains level? Third, is accuracy dependent upon increases in attention, or is some other factor concurrently affecting both variables? Fourth, does targeting one behavioral outcome necessarily lead to improvements in other behavioral outcomes? Would increased accuracy, for example, mean that there was also increased on-task behavior and productivity? Lastly, is attention just an ancillary benefit to self-monitoring procedures? Maybe attention is such a popular behavioral target because of its social validity. Teachers, parents, and others consider attention to be important but is it logically and scientifically less important than productivity?

We examined the research about alternative targets for self-monitoring to ascertain whether it provided a consensus about which specific target was the most appropriate for practice or whether conditional statements based on subject characteristics, methods, or other factors could be made.

METHODS

In our literature search, we entered the terms "self-monitoring," and "attention or performance," and, when possible, restricted the search results to the field of education. We searched the Academic Search Complete, PsycINFO, Web of Science, and Google Scholar databases for relevant articles. We read the abstracts for all articles that mentioned self-monitoring of attention, or self-monitoring of performance and included all articles that directly tested the differential effects of self-monitoring of attention versus some form of self-monitoring of performance. Next, we reviewed the reference lists for the included articles using the same criterion (i.e., the article must report an actual study examining the differential effects of self-monitoring of attention and self-monitoring of performance). Finally, we used the Google Scholar database to examine the studies that had cited our already included works to determine if any newer research had been missed. A total of 11 articles covering 13 comparisons between SMA and a form of SMP met our criterion and were included in our review.

From each study, we extracted basic descriptive data (e.g., students' characteristics, settings). We also classified the procedures according to the different ways in which the self-monitoring methods were defined and implemented. Virtually no difference was found in the way in which self-monitoring of attention was implemented across the studies; with the exception of Roberts and Nelson (1981), and Rafferty and Raimondi (2009), all of the studies employed essentially the same procedure for self-monitoring of attention. Rafferty and Raimondi stated they were following the same procedures as Hallahan et al. (1979), which many of the articles cite as a guide, but they used a 5-minute fixed interval for their cues rather than the 45-second average (range 10–90 seconds) interval tones employed by Hallahan et al. Most studies reported interobserver agreement, had clear definitions of the dependent variables, described observer training procedures, and reported the accuracy of student self-monitoring. Because there was such little variation in these study characteristics, we did not include them in our analysis.

Although SMA was implemented in a relatively uniform manner, SMP differed across studies in two ways. The first distinction was whether SMP focused on productivity or accuracy. Some early studies focused simply on productivity (e.g., Harris, 1986; Lloyd, Bateman, Landrum, & Hallahan, 1989), but more recent studies focused on the number of items completed correctly (e.g., Harris, Graham, Reid, McElroy, & Hamby, 1994; Rafferty & Raimondi, 2009; Selznick & Savage, 2000). The second distinction among the procedures for self-monitoring of performance was the method in which the recording took place. As can be seen in Table 1, in five of the studies, students were intermittently prompted with a tone to assess and record their progress. The remaining eight studies (see Table 1) eschewed the use of prerecorded tones and had the students assess their performance in a summative assessment.

These two distinctions created four different methods of self-monitoring of performance as shown in Table 2. There could be further theoretical distinctions made (e.g., the difference between accuracy and fluency, recording total correct versus percent correct), but there have not yet been enough studies to make those fine distinctions in a review of the literature.

We classified the methods of self-recording performance as follows:

1. *Summary production*: In the method we are calling “summary production,” the researchers had the students record the number of items they had completed at the end of a given time period. This is a summative recording; it is only done once during a session. The earliest exemplar of

Table 1. Relative Effects of Self-Monitoring Procedures.

Method	Studies Using the Method	Results Compared to Self-Monitoring of Attention		
		On-task outcomes	Production outcomes	Accuracy outcomes
<i>Summary production:</i> At the end of time period, students record the number of items completed.	Harris (1986)	SMA = SMP	SMA = SMP	NA
	Harris et al. (1994), experiment 2	SMA = SMP	SMA = SMP	NA
<i>Summary accuracy:</i> At the end of time period, students record the number of items completed correctly.	Harris et al. (2005)	SMA = SMP	NA	SMA > SMP
	Harris et al. (1994), experiment 1	SMA = SMP	NA	SMP > SMA ^a
	Rafferty and Raimondi (2009)	SMA = SMP	SMP > SMA	SMP > SMA
	Reid and Harris (1993)	SMA = SMP	SMP > control	SSP > SSA
	Lloyd et al. (1989)	SMA = SMP	NA	SMA > SMP ^b
<i>Intermittent production:</i> At irregular intervals, students record the number of items completed since the previous monitoring action.	Lam, Cole, Shapiro, and Bambara (1994)	SMP = SMA	NA	SMP > SMA
	Maag et al. (1993)	SMA = SMP	SMP > SMA	SMA = SMP ^c
<i>Intermittent accuracy:</i> At irregular intervals, students compare their answers to those on an answer sheet and record whether their answers are correct.	Rooney, Polloway, and Hallahan (1985)	SMA = SMP	SMA = SMP	SMA = SMP
	Roberts and Nelson (1981)	SMA = SMP	SMA = SMP	SMA = SMP
	Maag et al. (1993)	SMA = SMP	SMA = SMP	SMA = SMP ^c
	Selznick and Savage (2000)	SMA = SMP	SMA = SMP	SMA = SMP

^aWe decided the results favored SMP although our decision was based on differences observed in the choice condition of one of the participants. Some might interpret the results differently due to order of effects.

^bAlthough three of the five participants favored SMA, one of the participants was close to the criteria for favoring SMP.

^cDifferent effects between 4th- and 6th-grade participants confounded results based upon our criterion. Monitoring productivity increased three out of four 4th-grade students' accuracy, while both 6th-grade students completed assignments with higher accuracy while monitoring accuracy.

Table 2. Four Methods for Self-Monitoring Performance.

	Intermittent	Summative
Production	Students monitor their performance repeatedly during a period of time.	Students assess their performance at the end of a period of time.
Accuracy	Students monitor the accuracy of their work repeatedly during a period of time.	Students assess the accuracy of their work at the end of a period of time.

this method was employed by Harris, who reported that the teacher in her study met with the student, explained the idea of self-monitoring spelling practice and then, “the student was instructed to count the number of times his or her spelling words had been written at the end of the period, and then to record this number on a graph in his or her spelling file” (1986, p. 419).

2. *Summary accuracy*: In summary accuracy, students assess and record how well they had done on their work at the end of a time period. Generally, a student is given an answer sheet and asked to correct his or her work before reporting only those items that were done correctly. For example, Rafferty and Raimondi (2009) used summary accuracy during a math activity. They gave each student a folder with an answer sheet, and at the end of the activity the students graded their work and graphed how many problems they had completed correctly.
3. *Intermittent production*: In intermittent production the student records how much she or he has completed periodically throughout the session. Rather than occurring only once, the student makes multiple observations about productivity. In this way, the procedure is more similar to the attention-to-task procedure. Lloyd et al. described one such procedure, saying that “at the time of the tone, the students were taught to ask themselves how much work they had completed. To make this judgment, at the tone they marked the problem on which they were working, counted how many problems they had completed since the previous cue, and recorded this number on prepared recording sheets” (1989, p. 318).
4. *Intermittent accuracy*: In the method we call “intermittent accuracy,” students compare the accuracy of their work to a standard (e.g., an answer sheet) and record whether their answer was correct. For example, while working on arithmetic practice pages in the study by Rooney et al. (1985), when a student came to a problem with a letter next to it, he or

she was instructed to uncover the correct answer and was then to indicate the accuracy of his work on a Yes/No recording sheet. [Maag et al. \(1993\)](#) used a different procedure, but it still essentially required the students to stop periodically and compare their answers to a standard. Procedures may vary depending on whether students are required to correct errors (immediately, later, or at all).

Once we sorted the studies into these four categories, we coded the population of students each study examined, the disabilities of the participants in each study, where the intervention took place, and the subject area on which the self-monitoring procedure was focused.

We also coded each study's dependent variable, classifying the variables according to whether each assessed *attention*, *productivity*, or *accuracy*. Every study included on-task behavior, which was reported as percent of time-on-task, and we classified these as measures of *attention*. Although some studies' definitions of on-task behavior were slightly different from each other, overall the definitions were similar. When a study reported the number of items completed as a dependent variable, we identified this as a measure of *productivity*. Researchers measured either the number of math problems completed or the number of words written in spelling or composition. Productivity was used as a dependent variable in nine of the studies we examined for this chapter. The productivity condition had no measure for the accuracy of those problems or words. However, when researchers assessed items or units of work completed correctly, we classified their dependent variables as measures of accuracy. Research assessed accuracy in three different ways across the studies we examined. [Harris \(1986\)](#), [Harris et al. \(2005\)](#), and [Rafferty and Raimondi \(2009\)](#) reported the number of problems completed or words written correctly in their studies. [Lloyd et al. \(1989\)](#) reported accuracy as the number of correct movements a student displayed per minute, introducing an element of fluency into the accuracy measure. Last, [Maag et al. \(1993\)](#) conceptualized accuracy as the percentage of problems a student completed correctly. We grouped these three different interpretations of accuracy together because of the limited number of studies implementing the rate and percentage forms of accuracy measures.

Finally, we analyzed the graphs and results sections of each study to determine if the study showed whether any procedure produced improvement in each different outcome area. [Reid and Harris \(1993\)](#) reported the only group-contrast study included in this review. We simply adopted their analysis of that study's results based on the significance of their statistical

analysis. For the single-subject studies in this corpus to be judged as lending support to a self-monitoring procedure, we adopted the following criteria. First, the data for more than half of the participants in a study had to demonstrate effects favoring the same treatment condition. Second, intervals in multiple baseline procedures must show a level change, and show a sustained change in slope (i.e., each phase needs multiple data points indicating a trend). Third, when interpreting results from an alternating treatment (multielement) design, element A was considered more effective than element B if there was separation such that one condition consistently resulted in higher levels of performance than the other (i.e., at least 80% of the data points were higher than their counterparts in a phase).

This last matter is the key question. Does SMA produce improvements in attention, but only in attention outcomes while SMP produces improvements in attention as well as performance? Or, does SMP produce improvements in performance and only in performance? How about SMP when accuracy is the target? What does it improve? There are important possible comparisons that need to be made and the farther researchers go with these examinations, the more detailed these comparisons become.

RESULTS AND DISCUSSION

Given that there are only 11 studies and 1 of them used a group-contrast design (Reid & Harris, 1993), we are drawing from a limited database and can only make preliminary inferences about the questions at hand. In total, the 11 studies reported 13 direct comparisons between SMA and SMP. Harris et al. (1994) conducted two experiments, and Maag et al. (1993) compared two different forms of SMP to SMA. The 13 studies reported results for different subject areas: 8 for math (Lam et al., 1994; Lloyd et al., 1989; Maag et al., 1993, comparisons 1 and 2; Rafferty & Raimondi, 2009; Roberts & Nelson, 1981; Rooney et al., 1985; Selznick & Savage, 2000), 4 for spelling (Harris, 1986; Harris et al., 1994, study 1; Harris et al., 2005; Reid & Harris, 1993), and 1 for story composition (Harris et al., 1994, experiment 2). Participating students' ages ranged from 8 to 14 years. Although there were more studies of students with LD than any other category, there were too few of any other category (e.g., ADHD) to permit us to make comparisons by category.

Table 1 presents the main results of our review, and it shows that the data are quite mixed. Although the data do not show that focusing self-monitoring on attention or productivity (either accuracy or quantity) yields

consistently superior results, we can draw some broad conclusions from these studies. We describe the effects of SMA and SMP individually before comparing the two self-monitoring procedures.

Self-monitoring of attention proved to be an effective means of increasing student time-on-task, productivity, and accuracy. SMA increased student on-task rates over baseline in every study examined in this review. Productivity was measured as a dependent variable in 9 of the 13 studies we examined. SMA led to increased productivity in seven (Harris, 1986; Harris et al., 1994, experiment 2; Maag et al., 1993; Rafferty & Raimondi, 2009; Reid & Harris, 1993; Rooney et al., 1985) of the nine studies. Roberts and Nelson (1981) and Selznick and Savage (2000) reported high levels of variability across all conditions that masked any treatment effect that may have occurred. Eleven studies included measures of academic accuracy. Of those 11 studies, 8 (Harris et al., 1994, experiment 1; Harris et al., 2005; Lam et al., 1994; Lloyd et al., 1989; Maag et al., 1993, comparisons 1 and 2; Rafferty & Raimondi, 2009; Rooney et al., 1985) showed SMA improving accuracy over the baseline condition. Variability, again, led to the lack of a treatment effect for two studies (Roberts & Nelson, 1981; Selznick & Savage, 2000), but Reid and Harris (1993) found that spelling accuracy decreased in the SMA condition, though the difference was not significantly below the control group.

Similarly, the evidence is strong that SMP procedures increase attention, productivity, and accuracy over baseline conditions. SMP led to higher rates of on-task behavior in all 13 reported studies. As with SMA, seven (Harris, 1986; Harris et al., 1994, experiment 2; Maag et al., 1993; Rafferty & Raimondi, 2009; Reid & Harris, 1993; Rooney et al., 1985) of the nine studies examining productivity reported that SMP resulted in observed levels higher than the baseline condition. Again, the same two studies (Roberts & Nelson, 1981; Selznick & Savage, 2000) did not allow us to draw conclusions about SMP's effects on productivity or accuracy. In 8 (Harris et al., 1994, experiment 1; Harris et al., 2005; Lam et al., 1994; Lloyd et al., 1989; Maag et al., 1993, comparisons 1 and 2; Rafferty & Raimondi, 2009; Rooney et al., 1985) of the 11 studies that reported accuracy data, students showed significant increases over baseline. In the one group-contrast study, Reid and Harris (1993) found that SMP produced higher levels of accuracy than the control condition, though the difference was not significant.

Overall these data support 30-plus years of self-monitoring research. Both SMA and SMP are effective methods to increase student on-task behavior. The data also show that student productivity and student accuracy are increased by both SMA and SMP. But did either of these methods

distinguish themselves from the other? We compared SMA to SMP as a whole before comparing each of the four SMP subcategories (i.e., Intermittent Production, Intermittent Accuracy, Summative Production, and Summative Accuracy) to SMA.

Although we examined 11 published studies and 13 individual comparisons of the effects of SMA versus SMP, we are left with no clear best procedure. No study reported a difference in the level of on-task behavior under the SMA or SMP treatment condition. Of the nine studies reporting productivity as a dependent variable, two favor SMP over SMA (Maag et al., 1993; Rafferty & Raimondi, 2009); one of those two (Rafferty & Raimondi) used a longer time interval for the SMA condition (5 minutes) than other studies in the corpus. The only group-contrast study, Reid and Harris (1993), found students' on-task behavior was significantly higher under SMP than the control condition and SMA was not, but there was not a significant difference between SMP and SMA.

There were 11 comparisons between SMP and SMA on the accuracy of student responses. Of these, two favor SMA (Harris et al., 2005; Lloyd et al., 1989), four favor SMP (Harris et al., 1994, experiment 1; Lam et al., 1994; Rafferty & Raimondi, 2009; Reid & Harris, 1993), and five show no difference between treatment conditions (Maag et al., 1993, comparisons 1 and 2; Roberts & Nelson, 1981; Rooney et al., 1985; Selznick & Savage, 2000). Due to the limited number of studies and the conflicting results, we cannot make an overall judgment on the effects of SMP procedures versus SMA on the accuracy of students' performance.

According to our classification procedures only two studies employed Summary Production as the target of self-monitoring (Harris, 1986; Harris et al., 1994, experiment 2). In both studies, students counted the number of words that they had written during the allotted time for an activity (i.e., spelling and story writing). Neither of these studies showed effects favoring one condition over another.

Four studies used our Summary Accuracy method (Harris et al., 1994, experiment 1; Harris et al., 2005; Rafferty & Raimondi, 2009; Reid & Harris, 1993). The Summary Accuracy group provided the most divided results of the four categories. Three of these studies favored SMP procedures over SMA, but the fourth (Harris et al., 2005) favored SMA over SMP. Upon examination, students in the three studies favoring SMP had been diagnosed with LD (two studies) and EBD (one study) and students in the study favoring SMA were diagnosed with ADHD (Harris et al., 2005). Harris speculated that "There may be somewhat of an aptitude-by-treatment response with these two groups, as students with ADHD

tended to do better on academic responding in the SMA condition whereas students with LD tended to do better in the SMP condition” (p. 154).

Three studies utilized Intermittent Production as a target variable (Lam et al., 1994; Lloyd et al., 1989; Maag et al., 1993, comparison 1). Of the three, only Maag et al. assessed productivity without an element of accuracy. They found that students utilizing SMP completed more math problems than students utilizing SMA. Results were mixed for monitoring accurate productivity. Lam et al. reported that SMP procedures outperformed SMA procedures, but Lloyd et al. found that SMA produced slightly greater accuracy in student math problems. Although Maag et al. showed increased productivity, results were inconclusive for accuracy due to differential effects between students of different ages. Again, evaluation of Intermittent Production does not show that one procedure clearly yields superior outcomes.

Four studies employed the method we are calling Intermittent Accuracy (Maag et al., 1993; Roberts & Nelson, 1981; Rooney et al., 1985, comparison 2; Selznick & Savage, 2000). Of these four studies, two actually showed no increase over baseline in either productivity or accuracy (Roberts & Nelson, 1981; Selznick & Savage, 2000), and the other two showed no difference between SMA and SMP.

These results paint an uneven picture of the comparative effects of SMP and SMA, making it difficult to argue that one procedure is superior to the other. SMP might be ahead by a bit, if one simply counts the number of times that one condition is greater than the other, as shown in Table 1. However, the number of times when the two are essentially equal makes that lead look small.

Why is this the case? Are the procedures equivalent? Is one more effective under some circumstances and the other more effective under others? An alternative possibility is that there are idiopathic outcomes. That is, self-monitoring effects may interact with individual student’s characteristics; for a certain subset of students, self-monitoring of one target behavior will be more effective, but for a different subset of students, self-monitoring of another target behavior will be more effective. Harris et al. (2005) suggested this possibility after finding results that conflicted with an earlier study. Our data set is not yet robust enough to establish decision rules about interactions using different self-monitoring methods depending on students’ characteristics. Indeed, educators have not yet established decision rules for those differentiating instruction on the basis of learner characteristics in general (cf., Cronbach & Snow, 1977; Kavale & Forness, 1987; Pashler, McDaniel, Rohre, & Bjork, 2008).

Questions about whether the target or focus of intervention should be attention or performance are not limited to self-monitoring interventions. A similar debate arose in the 1970s in the behavior analysis community and led to highly focused studies. For example, Ferritor, Buckholdt, Hamblin, and Smith (1972) directly assessed the matter of bidirectional effects between attention and performance using an operant paradigm. While measuring attention, disruptive behavior, productivity, and accuracy in each of two experiments, they reinforced attention in one condition, correct work in another condition, and both attention and correct work in a third condition. They found that only one contingency trumped the other uniformly. Ferritor et al. concluded:

Contingencies that increase attending behavior and reduce disruption do not necessarily increase student performance Contingencies on attending alone increased attending behavior and decreased disruptive behavior, but had little effect on the measures of correct work accomplished. Reinforcement contingencies for "correct work" alone increased the accuracy of work but had little effect on attending behavior and appeared to correlate with increased disruptive behavior. Only when reinforcement was contingent both for attending behavior and for correct work accomplished did we find increased attending, decreased disruptions, along with increased number of problems worked correctly. (1972, p. 16)

What can we learn from this parallel? Perhaps it is that, in the case of self-monitoring interventions, as in many other areas, we should not continue to pursue the one simple and pure method. There may be no *one, right-and-true target* for self-monitoring, no magic bullet. Instead, it may be that self-monitoring is a good component of broader interventions (e.g., SRSD) and, when self-monitoring is introduced as an intervention that is to stand on its own, we should heed the findings of Ferritor et al. (1972) and plan to focus on multiple target behaviors.

How teachers would implement a multicomponent self-monitoring procedure sounds like a challenge. And then there is the challenge of how researchers would assess its effects relative to all the other possible alternative variants of self-monitoring. In the course of our research for this chapter, we found two studies (Rooney et al., 1985; Wolfe et al., 2000) that combined SMA and SMP into one procedure. Rooney et al. compared SMA and SMP separately before combining them for one phase of their study. Results for neither study were conclusive. More research needs to be conducted comparing combined treatments to SMA and SMP individually.

Students with learning and behavior disorders characteristically have difficulties in academic performance and associated areas, one of which is attention to task (Hallahan, Lloyd, Kauffman, Weiss, & Martinez, 2005;

Kauffman & Landrum, 2009). Although parents, teachers, clinicians, psychologists, and others are often interested in the nature, causes, and assessment of these problems, the most pressing concern to everyone who knows children and youths with these difficulties is what to do to improve educational outcomes. Attention may be an epiphenomenon, a by-product of productive work, or it may be a precursor. The two may be so closely intertwined that it is impossible to separate them completely, making it even more important to focus interventions on whatever produces effects for given individuals. Thus, teachers, psychologists, and others who use self-monitoring – and just about any other intervention, for that matter – should routinely monitor its effects to ensure that the students with whom it is being employed are benefiting from it.

Our overall conclusion is that this literature is unsettled. Our colleagues and we have worked on it for many years. Although they may have better insights into it than do we, the answers to the questions we pose seem to lead us on an adventure – through a twisty set of caves. At present, we hope that teachers and other clinicians using self-monitoring will, in the spirit of the US individual educational program, focus any application of self-monitoring on the target behaviors of greatest concern for each individual student when using it as a specific treatment and recognize it as an important component of broader treatments when they see it in packages. In both cases, we hope it will be implemented with fidelity and kindness.

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ISSUES RELATED TO IDENTIFYING AND IMPLEMENTING EVIDENCE- BASED SOCIAL SKILLS INTERVENTIONS FOR STUDENTS WITH HIGH- INCIDENCE DISABILITIES

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ABSTRACT

Social skills deficits characterize a large proportion of students with or at risk for social, emotional, and behavioral disabilities. Social skills are viewed as academic enablers in that they are attitudes and skills that enable students to benefit from academic instruction. Alternatively, problem behaviors are viewed as academic disablers because they compete with the acquisition and performance of academic and social skills. Students lacking social skills and exhibiting competing problem behaviors are in need of systematic social skills interventions to remediate their social skills deficits. This chapter describes what is currently known about the efficacy of social skills interventions using data from both narrative

Classroom Behavior, Contexts, and Interventions
Advances in Learning and Behavioral Disabilities, Volume 25, 23–45
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ISSN: 0735-004X/doi:10.1108/S0735-004X(2012)0000025005

reviews and meta-analyses of the social skills training literature. Based on these reviews, social skills interventions are effective with approximately 65% of students receiving these interventions. Randomized studies produce higher effect sizes, with 82% of students showing improvement compared to only 58% of students in nonrandomized studies. An example of a social skills instructional model using the Social Skills Improvement System-Intervention Guide concludes the chapter.

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 frequently create chaotic home, school, and classroom environments. Children with or at risk for emotional and behavioral disorders, attention-deficit/hyperactivity disorder, and specific learning disabilities often overwhelm the capacity of schools to effectively accommodate their instructional and disciplinary needs (Walker, Ramsay, & Gresham, 2004). Schools must teach 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 rapidly reaching nearly unattainable levels for students with severe emotional, behavioral, and social challenges.

Students with or at risk for emotional and behavioral challenges experience significant difficulties in developing and maintaining satisfactory interpersonal relationships, displaying prosocial behavior patterns, and achieving social acceptance of peers and teachers (Gresham, 1997, 1998; Maag, 2005, 2006; Walker et al., 2004). These social competence deficits lead to short-term, intermediate, and long-term difficulties in educational, psychosocial, and vocational domains of functioning (Kupersmidt, Coie, & Dodge, 1990; Newcomb, Bukowski, & Pattee, 1993; Parker & Asher, 1987). The fact that these children exhibit severe social competence deficits dictates that school professionals design and implement effective, evidence-based intervention strategies to remediate these deficits.

The purpose of the current chapter is to review and detail evidence-based practices in social skills interventions for children with or at risk for emotional, behavioral, and social difficulties. Much of the content of this chapter draws from the meta-analytic literature that has investigated the most effective social skills instructional strategies. Methodological and conceptual issues in social skills interventions are described and critiqued as well.

CONCEPTUALIZATION OF SOCIAL COMPETENCE

An important distinction in the theoretical conceptualization of social behavior is between 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 in order to successfully execute a social task. *Social tasks* are tasks that require the successful use of a social skill, such as peer group entry, having a conversation, making friends, or playing a game with peers. *Social competence* is an evaluative term based on judgments by social agents that an individual has adequately performed a social task. 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).

Competence does not imply exceptional performance; it only indicates that a given social performance was adequate (McFall, 1982). Gresham (1986) suggested that evaluations of social competence could be based on three criteria: (a) relevant judgments of an individual's social behavior (e.g., by peers, teachers, parents), (b) 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 (c) social-behavioral performances relative to a normative standard (e.g., scores on norm-referenced social skills rating scales). It should be noted 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 academic achievement (DiPerna & Elliott, 2002; Malecki & Elliott, 2002; Wentzel, 2009). Wentzel (2009) documented that children who have positive interactions and relationships with peers are more academically engaged and have higher levels of academic achievement. 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).

Researchers make a distinction between academic skills and academic enablers. Academic skills are viewed as the basic and complex skills that are the primary focus of academic instruction (e.g., phonemic awareness). In contrast, 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 (ACES; 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 longitudinal study, Caprara et al. found that teacher ratings of prosocial behavior in 3rd grade were better predictors of 8th-grade academic achievement than 3rd-grade academic achievement (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000).

Most researchers have concluded that positive peer interactions promote display of competent forms of social behavior that 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 maximally 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, problem behaviors, particularly externalizing behavior patterns, interfere or compete with the acquisition and/or performance of both social and academic skills (Gresham, 2010; Gresham & Elliott, 2008; Walker et al., 1992). In short, these competing problem behaviors 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 causes or consequences of problem behaviors; however, there is little doubt that problem behaviors greatly exacerbate academic skill difficulties. As children with problem behaviors progress through their school careers, their academic deficits and achievement problems become even more severe and are predictive of school truancy, discipline referrals, and eventually school dropout (Walker et al., 2004; Walker, Severson, & Seeley, 2010).

Classification of Social Skills Deficits

An important consideration in designing and delivering social skills interventions is the distinction between social skills *acquisition deficits* and *performance deficits* (Elliott & Gresham, 2008; Gresham, 1981a, 1981b; Gumpel, 2007). This distinction is important because different intervention approaches and venues are indicated in remediating these deficits. More details regarding this distinction, how it can be assessed, and how it affects the choice of intervention strategies are described later.

Acquisition deficits can result from a lack of knowledge about how to perform a given social skill, an inability to fluently enact a sequence of social behaviors, or difficulty in knowing which social skills are appropriate in specific situations (Gresham, 2002, 2010). Based on this conceptualization, social skill 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 “*can’t do*” problems because the individual cannot perform a given social skill under the most optimal conditions of motivation. Remediation of these types of deficits requires direct instruction of social skills in protective settings that will promote the acquisition of socially skilled behavior patterns.

Performance deficits can be conceptualized as the failure to perform a given social skill at an acceptable level even though the individual knows how to perform the social skill. These types of social skills deficits can be thought of as “*won’t do*” problems because the child knows what to do, but chooses not to perform a particular social skill in given situations. These types of social skill deficits are best conceptualized as motivational or performance problems rather than learning or acquisition problems. As such, remediation of these types of deficits requires manipulation of antecedents and consequences in naturalistic settings to increase the frequency of these behaviors.

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 the acquisition or performance of a given social skill. Competing problem behaviors can be classified broadly as either externalizing behavior patterns (e.g., noncompliance, aggression, impulsive behaviors) or internalizing behavior patterns (e.g., social withdrawal, anxiety, depression). For example, a child with a history of noncompliance, oppositional, and impulsive behavior may not have learned prosocial alternatives (e.g., sharing, cooperation, 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 not have learned appropriate prosocial behaviors because of avoidance of peer groups and a corresponding absence of opportunities to learn peer-related social skills (Gresham, Van, & Cook, 2006).

Social skills performance deficits were previously described as being due primarily to motivational variables rather than a lack of knowledge or learning concerning how to perform 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). The Matching 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 refer to 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). For example, if a problem behavior is reinforced, on average, every 5 times it occurs and a prosocial behavior, on average, is reinforced every 15 times it occurs, the problem behavior will occur 3 times more frequently than the prosocial behavior ($15/5 = 3$).

Matching deals with “choice behavior” in that behaviors having a higher rate of reinforcement will be “chosen” more frequently than behaviors reinforced at a lower rate. Research in naturalistic classroom environments has consistently shown that behavior rates under concurrent schedules of reinforcement closely follow the Matching Law (Martens, 1992; Martens & Houk, 1989; Martens, Lochner, & Kelly, 1992; Snyder & Stoolmiller, 2002).

Maag (2005) suggested that one way to decrease the frequency of competing problem behaviors is to teach *positive replacement behaviors*, or what he called replacement behavior training (RBT). RBT may help solve many of the problems with social skills training (SST) 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 the competing problem behavior. Conceptually, RBT depends on identifying *functionally equivalent behaviors*. Behaviors are functionally equivalent if they produce similar amounts of reinforcement from the environment (Horner & Billingsley, 1988).

EFFICACY OF SOCIAL SKILLS INTERVENTIONS

The importance of social competence for children with or at risk for high-incidence disabilities has been translated into various service delivery and instructional approaches to remediate deficits in social skills functioning. SST is 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). Between the late 1970s and early 1980s, SST interventions targeted poorly accepted or rejected children, linking these interventions 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, SST was incorporated into epidemiologically based, long-term, multi-component interventions targeting children with significant behavior problems such as conduct disorder and ADHD (Conduct Problems Prevention Research Group, 1992; MTA Cooperative Group, 1999). Since 2000, SST research has focused 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 SST studies is currently lacking, thereby creating disparate empirical literature on social skills interventions (Bierman & Powers, 2009).

SST Literature Reviews

At least 12 narrative reviews of the SST literature using both group and single case experimental designs have been conducted over the past 30 years

(Ager & Cole, 1991; Coleman, Wheeler, & Webber, 1993; Gresham, 1981b, 1985; Hollinger, 1987; Landrum & Lloyd, 1992; Mathur & Rutherford, 1991; McIntosh, Vaughn, & Zaragoza, 1991; Olmeda & Kauffman, 2003; Schloss, Schloss, Wood, & Kiehl, 1986; Templeton, 1990; Zaragoza, Vaughn, & McIntosh, 1991). These narrative reviews reached the following general conclusions: (a) the most effective SST instructional strategies appear to be a combination of modeling, coaching, behavioral rehearsal, and procedures derived from applied behavior analysis; (b) evidence for cognitive-behavioral approaches (e.g., social problem solving and self-instruction) appeared to produce weaker effects, particularly on direct measures of social behavior in naturalistic settings; and (c) the greatest weakness in the SST literature was the absence of consistent and durable gains in prosocial behavior across situations and settings and over time.

Ten meta-analyses of the SST literature have been conducted since 1985 (Ang & Hughes, 2002; Beelmann, Pfungsten, & Losel, 1994; Chenier et al., 2011; Cook et al., 2008; Godbold et al., 2010; Gresham, Cook, Crews, & Kern, 2004; Losel & Beelmann, 2003; Quinn, Kavale, Mathur, Rutherford, & Forness, 1999; Schneider, 1992; Schneider & Byrne, 1985). These meta-analyses involved approximately 464 studies and included over 28,000 children and youth ages 3–18 years who experienced behavioral difficulties. Based on these meta-analyses, there appears to be consistency in how the construct of social skills has been defined for research purposes. These studies suggest that the social skills construct can be divided into three major categories: *social interaction*, *prosocial behavior*, and *social-cognitive skills*. Further, correlates of social skills fall into two categories: *problem behaviors* (externalizing and internalizing) and *academic achievement/performance*. These social skill categories and behavioral correlates are consistent with other work in the area of social skills conducted by other researchers (Caldarella & Merrell, 1997; Coie, Dodge, & Coppotelli, 1982; Dodge, 1986; Gresham, 2010; Gresham & Elliott, 1990, 2008; Walker et al., 1992; Walker & McConnell, 1995).

Averaging the effect sizes from 9 of the 10 meta-analyses above showed a grand mean effect size $r = .29$ ($g = .60$), suggesting that approximately 65% of the participants in SST groups improved compared to 35% of those individuals in control groups based on the binomial effect size display or BESD (Rosenthal & Rosnow, 1991). Results of the meta-analysis by Quinn et al. (1999) are inconsistent with the other nine meta-analyses listed above and were not included in the calculation of the grand mean effect size. This meta-analysis purported to use only children served in special education under the category of emotionally disturbed; however, only 2 of

the 35 studies in the meta-analysis included this population. These researchers reported an overall mean effect size of $r = .10$ across the 35 studies, which is small and significantly lower than the average effect size reported in the above 9 meta-analyses ($r = .29$). Because of several methodological flaws in the Quinn et al. meta-analysis, it should not be interpreted as reflective of the status of SST with children and youth in terms of construct validity, internal validity, external validity, and social validity (see Cook et al., 2008, and Gresham et al., 2004, for more in-depth discussion of these issues).

A recent meta-analysis by Godbold et al. (2010) of 34 studies published between 2000 and 2008 found that studies using random assignment to groups produced the largest effect size ($g = .67$) compared to studies not using random assignment (quasi-experimental studies) ($g = .16$). In short, better-controlled studies with high internal validity appear to produce the largest effect sizes, with randomized studies showing that 82% of children receiving SST improve compared to only 58% of children in the non-randomized studies using the BESD.

The single case meta-analysis by Chenier et al. (2011) included 40 studies and showed a large overall effect size ($g = 3.06$) with effect sizes varying by type of social skills intervention procedure. Specific SST procedure effect sizes ranged from 2.17 (reinforcement-based procedures) to 3.94 (social stories). The largest effect sizes were observed for children with autism spectrum disorders ($g = 4.04$) and the smallest effect sizes for children with disruptive behavior disorders (ODD/ADHD; $g = 2.31$). Effect sizes also varied by type of outcome measure, with academic engaged time showing the smallest effect sizes ($g = 1.57$) and cooperative play showing the largest effect size ($g = 5.54$).

Summary

Both narrative and meta-analytic reviews of the literature over the past 30 years suggest that SST is a moderately effective intervention for children and youth with social and behavioral difficulties. The majority of studies in both narrative and meta-analytic studies should be considered as selected, or Tier 2, interventions because these interventions have typically been delivered on an individual or small pullout group basis. No studies in the above reviews could be considered universal, or Tier 1, interventions and none of the studies could be considered intensive, or Tier 3, interventions.

Quantitative or meta-analytic reviews of the SST literature suggest that approximately two-thirds of children receiving SST improved compared to only one-third of children in control groups. This effect size is higher in

randomized SST studies than in nonrandomized or quasi-experimental SST studies. Depending on the degree of internal validity, SST studies produce medium to large effect size estimates using conventional standards for interpreting effect sizes (Cohen, 1988). Despite these encouraging findings, several important methodological and conceptual issues have not been addressed in the SST literature. These issues are discussed in the following section.

METHODOLOGICAL AND CONCEPTUAL ISSUES IN SST

SST has been shown to produce, on average, medium effect sizes based on meta-analytic reviews of the literature. These effect sizes suggest that almost two-thirds of children and youth receiving SST will improve their social-behavioral competencies. Four major issues have been proffered repeatedly in the literature to account for these SST outcomes: (a) matching treatment type to the type of social skill deficit, (b) treatment integrity issues, (c) type of outcome measures collected, and (d) distinction in assessment of social skills acquisition and performance deficit (Ang & Hughes, 2002; Beelmann et al., 1994; Gresham, 1997, 1998; Gresham et al., 2001; Maag, 2005, 2006; Schneider, 1992).

Matching Interventions to Types of Deficits

Studies in the various meta-analyses described earlier failed to match specific types of social skills deficits to specific types of intervention strategies. Most social skills intervention studies deliver an intervention to children and youth with an almost complete disregard for the types of social skills deficits that are displayed (Gresham, 1998). In fact, most research suggests that there is little, if any, systematic effort devoted to specifically assessing whether children should be taught the specific target behaviors that are targeted in SST programs.

As described earlier, an important distinction in conceptualizing social skills deficits is the difference between *acquisition* and *performance* deficits (“can’t do” versus “won’t do,” respectively). Instructional strategies for remediating acquisition deficits are fundamentally different from those strategies for remediating performance deficits. Instructional procedures for acquisition deficits assume the child does not have a social skill in his or her

repertoire or does not know a critical step in performing a 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 procedures such as modeling, coaching, and behavioral rehearsal (Elliott & Gresham, 2008). These interventions are typically delivered in small-group, pullout settings using a combination of direct instructional strategies.

Procedures for remediating performance deficits are based on arranging antecedents and consequences to encourage the performance of desired prosocial behaviors. These interventions are typically delivered in naturalistic settings (e.g., classrooms, playgrounds, hallways) using a combination of antecedent-based and consequence-based 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 SST literature of the degree to which these interventions were implemented as planned or intended. As such, one cannot judge from the extant SST literature whether the interventions examined were implemented with integrity. Treatment integrity is typically conceptualized as involving three dimensions: (a) *treatment adherence*, or the degree to which an intervention is implemented as planned or intended; (b) *interventionist competence*, or the interventionist's skill and experience in implementing a particular treatment; and (c) *treatment differentiation*, or the extent to which interventions 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 among 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; yet do so in an incompetent manner. A breakdown in treatment integrity in this case would dictate training and

performance feedback to ensure a more competent delivery of the treatment. A breakdown in adherence would suggest performance feedback regarding the implementation of key components of the treatment (Noell, 2008).

Given the paucity of treatment integrity data in the SST literature, we do not know if a given SST was either ineffective or less effective because it was a poor treatment or if it would have been effective if it were implemented with high integrity. Additionally, because data on interventionist competence is sparse in the SST literature, we do not know the degree to which competence moderates the outcomes of SST.

Types of Outcome Measures

The magnitude of effect sizes reported in the various meta-analyses of the SST literature varies as a function of the type of outcome measure used in particular studies. For example, the meta-analysis by Beelman et al. (1994) showed the largest effect size for social-cognitive tests ($d = .77$) followed by direct observations ($d = .49$). The smallest effect sizes were reported for peer sociometrics ($d = .13$) and parent-teacher reports ($d = .10$). In contrast, the meta-analysis by Ang and Hughes (2002) reported identical effect sizes for behavior ratings, behavioral observations, and self-reports ($d = 1.09$). Clearly, the interpretation of the effects of SST interventions is influenced greatly by the type of outcome measure used in a given study.

Outcome measures in SST can be classified based on a social validity criterion (Gresham, 1983; Gresham et al., 2001; Wolf, 1978). In this classification system, measures represent a socially valid treatment goal because social systems (e.g., schools, mental health agencies) and significant others (e.g., teachers, parents) refer children based on these treatment goals. Measures are socially valid in the sense that they predict long-term outcomes that are important to society and include events such as school dropout, delinquency, adult mental health difficulties, and arrest rates (Kupersmidt et al., 1990; Parker & Asher, 1987; Walker et al., 2004). Socially valid measures might include sociometric status, friendship status, and various types of archival data (e.g., office disciplinary referrals, school suspensions, arrest rates).

Other measures are not themselves inherently socially valid, but they are indicators or correlates of one's standing on socially valid measures. The most common types of these 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 SST literature is that these measures of social behavior are often not based on a sound theoretical or empirical framework or taxonomy. Advancements in this respect are the taxonomy developed by [Caldarella and Merrell \(1997\)](#) and the social skills domains found in the *Social Skills Improvement System-Rating Scales* (SSIS-RS; [Gresham & Elliott, 2008](#)) from which theoretically and empirically sound direct observation measures can be created.

Recent work using direct behavior ratings (DBRs) – a hybrid measure with characteristics of both direct observations and behavior rating scales – holds promise as a less expensive and time-consuming alternative to systematic direct observations ([Chafouleas, McDougal, Riley-Tilman, Panahon, & Hilt, 2005](#)). Another alternative to direct observations is the development of *change sensitive* brief behavior rating scales (BBRs). 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 and colleagues developed a 12-item BBR using items from the teacher form of the *Social Skills Rating System* ([Gresham & Elliott, 1990](#)) that was technically adequate in terms of internal consistency and criterion-related validity ([Gresham, Cook et al., 2010](#)).

Assessment of Social Skills Acquisition and Performance Deficits

Earlier in this chapter, a distinction was made between social skills acquisition and performance deficits. This distinction was viewed as important because remedial instructional strategies for these two types of deficits are vastly different ([Elliott & Gresham, 2008](#)). The key in distinguishing between acquisition and performance deficits is accurate assessment and classification strategies.

Acquisition deficits can be determined based on teacher and/or parent ratings using the SSIS-RS ([Gresham & Elliott, 2008](#)). Both the SSIS-RS teacher and parent forms have 46 social skills items distributed across 7 domains of communication, cooperation, assertion, responsibility, empathy, engagement, and self-control. Teacher and parent raters indicate the frequency with which a given social skill is exhibited using a 4-point scale of *never*, *seldom*, *often*, and *almost always*. These same items are also rated on an importance dimension using a 3-point scale of *not important*, *important*, and *critical*.

Social skills acquisition deficits are operationally defined as a total social skills standard score less than 85 (<16th percentile) and any social skill receiving a frequency rating of 0 (never) with an importance rating of 1 (important) or 2 (critical). Using these criteria, students receiving this pattern of ratings on more than 50% of items (24 items) may be classified as having primarily acquisition deficits. Social skills performance deficits may be operationally defined as a total social skills standard score of less than 85 (<16th percentile) and any social skills receiving a frequency rating of 1 (seldom) and an importance rating of 1 (important) or 2 (critical). Using these criteria, students receiving this pattern of ratings on more than 50% of items (24 or more items) can be classified as having primarily performance deficits.

Using the SSIS-RS national standardization data, Gresham, Elliott, and Kettler (2010) calculated the base rates for social skills acquisition and performance deficits using the above criteria. The base rates for social skills acquisition deficits based on teacher and parent ratings for children ages 3–18 years were less than 1%. As such, social skills acquisition deficits appear to be a rare phenomenon in a normative sample of children and adolescents ages 3–18 years. The base rate, however, for children and youth with emotional and behavioral disorders, ADHD, and learning disabilities is likely much higher, although no research has focused on this issue.

Gresham, Elliott et al. (2010) found that the base rates for social skills performance deficits were much higher than base rates for acquisition deficits. The base rate for performance deficits was 5.4% using teacher ratings and 3.5% using parent ratings for children ages 3–18 years. Again, these base rates are most likely considerably higher in student populations with or at risk for emotional and behavioral disorders and learning difficulties.

SOCIAL SKILLS INSTRUCTION: SSIS-INTERVENTION GUIDE

The SSIS-Intervention Guide (SSIS-IG; Elliott & Gresham, 2008) is a manualized Tier 2 (selected) intervention that is delivered in a small-group setting of four to six students and is conducted by an experienced group leader such as a school psychologist, guidance counselor, or social worker. The program is designed for children and youth who have primarily social skill acquisition deficits rather than performance deficits. The SSIS-IG is

implemented in two sessions per week for 45 minutes per session (90 minutes weekly) over a period of up to 15 weeks (22.5 hours).

The program centers around 20 instructional units that deal with key social skills across 7 domains: communication, cooperation, assertion, responsibility, empathy, engagement, and self-control. These domains are derived from the SSIS-RS (Gresham & Elliott, 2008). Fig. 1 presents the 20 social skills distributed across the 7 social skill domains.

Fig. 1. Behaviors Taught in Social Skills Improvement System-Intervention Guide.

Communication behaviors

- Taking turns in conversations
- Saying “Please” and “Thank You”

Cooperation behaviors

- Paying attention to others
- Following directions
- Paying attention to your work

Assertion behaviors

- Expressing feelings
- Asking for help
- Standing up for others

Responsibility behaviors

- Respecting other people’s things
- Doing the right thing
- Doing your part in a group

Empathy behaviors

- Making others feel better
- Doing nice things for others

Engagement behaviors

- Asking others to do things with you
- Getting along with others
- Introducing yourself to others

Self-control behaviors

- Making compromises
- Staying calm when criticized
- Staying calm when disagreeing
- Staying calm when pushed or hit

Fig. 2. Social Skills Improvement System-Intervention Guide Six-Step Instructional Sequence.

Tell Phase

1. Provide learning objective for the featured social skill.
2. Introduce the skill via questions.
3. Define a specific skill and stress key words.
4. Discuss why the skill is important.
5. Outline steps for doing the behavior.

Show Phase

1. Model the behavior (positive and negative examples).
2. Discretely model each of the major steps for enacting the skill.
3. With a student helper, direct a role-play of a typical situation.
4. Lead a discussion of alternative behaviors to accomplish the social behavior objective.

Do Phase

1. Ask students to define the skill.
2. Ask students to state the steps required to accomplish the skill.
3. Ask students about the importance of using the skill.
4. Repeat critical steps for enacting the behavior.
5. Ask students to model the skill in role-plays.
6. Ask other students to provide feedback for using the skill in role-plays.

Practice Phase

1. Review and apply the skill in workbook activities.
2. Have pairs of students practice the skill steps and provide each other feedback.
3. Encourage use of the skill in class sessions outside the SSIS-IG lessons.

Monitor Progress Phase

1. Ask students to think about how well they are doing with the social skill.
2. Ask students to complete a self-monitoring chart.

Generalize Phase

1. Give a homework assignment to use the skill in other settings with other students.
2. Have students demonstrate the skill with a parent or older sibling to communicate information about the social skill they are working on in the program.

The 20 skill units use a similarly structured lesson format. Each skill unit is organized around six phases: *Tell*, *Show*, *Do*, *Practice*, *Monitor*, and *Generalize*. Each skill unit includes a menu of activities and discussion topics that group leaders can tailor to meet the group's needs. Fig. 2 describes the activities and procedures that are used in each of the six phases. The first three phases occur within the small-group setting that situates the featured social skill in a problem situation or event common in students' lives. The latter three phases occur outside the small-group setting but with support from the group leader.

The methods used in the SSIS-IG are based on social learning theory, cognitive-behavioral theory, and applied behavior analysis. These principles are woven into a framework of social skills deficiencies developed over a period of systematic research spanning over 27 years (Elliott & Gresham, 1991; Gresham, 1981a, 1985; Gresham & Elliott, 1990). The SSIS-IG assumes that the putative causes of social skills deficiencies are due primarily to five variables: (a) lack of knowledge (acquisition deficits), (b) lack of practice (fluency deficits), (c) lack of cues (discrimination deficits), (d) lack of reinforcement (performance deficits), and (e) presence of competing problem behaviors (Matching Law). These causes, although not encompassing of all possible explanations for social skill deficiencies, were specifically chosen because their effects can be remediated through social learning and behavioral training strategies.

CONCLUSION

Children and youth with severe social, emotional, and behavioral excesses and deficits are at risk for numerous short-term and long-term negative outcomes. The etiology of specific social-behavioral patterns for these individuals is complex. A single risk factor is not likely to be responsible for any given behavior pattern, nor is any single protective factor likely to be sufficient to prevent the development of challenging behavior patterns. This chapter described how the facilitation of prosocial behavior patterns coupled with the reduction of competing problem behaviors may produce positive outcomes and reduce negative outcomes for children and youth.

Social skills were defined as a specific class of behaviors that allow an individual to successfully accomplish social tasks. Social tasks are tasks that require the successful use of a social skill, such as peer group entry, having a conversation, making friends, or playing a game with peers. Social

competence, on the other hand, was defined as an evaluation based on judgment by others that an individual has performed a social task adequately. These judgments are made by social agents (parents, teachers, peers) with whom an individual interacts in natural environments (home, school, community). As such, social skills cannot be defined independently of these social judgments and the social contexts in which behavior occurs.

The literature is quite clear that various social judges use different criteria to determine social competence. For examples, peers judge the behavior of a particular child to be socially competent if it is characterized by behaviors such as cooperation, supporting peers, leading peers, and affiliating with peers (Walker et al., 1992). In contrast, teachers judge the behavior of a child to be socially competent if it is characterized by behaviors such as complying with teacher directions, following classroom rules, working independently, and listening carefully to the teacher (Elliott & Gresham, 2007; Gresham & Elliott, 2008; Walker et al., 1992).

This chapter also described how social skills can function as academic enablers and how problem behaviors can function as academic disablers. Social skills moderate the acquisition of academic skills and are significantly related to academic achievement (Caprara et al., 2000; DiPerna & Elliott, 2002; Malecki & Elliott, 2002). These findings suggest that universal, or Tier 1, social skills interventions should improve the academic performance of entire classrooms by making the classrooms less chaotic and thus more conducive to learning. Similarly, Tier 2, or selected, social skills interventions that target students who are at risk for social, emotional, and behavioral difficulties should similarly increase prosocial behavior patterns and decrease the occurrence of competing problem behaviors.

Lastly, this chapter identified the need for successful remediation of social skills deficits and competing problem behaviors. Interventions that focus on SST have been studied extensively and produce moderate outcomes on social skill remediation. Given the success of SST interventions, the chapter also describes one intervention package available for use in social skills remediation, the SSIS (Gresham & Elliott, 1990, 2008).

ACKNOWLEDGMENT

Support for this article was provided by grants R324A090098 and R324A08711 from the Institute of Educational Sciences, U.S. Department of Education.

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COGNITIVE-BEHAVIORAL INTERVENTIONS TO PREVENT AGGRESSION OF STUDENTS WITH EMOTIONAL AND BEHAVIORAL DISORDERS

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ABSTRACT

Students with emotional and behavioral disorders (EBD) who display aggression necessitate effective interventions for reducing highly disruptive behavior, while keeping learning environments safe and secure for all students and staff. In this chapter, we describe the merits of cognitive-behavioral interventions (CBIs) in school settings to reduce student aggression and other destructive and maladaptive behavior and to promote student success and lifelong learning. To that end, we first explore three theoretical frameworks for aggression: the general aggression model, social learning theory, and social information processing, each of which examines the role of environment, cognition, and behavior as foundational to the occurrence of aggression. Synthesizing these theories

Classroom Behavior, Contexts, and Interventions
Advances in Learning and Behavioral Disabilities, Volume 25, 47–70
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ISSN: 0735-004X/doi:10.1108/S0735-004X(2012)0000025006

assists in the development and implementation of CBIs in classroom settings. We then describe the CBI approach to teaching students cognitive and behavioral strategies to reduce problematic behaviors and increase the use of more pro-social alternatives, and ultimately generalize learned skills to a variety of social situations. A brief history of CBIs is explored, followed by a discussion of several meta-analyses establishing CBI's effectiveness in decreasing aggression across a variety of venues and populations. We then focus on social problem solving as an example of a cognitive-behavioral approach and describe the Tools for Getting Along curriculum as an example of a school-based CBI. At the end of the chapter, we explain some limitations of CBIs in schools and delineate future research needs.

There are normative expectations for children and adolescents in schools to engage in appropriate social interactions with a wide range of peers and adults on a daily basis. For most children and youth, their adult social success is the result of healthy and positive social-emotional development (Downer & Pianta, 2006; Kusché, 2002; Riggs, Greenberg, Kusché, & Pentz, 2006). For some students, however, negative experiences during the developmental years affect their cognitive, behavioral, and social-emotional development in deleterious ways. For these students, the failure to form satisfactory relationships with others by using social and emotional skills typical of successful peers places them at serious risk for school failure, peer rejection, substance abuse, and school dropout (Quinn & Poirier, 2004).

A variety of school adjustment problems are related to a lack of positive social skill development. Teachers at all levels of K-12 education contend with student misbehavior, including disrespect for authority, deliberate noncompliance, habitual truancy, impulsivity, and verbal and physical aggression (Farmer et al., 2003). Moreover, aggressive student behavior can elicit negative responses by peers and adults and thus limit future opportunities for positive interactions, contribute to a persistent pattern of hostility and negative social status, become part of an escalating spiral of conflict, and contribute in a significant way to school failure (Bierman, 2004). Researchers posit that aggression among adolescents is a highly stable behavior and serves as a significant predictor for later aggression and a variety of other undesirable outcomes for both the aggressor and victim (Dodge, Coie, & Lynam, 2006; Loeber, 1996; Olweus, 1979).

Hay and Loeber (1997) believe that most chronically violent individuals undergo development characterized by escalation in the severity of

aggressive acts over several years. According to Hope and Bierman (1998) and Barth, Dunlap, Dane, Lochman, and Wells (2004), classrooms may serve as environments for continuing aggression and deviant peer affiliations when there are a high proportion of aggressive children present. As a result of chronic underachievement and aberrant behavior, teachers and other school personnel often refer aggressive students for special education services for emotional and behavioral disorders (EBD) (Kauffman & Landrum, 2009).

Students with EBD lack the skills necessary for positive social functioning (Kauffman & Landrum, 2009; Kavale, Mathur, & Mostert, 2004). They may have difficulty understanding complex social situations, maintaining drive and motivation, and recognizing and/or managing their emotional reactions to stressful and anger-provoking situations (Freedman, Rosenthal, Donohoe, Schlundt, & McFall, 1978; Lochman & Dodge, 1994). Epstein, Kauffman, and Cullinan (1985) found that aggression was the most persistent pattern of behavior of students with EBD, and Ruhl and Hughes (1985) argued that aggressive behaviors in classrooms for students who exhibit EBD are "... present and noticeably frequent" (p. 102).

Generally, students with EBD who exhibit aggressive and other externalizing behaviors are isolated from typical peers (Kauffman & Landrum, 2009) and associate with peers who exhibit similar behaviors (Xie, Cairns, & Cairns, 1999). Isolation and affiliation with deviant peers perpetuate aggressive behavior and increase the likelihood of further peer rejection (Bierman, 2004). Consequently, highly aggressive students who lack pro-social interactions with typical peers are unlikely to have sufficient opportunities to develop strategies that foster positive social interactions at home, in their community, and on the job (Kerr & Nelson, 2010). Clearly, education professionals who interact daily with students with EBD need instructional strategies to help ameliorate destructive behavior patterns and reverse the trend toward peer rejection, isolation, and escalating problems.

A growing literature base suggests that behavioral excesses and deficits of students with EBD may be linked to the poor development of self-regulatory mechanisms required in the integration of cognition and emotions (e.g., Blair & Diamond, 2008; Hongwanishkul, Happaney, Lee, & Zelazo, 2005; Zelazo & Mueller, 2002). Such deficits are recognized to contribute significantly to chronically aggressive and antisocial patterns of behavior that affect mental health (Fontaine, Burks, & Dodge, 2002; Séguin, Boulerice, Harden, Tremblay, & Pihl, 1999). To enhance intrinsic motivation and long-term behavioral change, and to prevent or ameliorate

destructive behavior patterns, researchers are now studying the efficacy of school and classroom-based cognitive-behavioral interventions (CBIs) (Conduct Problems Prevention Research Group [CPPRG], 1999; Daunic et al., 2012; Lochman & Wells, 2004). CBIs combine the use of behavioral principles, behavior therapy, and cognitive mediation through self-talk (Kendall & Braswell, 1985; Smith & Daunic, 2006) and incorporate modeling, feedback, reinforcement, and cognitive mediation (e.g., think-alouds) to build new ways of coping. They are founded on the assumption that individuals can influence the cognitive events that mediate their behavior.

Because schools are a primary environment for students' social and emotional development, school-based intervention is of utmost importance, particularly for students with or at developmental risk for EBD. According to Hoagwood and Johnson (2003), child welfare, juvenile justice, and substance abuse counseling services assist large numbers of children, but the majority of mental health services are provided in primary care and schools. Hoagwood and Johnson point out, however, that only a small percentage of students in schools who need mental health services receive them.

In this chapter, we describe the merits of CBIs in school settings to reduce student aggression and other destructive behavior and promote student success and lifelong learning. To that end, we explore three theoretical frameworks for aggression: the general aggression model (GAM), social learning theory (SLT), and social information processing (SIP), each of which substantiates CBIs. Next, we delineate the components of CBIs, trace briefly their historical development, and examine supporting empirical evidence. We also describe social problem-solving and its implementation as an example of a school-based CBI. Finally, we explain some limitations of CBIs in schools and describe future research needs.

AGGRESSION

The poor development of self-regulatory mechanisms necessary for cognitive and emotional integration contributes to patterns of aggression among students with EBD (Blair & Diamond, 2008). Researchers have developed multiple theories to understand better the component processes involved in aggression. These include the GAM, SLT, and SIP (cf. Anderson & Bushman, 2002; Bandura, 1986; Crick & Dodge, 1994), each of which examines the role of environment, cognition, and behavior in the occurrence of aggression.

The General Aggression Model

Designed to integrate various theories of aggression, the GAM provides a comprehensive theoretical framework for the factors involved in human aggression (Anderson & Bushman, 2002) and can be useful in developing and implementing intervention programming. The GAM consists of a number of key components including (a) knowledge structures; (b) person and situation inputs; (c) routes for cognition, affect, and arousal; and (d) outcomes.

Knowledge Structures

The GAM asserts that knowledge structures, or the way knowledge is internally organized, have a significant impact on the mental encoding, cognitive processing, and overt behavior of aggressive individuals (Anderson & Dill, 2000; Fiske & Taylor, 1991; Wegner & Bargh, 1998). Developed through experience, these structures contain units of related information that allow individuals to interpret and organize the world efficiently. These knowledge structures profoundly influence perceptions, interpretations, beliefs, affective states, and behavioral responses, and they occur in three relevant domains: (a) perceptual schemata that involve the identification of phenomena ranging from simple objects to complex social interactions, (b) person schemata that encompass beliefs about individuals or a group of people, and (c) behavioral scripts that comprise thoughts about how people behave under various conditions. When encoding cues, aggressive children tend to focus primarily on more aversive signals and interpret them using persistent aggressive knowledge structures (Dodge & Tomlin, 1987; Slaby & Guerra, 1988).

Person and Situation Inputs

The GAM framework divides input variables into two primary factors: person and situational. *Person inputs* include everything a person contributes to a situation, such as traits, beliefs, attitudes, values, goals, scripts, and genetic predispositions. According to Moffitt (1993) and Tubman and Windle (1995), aggressive students and those with EBD often exhibit these characteristics in the form of difficult temperament, behavioral impulsivity, and low levels of self-efficacy. These person factors become stable as they are exhibited regularly across multiple situations (Mischel, 1999). Anderson and Bushman (2002) believe that when summed together, person factors contribute to knowledge structures, and when consistently applied, these factors comprise individuals' personality and their preparedness to aggress.

Situation inputs can include aggressive cues, provocation, and frustration, often common occurrences in classrooms for students with EBD who may already be predisposed to attend to deliberate or hostile cues (Dodge & Tomlin, 1987; Slaby & Guerra, 1988). Along with person factors, each of these situation inputs may contribute to aggression by influencing cognition, affect, and arousal.

Cognition, Affect, and Arousal

Person and situation inputs each contribute to an individual's internal state, which the GAM characterizes as made up of cognition, affect, and arousal. Cognition is affected when input variables summon aggressive concepts in memory. Frequent access of these concepts may lead to "chronic" accessibility, prime aggression, and result in hostility-related scripts (Crick & Dodge, 1994; Dodge & Coie, 1987). Affect is influenced when conditions such as pain, uncomfortable temperatures, or exposure to violent media influence mood and emotion that prime aggressive behavior (Anderson, 1997; Anderson, Anderson, & Deuser, 1996; Berkowitz, 1993). In addition, expressive motor responses automatically coincide with various emotional states, most noticeably through facial expressions. Finally, psychological and physical arousal can also be influenced by input factors, such as medications in a person's system, recent exercise, or air temperature. Anderson and Bushman (2002) posit that cognition, affect, and arousal are deeply interconnected and may elicit knowledge structures or scripts that lead to aggressive behavior.

Outcomes

In the GAM framework, the decision-making process guides the actions an individual may take. This process is informed by an immediate appraisal of the affective states, goals, and intentions of others in a situation, and then filtered through intrapersonal internal states (Anderson & Bushman, 2002). The accuracy of the appraisal depends on personal and situational factors, as well as the person's present internal state. According to Dodge (2006), aggressive children tend to demonstrate a hostile bias when appraising the intentions of others. For example, once an immediate appraisal is made, an individual may act impulsively (not necessarily aggressively) or may reappraise the situation if the outcome is important to the individual and sufficient resources such as time and cognitive capacity are available. For example, if a middle school student running down the hallway is late for class when another student bumps into him and knocks a book out of his hands, he is frustrated (internal state). He notices that the boy who bumped

him is a popular male athlete and cognitively accesses his knowledge structures about “jocks” (person schemata) and how they behave (behavior scripts). Rubbing his arm from the impact (arousal), the student makes an immediate appraisal of the situation (assigning hostile intent) and responds by verbally aggressing and pushing back.

Following an immediate appraisal, a reappraisal can involve a more systematic search for a satisfying outcome and include an examination of possible causes, relevant memories, and probable outcomes of possible actions. An individual may cycle through several cognitive searches and evaluations before deciding on a course of action. Reappraisal, however, may not necessarily lead to a nonaggressive response. In fact, individuals may recall unpleasant prior experiences that elicit changes in their internal state and result in aggression. For example, the middle school boy might reappraise and notice the athlete was looking in another direction and had an expression of empathy on his face. The boy, in this instance however, might also notice other students looking on and recall a prior incident when he was ridiculed, and decide to push back after all, influenced by his current emotional state and a desire to preserve his social status.

The GAM framework focuses on the present internal state of the individual, including the influence of past experience on present and future behaviors. Repeated exposure to poor environmental influences and inappropriate models, as are prevalent in classrooms for students with EBD (Ruhl & Hughes, 1985), may lead to the development of knowledge structures that create and solidify automated aggressive response scripts. Continued reinforcement of these scripts and knowledge structures may ultimately result in the development of a more aggressive personality. Based on the GAM, however, there is hope that this same process could result in the development of a less aggressive personality. How an individual develops specific knowledge structures can be accounted for through SLT.

Social Learning Theory

SLT posits that an individual's psychological functioning consists of “continuous reciprocal interaction between behavior and its controlling conditions” (Bandura, 1973, p. 43). The individual and the environment shape one another constantly through this interaction. Individual patterns of behavior can be learned through the direct experience of reinforcement contingencies and/or punishment, as an individual behaves within a particular context. For example, when a student raises his hand in a

classroom and waits to be called on before speaking, the teacher may praise the hand-raising and the student's waiting behavior, thus influencing the future occurrence of hand-raising within the classroom context. According to Bandura (1973), however, most learning is associated with the observation of another's behavior that teaches general rules, help from behavioral scripts for various social situations, and provide a basis for interpersonal imitations. Thus, the observer learns to repeat or reject a behavior based on vicarious reinforcement, or reinforcement received indirectly by observing another person being reinforced. Using the hand-raising example, observational learning would occur if other students in the class initiate appropriate hand-raising and wait patiently, because they witnessed the teacher praise the performance of the same behavior. The influence of repeated exposure to poor environmental conditions and inappropriate models, however, may lead to the formation of knowledge structures containing more aggressive behavioral scripts.

Bandura's (1973, 1986) SLT contributes to an understanding of human aggression. Individuals are equipped with neurophysiologic systems that facilitate aggressive behavior, but the topography, frequency, intensity, and context of aggressive acts are largely influenced by social experience. Through the theory of reciprocal determinism, Bandura (1986) posits that behavior is regulated and maintained by interactions between the environment, behavior, and individual. With regard to these three systems, "Human aggression is a learned conduct that, like other forms of social behavior, is under stimulus, reinforcement, and cognitive control" (Bandura, 1973, p. 44). For example, observing a fight during recess (environment) may lead to thinking about fighting (cognition), which, in turn, may lead to provoking a fight in class (behavior). Alternatively, thinking about fighting (cognition) increases the chances of noticing others fighting (environment), which in turn may lead to fighting (behavior) again. All three elements – behavior, cognition, and environment – take turns influencing or being influenced by each other. The theory of reciprocal determinism thus suggests that cognitive processes shaped by events in the external environment control behavior. The premise of employing cognitive processes to self-regulate behavior is foundational to the cognitive-behavioral approach to intervention.

Social Information Processing

Dodge, Pettit, McClaskey, and Brown (1986) explained the cognitive processes of encoding and interpreting environmental cues and subsequently

enacting a behavioral response through their model of SIP. Acknowledging the influences of biologically determined capabilities and the presence of stored memories from prior experience, Dodge and his colleagues provided a framework for the steps that lead to performance in social situations. The basic premise of the model is that skillful execution of each step in the process will lead to competent social performance in a given situation, while biased or faulty processing will lead to deviant social behaviors, such as aggression (Dodge & Crick, 1990). Dodge (1986) explained that children mentally engage in four steps before enacting a social response:

1. encoding situational cues,
2. representing and interpreting those cues,
3. mentally searching for possible responses, and
4. selecting a response.

The third and fourth steps suggest that children recall possible responses from memory and evaluate them before selecting one for enactment.

In revising the SIP model, Crick and Dodge (1994) abandoned a strictly linear approach for one in which a person's cognitive processing is posited to occur along several paths concurrently. The path from a particular provocation to a behavioral response, however, still entails a sequence of steps:

1. encoding of external and internal cues,
2. interpretation and mental representation of those cues,
3. clarification or selection of a goal,
4. response access or construction,
5. response decision, and
6. behavioral enactment.

Each of these steps consists of sub-processes that lead to the completion of the primary step. Thus, the revised model suggests that steps and sub-processes may occur simultaneously and interactively, creating feedback loops and a cyclical structure. The reformulated model describes a database of information each individual possesses that may influence each step along the sequence. This information includes representations of past social events stored in long-term memory, social schemas developed for specific social situations to simplify cognitive processing, and acquired rules (e.g., when provoked by a peer, an aggressive response will preserve social status) that unite to form latent mental structures stored in memory as social knowledge.

Research on children prone to aggression reveals deficits along each step in the SIP model. Aggressive children tend to encode fewer social cues before interpreting situations, and the cues selected for encoding tend to be the more hostile ones (Dodge et al., 1986; Milich & Dodge, 1984). Once they encode the cues, aggressive children tend to assign hostile intentions to others as they interpret the situation (Dodge et al., 1986), and they underperceive their own level of aggression (Lochman, 1987). Persistent cognitive beliefs also influence the SIP of aggressive youth (Slaby & Guerra, 1988). For example, Lochman, Wayland, and White (1993) found that aggressive adolescent males place higher value on dominance and revenge and less value on the social goal of affiliation embraced by their non-aggressive peers. Their search for a behavioral response results typically in fewer socially competent solutions, a greater orientation toward physical action, and a weaker orientation toward verbal assertion (Dodge et al., 1986; Lochman & Lampron, 1986). Moreover, Perry, Perry, and Rasmussen (1986) note that aggressive children possess a higher expectation of positive outcomes for aggressive actions than nonaggressive children, thereby increasing the probability of selecting an aggressive response. Finally, even if the child selects a pro-social solution, he may lack the social skills necessary for proper enactment (Dodge et al., 1986). Thus, aggressive children may display a cognitive and/or behavioral deficiency at any level of SIP. One promising approach to addressing these deficiencies is teaching students to regulate their own behavior using techniques such as self-talk and cognitive mediation, commonly found within CBIs.

Theories such as the GAM, SLT, and SIP help to identify variables and clarify components meaningful for developing techniques and interventions to reduce aggression and other problematic behaviors exhibited by students with EBD. Key components identified in the GAM, such as knowledge structures, cognition, affect, and outcomes, influence the mental encoding and cognitive processes that affect how individuals perceive, interpret, and behave in social situations. By investigating the interplay among components that elicit aggressive behavior, the GAM facilitates an examination of conceptual variables that underpin the cognitive-behavioral approach to intervention.

Similarly, SLT explores interactions between cognition, environment, and behavior during social experiences and suggests how cognitive processes that control behavior are influenced by external events. The premise that social behavior can be controlled through SIP of interpersonal variables also provides a theoretical basis for cognitive-behavioral approaches to treatment. Thus, each of the three theoretical frameworks considers factors

that influence the cognitive decision-making process. The defining feature of SIP is its delineation of a series of interconnected processes and steps that lead to social competency. The information accessed and how it is processed during each step along the sequence influences social behavior, including the behavior of aggressive individuals. By demarcating these processes, SIP provides a foundation for the development of interventions based on the CBI approach, especially those with a focus on social problem-solving. Synthesizing the insight these theories provide about aggressive behavior assists in the practical development and implementation of CBIs in classroom settings.

COGNITIVE-BEHAVIORAL INTERVENTIONS

The CBI approach combines behavioral and cognitive components to modify disorders such as anxiety, fears, phobias, aggression, and disorders of conduct (Lesure-Lester, 2002; Smith & Daunic, 2006; Smith, Lochman, & Daunic, 2005). CBI strategies employed in school settings can modify behavior by using a variety of covert (implicit) and overt (explicit) reinforcement contingencies, while simultaneously altering students' thought processes about situations that frequently provoke negative behavioral outbursts (Daunic et al., 2012; Riggs et al., 2006; Smith & Daunic, 2006).

Basically, CBI operates under three fundamental assumptions: (1) cognitive activity affects behavior, (2) cognitive activity may be monitored and altered, and (3) desired behavior change can occur through cognitive change (Kendall & Hollon, 1970; Smith & Daunic, 2006). While the CBI approach does not target behavior change by teaching how to respond in specific situations, it does provide skill development for generalization to a variety of problem situations. In congruence with the fundamental assumptions, teaching strategies imbedded in CBIs include whole class instruction, guided discussions, demonstration/modeling, self-study, rehearsal, student homework, performance-related activities such as role-play, how to notice and challenge automatic thoughts, and the use of self-talk (Smith & Daunic, 2006).

Inherent in CBI is the fundamental idea that behavior is mediated through self-talk (Mahoney, 1974; Mayer & Van Acker, 2009; Meichenbaum, 1977). Thus, the use of language in altering cognitions is often a common component of the approach, and most CBI programs promote the active engagement of participants in the process of understanding and modifying their thought processes, feelings, and behaviors (Kendall, 1985;

Mayer & Van Acker, 2009). For example, teachers might use modeling to demonstrate self-talk, and students would then be encouraged to work through simulated situations using overt self-talk while they receive coaching and feedback. The long-term goal is for students to use self-talk covertly and automatically over time, in vivo. In addition to the integral role of self-talk, Kaplan and Carter (1995) delineated five characteristics that set CBIs apart from other behavior management programs:

1. the student, rather than the teacher, is the agent of change,
2. verbalization is the primary tool for change,
3. the student is taught steps for identifying and solving social problems,
4. instruction involves the use of modeling, and
5. gaining self-control is the goal.

History of CBI

Prevalent well into the 1960s within school settings, the use of behavioral approaches met some resistance because of limited generalizability and durability of learned behaviors (see e.g., Meichenbaum, 1980). As a result, CBIs emerged as a promising modification, because of ecological utility not inherent in behavioral modification approaches (Meyers, Cohen, & Schleser, 1989; Van Acker & Mayer, 2009). According to Mayer and Van Acker (2009), CBIs gained favor in the 1970s, evolving from research and theory in cognitive psychology and behaviorism and marked by the work of researchers such as Kelly (1955) and Dollard and Miller (1950), who presented internal phenomena as explanations for human behavior. Kelly's *constructive alternativism* (1955, 2003) led to the development of three common CBIs: rational emotive therapy, cognitive therapy, and self-instructional training (Kendall & Hollon, 1970; Meichenbaum & Goodman, 1971). According to constructive alternativism, all human perceptions are open to question and reconsideration, because they inherently differ from objective reality. Personal constructions are based on the meaning attached to an event, which is anchored to associated antecedents and consequences. This philosophical position set the stage for several CBI approaches, because it showed the importance of human perception.

The use of CBIs in schools developed over the last 40 years, and according to Van Acker and Mayer (2009), the development of school-based CBIs can be conceptualized as occurring in three historical periods: formative (early 1970s to mid-1980s), maturation (mid-1980s to late 1990s), and established

(late 1990s to present). During the formative period, several events influenced the development of CBIs across academic, social, behavioral, and emotional domains. These included an increase in research that addressed the skills and tasks vital to academic and social-emotional success and an established national priority for school-based prevention programming. Researchers also started to focus their school-based research on several critical skill areas, including:

1. generating alternative solutions,
2. reflecting on consequences,
3. developing social-causal cognition,
4. means-end thinking, and
5. being sensitive to interpersonal problems.

During this time, CBIs were developed to address anger/aggression, depression, and anxiety, providing a foundation for the next generation of interventions.

The maturation period was marked by an increase in CBI implementation in schools; further development of underlying theory (e.g., GAM and SIP); continuing refinement of interventions for treating aggression/anger, anxiety, and depression; and more consistent evidence of CBI efficacy. According to [Van Acker and Mayer \(2009\)](#), researchers are currently in the established phase of school-based CBI development, during which CBIs are being more finely tuned to meet the needs of all program participants.

Efficacy of CBIs

Meta-analyses of CBI effectiveness in the treatment of problem behavior include that of [Beck and Fernandez \(1998\)](#). In their analysis, studies involving the treatment of anger with parents, children, and delinquents mostly in clinical settings (e.g., prisons, residential treatment centers, and detention facilities) showed that CBI produced an overall mean weighted effect size of 0.70. Thus, those receiving CBI for anger reduction were better off than 76% of untreated participants. Also focusing on anger for children and adolescents (ages 6–18), [Sukhodolsky, Kassino, and Gorman \(2004\)](#) found a mean effect size of 0.67 and noted that CBI effects were equivalent to those of counseling and psychotherapy. They also found social skills training and multimodal interventions to be more effective in improving social skills and reducing aggressive behavior, and problem-solving interventions to be more successful in reducing personal anger experiences. In the

Sukhodolsky et al. (2004) study, modeling, feedback, and homework techniques were all positively correlated with effect size.

Meta-analyses conducted by McCart, Priester, Davies, and Azen (2006) and Bennett and Gibbons (2000) focused on the effectiveness of CBI in reducing antisocial behavior. McCart and colleagues compared the effectiveness of behavioral parent training and CBI in the treatment of antisocial children and youth, while Bennett and Gibbons focused on the effectiveness of CBI only as a treatment of antisocial behavior in children and youth. The weighted mean effect size for all interventions was 0.40 in the McCart et al. (2006) study. Although student age did not determine the effectiveness of behavioral parent training, there was a positive correlation between age and effect size for CBI, such that older students benefited more than younger students. In the Bennett and Gibbons study, the mean effect size was 0.48, and 0.66 at follow-up. The researchers concluded that CBI has a low to moderate effect in decreasing antisocial behavior.

While these meta-analyses provide evidence of CBI effectiveness for school-aged children and youth who exhibit behavior problems, the comingling of participant categories (e.g., antisocial behavior, delinquency, incarceration, having abusive parents) and data from school, clinic, and restrictive settings may inhibit generalization to a school-based population of students who typically exhibit less disruptive and aggressive behavior than those referred for clinical treatment. Robinson, Smith, Miller, and Brownell (1999) addressed these limitations in a meta-analysis that explored the use of school-based CBIs in treating aggression and hyperactivity-impulsivity in nonclinical populations. They found an overall weighted mean effect size of 0.74 for 24 outcome studies, 0.79 for studies focused on hyperactivity-impulsivity, and 0.64 for studies focused on aggression, specifically. Effects found at posttest were maintained over time.

Social Problem Solving

Although school-based CBIs designed to decrease student aggression share elements of the GAM and SLT frameworks, the SIP theoretical model seems most relevant to social problem solving. Specifically, the SIP model provides insight on the cognitive processes underlying social interactions. In fact, some of the earliest programs designed to address SIP deficits were social problem-solving interventions (Wilson & Lipsey, 2006). D’Zurilla and Goldfried (1971), for example, defined social problem solving as an overt or covert process that creates various potentially effective alternatives for

dealing with a problematic situation and enhances the likelihood of selecting the most effective response from these alternatives. Thus, social problem-solving is a logical, effortful, and conscious activity (D’Zurilla, Nezu, & Maydeu-Olivares, 2004). The approach is based on the assumption that (a) the ability to solve social problems is positively related to social competence and inversely related to maladaptive behaviors, and (b) training in social problem-solving skills will increase social competence and help reduce and prevent further development of maladaptive behavior in individuals with problem-solving deficits.

According to the D’Zurilla and Nezu (1999) framework, the five components addressed in social problem-solving training are:

1. problem orientation,
2. problem definition and formulation,
3. generation of alternative solutions,
4. decision-making, and
5. solution implementation and verification.

Problem solving is a higher order cognitive process that is influenced by an individual’s internal state (e.g., knowledge structures, behavioral scripts, social schemas, and person and perceptual schemata), as discussed in GAM, SLT, and SIP theories. As the first step of social problem solving, problem orientation involves the attentional set and cognitive-emotional schemas that influence how students think and feel about social problems and their own problem-solving behavior (D’Zurilla & Nezu, 1999). The remaining four components are skills that can be conceptualized as steps integral to successful problem-solving.

In the second step, students learn to identify and state their problem so that it is likely to provide the kind of information needed to maximize performance in later phases. To accomplish this, Dollard and Miller (1950) believed the most important step in simple reasoning is to “stop and think,” to avoid immediate appraisal of a social situation and attend to all available cues. Basically, stop and think allows for sufficient time to process external and internal cues to ensure an effective and measured decision-making process. As students learn to recognize a problematic situation and inhibit their tendency to respond automatically, the next problem-solving step is to define all aspects of the problem in operational terms. This includes formulating or classifying elements of the situation appropriately to distinguish relevant from irrelevant information, identify primary goals, and specify sub-problems, issues, or conflicts. Once the problem is defined and

formulated, the student learns to identify major goals and generate ways to meet these goals through developing a list of alternative solutions.

D’Zurilla and Goldfried (1971) conceptualized the generation of alternatives using Osborn’s (1963) method of brainstorming, which has four basic rules: “Criticism is ruled out, free-wheeling is welcomed, quantity is wanted, and combination and improvement are sought” (D’Zurilla & Goldfried, p. 114). D’Zurilla and Goldfried argued that more good ideas are produced under this brainstorming instruction than under instruction requesting that students produce *only* “good” ideas. They suggested that students start by generating general strategies for solving their dilemma, enter the decision-making stage, and select the best strategy, and then go back to the generation stage to produce as many alternatives as possible for carrying out selected strategies. Acknowledging that individuals might not be able to identify the best alternatives from those they have generated, D’Zurilla and Goldfried provided guidelines, such as weighing the usefulness of decisions in light of the student’s value system. Once a behavioral alternative is chosen (i.e., decision-making), the behavior is enacted. The outcome of enactment is then assessed to determine if the behavior was successful in meeting the student’s goal and whether it should be used again in the future (i.e., solution implementation and verification).

Tools for Getting Along

An example of a social problem-solving curriculum is *Tools for Getting Along* (TFGA; Smith & Daunic, 2006). Aimed at teaching social problem-solving skills to prevent or decrease problem behavior in fourth and fifth grade students, TFGA is delivered at the universal level. In this way, typical peers who display adequate problem-solving skills provide positive role models for targets students who are at-risk for emotional and behavioral difficulties. Through direct instruction, teacher modeling, and instruction in self-talk, TFGA focuses on six social problem-solving steps to help students in personal decision-making. They include:

1. recognizing that a problem exists,
2. calming down and thinking,
3. defining a problem in terms of goals and barriers,
4. generating solutions through brainstorming,
5. considering possible outcomes and selecting a strategy, and
6. evaluating an outcome once a solution is enacted.

Daunic, Smith, Brank, and Penfield (2006) conducted a quasi-experimental study of *TFGA* that included 7 schools in three districts: 2 schools (10 teachers) in a 20-lesson condition, 3 schools (17 teachers) in a 20-lesson plus boosters condition, and 2 schools (8 teachers) in a control condition, with a total of 165 targeted students across the 3 conditions. All intervention teachers (i.e., 20-lesson and 20-lesson plus boosters conditions) participated in a one-day training prior to implementation during which they learned to use a scripted curriculum and cognitive modeling, role-plays, small group activities, and real-life strategy application. The additional 6 lessons in the 20-lesson plus boosters condition provided opportunities for repeated behavioral practice. All *TFGA* lessons were designed to last approximately 30 minutes and to be taught at a rate of two to three lessons per week for 7–10 weeks. Study findings were that target students identified as at-risk for disruptive and/or aggressive behavior evidenced an increase in problem-solving knowledge and improved teacher-reported reactive and proactive aggression. These findings were maintained over several months. There were no significant differences between students in the booster condition and those in the 20-lesson condition.

Further, Daunic et al. (2012) examined the effectiveness of *TFGA* in reducing developmental risk for EBD in a randomized controlled field trial with a larger sample of fourth and fifth grade students. Students from 87 classrooms (44 treatment, 43 control) in 14 schools were randomly assigned to treatment or control. Teachers and guidance counselors were trained to implement *TFGA* during a 10-hour, 2-day training program. Treatment teachers taught an average of one *TFGA* lesson per week, and a follow-up meeting was conducted approximately halfway through curriculum delivery to reorient teachers to *TFGA* goals. Study findings showed positive effects of treatment on problem-solving knowledge and teacher-reported social skills, proactive aggression, and areas of executive function, such as inhibitory control, attentional shift, initiating strategies, organizing materials, planning, and performance monitoring, all of which contribute to self-regulatory cognitive tasks relative to effective problem solving in a variety of contexts. Students who received *TFGA* versus those who did not reported they approached social problems more positively following intervention, had an improved problem-solving style, and had a lower level of trait anger and anger out.

In summary, CBIs blend cognitive and behavioral components to reduce problematic behaviors such as aggression and increase the use of more pro-social alternatives. The CBI approach aims to teach students problem-solving skills that can generalize to a variety of social situations. Originating in the 1970s, the CBI approach is now at the refinement stage, such that

practitioners can meet the needs of all students. Numerous controlled field trial studies and meta-analyses across a variety of venues and populations have shown CBIs' effectiveness in decreasing student problem behaviors, including aggression.

RESEARCH AND IMPLEMENTATION ISSUES

Although there is a growing awareness of, and empirical evidence for, the efficacy of CBIs for school-aged children and youth who exhibit maladaptive behavior, [Smith, Graber, and Daunic \(2009\)](#) noted a number of remaining research and implementation issues. First, most CBIs are multi-component, and researchers often report outcome measures at the individual student, classroom, family, and/or community level. Thus, comparisons across studies are sometimes problematic, and generalizability to diverse populations difficult to establish. [Gresham \(2005\)](#) noted that many associated outcome measures lack adequate reliability and validity and may not be based on firm theoretical constructs. There are also issues associated with bias (i.e., social desirability) when teachers are both primary implementers and informants on outcome measures. In a similar way, when researchers rely on student self-reports to assess treatment effectiveness, the measures may be more or less useful at different developmental stages, because students may be hampered by limited self-awareness, especially at younger ages.

Finally, [Smith, Daunic, and Taylor \(2007\)](#) emphasized the need for attention to treatment fidelity to ensure accurate and consistent delivery of all CBI components to participants over time. Basically, treatment fidelity is maximized when an intervention is implemented as planned. Teachers may, however, need to adapt and vary from prescribed treatment protocols because of the ideographic nature of their classrooms. Thus, a reasonable intersect is needed where researchers of CBIs and those who implement them assure the accuracy and fidelity necessary to maximize intervention effectiveness.

FUTURE OF RESEARCH TO SCHOOL-BASED PRACTICE

The complexity of delivering CBIs is compounded by the intricacy of intervention settings such as schools and classrooms ([Smith et al., 2005](#)). Parents, students, and education professionals will not be served well when

implementing CBIs known only to be effective under clinical conditions and implemented by experienced researchers. Rather, the ultimate goal is to develop CBIs that are effective and can be sustained in the complex and unpredictable arena of classrooms and schools. To accomplish this, teachers and other education professionals must be appropriately educated in intervention use, have the requisite amount of conceptual and theoretical knowledge about CBIs, and be convinced that using CBIs will lead to positive and long-term outcomes (Larson & Lochman, 2002; Polsgrove & Smith, 2004; Smith et al., 2005). The expectations and attitudes of teachers and other education professionals about using CBIs could substantially augment or diminish their effects. Thus, extensive pre-service and in-service training and incentives for implementers are required, with ongoing monitoring and support by behavioral support personnel. This is a tall order, in light of the numerous competing priorities in schools, such as high-stakes testing and teacher accountability for academics.

In summary, students with and at risk for EBD who display aggression necessitate the provision of effective interventions by education professionals for reducing highly disruptive behavior, while keeping learning environments safe and secure for all students and staff. Despite the fact that many special education teachers and behavioral support personnel may be unfamiliar with the CBI approach, teaching students with EBD to understand and modify their thought processes, feelings, and behaviors can provide the skills to regulate their own behavior and reduce dependence on teacher-operated behavior reduction procedures. CBIs offer a viable strategy for teachers to help students with EBD become less aggressive, more independent, and more successful in the classroom and many aspects of school, work, and family life.

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ATTENTION DEFICIT HYPERACTIVITY DISORDER AND ACADEMICS

Robert Reid

ABSTRACT

Attention deficit hyperactivity disorder (ADHD) is the most commonly diagnosed psychological disorder of childhood. Prevalence of ADHD currently is estimated at 5% among school-age children making it a serious concern for educators. One aspect of ADHD, however, that has received comparatively little attention is the academic difficulties that are commonly associated with ADHD. This chapter provides an overview of the extent and nature of academic problems of students with ADHD. First, a theoretical perspective on academic deficits of students with ADHD drawn from Barkley's (2006) theoretical work is presented. Second, the academic status of students with ADHD is discussed. Third, drawing on longitudinal studies, the academic trajectory of students with ADHD is examined. Fourth, possible causal factors for academic problems and core deficit areas of working memory and executive functions are discussed. Next, progress in academic interventions for ADHD is assessed and promising interventions are noted. Finally, some possible directions for future intervention research are provided.

Classroom Behavior, Contexts, and Interventions
Advances in Learning and Behavioral Disabilities, Volume 25, 71–94
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ISSN: 0735-004X/doi:10.1108/S0735-004X(2012)0000025007

Attention deficit hyperactivity disorder (ADHD) is now the most commonly diagnosed psychological disorder of childhood (Barkley, 2006). Worldwide prevalence of ADHD is estimated at 5% among school-age children (Polanczyk, de Lima, Horta, Biederman, & Rohde, 2007). ADHD is a chronic disorder and while some symptoms may abate by adolescence, the core problems remain. This typically results in problems in functioning successfully in work, school, or social settings. As children with ADHD enter adulthood, they are more likely than their peers to experience incarceration, contract a sexually transmitted disease, or be involved in multiple car accidents (Casey et al., 2008; Cox et al., 2006; Flory, Molina, Pelham, Gnagy, & Smith, 2006). ADHD also poses serious economic concerns. In the United States, the direct cost of ADHD (e.g., medical costs, educational services) is estimated to be between 42.5 and 52.5 billion dollars per year (Pelham, Foster, & Robb, 2007). Indirect costs (e.g., lost work time by family members) are difficult to quantify but are likely even larger. Thus, effective treatment for students with ADHD should be a pressing societal concern.

ADHD is a disorder that has received a tremendous amount of attention in our society (Reid & Johnson, 2011). ADHD is regularly featured in the media and is the subject of thousands of academic papers in the United States alone. A great deal of the attention paid to ADHD focuses on problem behaviors associated with ADHD (e.g., overactivity, noncompliance, aggression) and treatment of these problem behaviors (e.g., medication). One aspect of ADHD, however, that has received comparatively little attention is the academic difficulties that are commonly associated with ADHD. This is unfortunate, because academic underachievement has serious consequences. Students who fail to progress academically may fail to graduate, are more likely to drop out of school, and are less likely to access postsecondary education (US Department of Education [DOE], 2005). As a result, over 2 million students may be at risk for economic and social disadvantage because they lack the proficiency in science, technology, math, reading, and writing that is required for employment in well-paying jobs (DOE, 2005).

The purpose of this chapter is to provide an overview of the extent and nature of academic problems of students with ADHD. First, a theoretical perspective on academic deficits of students with ADHD is presented. Second, the academic status of students with ADHD is discussed. Third, the academic trajectory of students with ADHD is examined. Fourth, possible causal factors for academic problems and core deficit areas are discussed. Next, progress in academic interventions for ADHD is assessed. Finally, some possible directions for future research are provided. Note that a

comprehensive treatment of these topics is beyond the scope of this paper. When possible, the reader will be referred to sources that provide additional information on the topics covered.

THEORETICAL EXPLANATIONS

There is no universally accepted theory of ADHD, and most explanatory theories have little utility for understanding academic problems or intervention development. At present, probably the most useful theoretical framework for understanding academic deficits is [Barkley's theory \(2006\)](#). In this theory, ADHD is seen as the result of a deficit in self-regulation. Difficulty with behavioral inhibition is the primary problem. Children with ADHD are unable to inhibit their initial reaction to a situation. Their initial reaction comes so quickly and automatically that it overwhelms executive functions (EFs) that would normally help to guide behavior. Children with ADHD also fail to monitor situations, assess whether an action is appropriate to the situation, act planfully, or consider consequences of their actions. This results in impulsive behavior. In Barkley's theory ADHD is *not* the result of a lack of skills or knowledge. Instead, ADHD is a problem deploying skills or knowledge appropriately ([Barkley, 2006](#)).

Barkley's theory focuses on four processes that are critical to self-regulation of behavior: (a) nonverbal working memory (WM), which includes self-awareness, sense of time, retrospective function (hindsight), and prospective function (foresight); (b) internalization of speech, which includes self-questioning and problem solving; (c) self-regulation of affect/motivation/arousal, which includes objectivity; and (d) reconstitution (planning), which includes analysis of behavior, and planning.

Nonverbal WM

Nonverbal WM refers to our ability to keep information in mind that can be used to control our response to various stimuli. It is our ability to make use of our memories or skills appropriately in a given situation. For example, we are able to call up what we have learned from previous experience when we encounter a similar situation at a later time. Nonverbal WM incorporates past experiences and uses our memory of those experiences to help us regulate our actions. It gives us the ability to imitate complex sequences of behavior, or to learn a skill by observing it practiced by someone else.

Nonverbal WM also includes the concepts of hindsight – the ability to look back at an experience and reflect on it, and forethought – the ability to consider the future and what actions should be taken to accomplish a particular goal, or to consider the future consequences of actions. The ability to remember a sequence of events also provides a sense of time and allows us to control our behavior relative to time (i.e., time management).

Internalization of Speech

Internalization of speech refers to the use of language to mediate behavior. This refers to situations in which an individual uses self-talk (also referred to as self-speech or private speech) to help handle situations or deal with problems. Self-talk helps individuals deal with problems by literally talking themselves through a situation. For the most part, self-talk is internal after about age 10, though in some instances it becomes externalized and individuals actually orally describe whatever is happening and then verbally reflect on how to respond to the situation. There are a number of types of self-talk, such as self-questioning (e.g., “What’s the formula for solving this problem?”), rule-governed behavior (e.g., “I know the teacher doesn’t allow chewing gum, so I need to get rid of mine”), and moral reasoning (e.g., “I’d feel bad if someone treated me that way, so I’m not going to treat my friend like that”).

Self-Regulation of Emotion/Motivation/Arousal

The ability to self-regulate emotions, motivation levels, and general arousal levels in response to the environment is critical. The ability to control an emotional response is an important facet of self-regulation. External events can generate emotional responses that may, in turn, create a physical response. Effective self-regulation entails the ability to rein in those emotions and avoid overreactions. Self-regulation of motivation allows students to maintain their efforts in order to attain a goal. The last component – self-regulation of arousal – is closely related to self-regulation of motivation in that students must also keep themselves alert, oriented, and focused on goal-directed actions. Arousal is directly related to students’ ability to persist at a task. Both motivation and arousal are related to drive, willpower, determination, and “sticking to it,” all of which tend to be difficult for individuals with ADHD.

Reconstitution

Reconstitution refers to students' ability to analyze behaviors, either their own or others', and then synthesize those behaviors into new behaviors that would enable them to function effectively in different situations or perform complex tasks. Planning, strategic behavior, and flexible problem solving are key elements of reconstitution. Reconstitution also requires that students have the ability to mentally visualize the possible consequences of a new combination of behaviors or to see themselves in a new situation. In sum, reconstitution involves the planful strategic ordering of behaviors to reach a specific goal. Unfortunately, children with ADHD will seldom, if ever, engage in this type of behavior independently.

ACADEMIC STATUS

Academic deficits are commonplace among students with ADHD. Academic deficits are evident early and tend to persist throughout students' school experience (Breslau et al., 2009; Galéra, Melchior, Chastang, Bouvard, & Fombonne, 2009). The deficits are often pronounced. Compared to controls, students with ADHD score significantly lower on standardized tests in reading, math, and spelling (Frazier, Youngstrom, Glutting, & Watkins, 2007). Effect sizes (Cohen's *d*) were .73 for reading, .67 for math, and .55 for spelling. Thus on average, achievement for students with ADHD is around 25–30% lower than that of controls. Problems commonly associated with academic difficulties are also common among students with ADHD. For example, students with ADHD are significantly more likely to be retained in a grade, drop out of school, and fail a high school proficiency test (Barkley, 2006; Frazier et al., 2007).

Students with ADHD also are much more likely to receive special education services than their peers; between 40% and 50% of students with ADHD are identified under IDEA (e.g., Barkley, 2006; Reid, Maag, Vasa, & Wright, 1994). They are primarily identified under the categories of learning disabilities (LD) (49%), behavioral disorders (BD) (13.8%), and other health impaired (OHI) (17.7%; Schnoes, Reid, Wagner, & Marder, 2006). A smaller group of students with ADHD are served under the categories of intellectual disability (Abikoff, 2002) and speech language impairment (Schnoes et al., 2006). Students with ADHD also make up a considerable proportion of students with disabilities. A national survey (Schnoes et al., 2006) found that among school-age students with

disabilities, the percentages of special education students who were also identified as having ADHD were 65.8% for OHI, 57.9% for BD, and 20.6% for LD. Thus, in two categories of disability, the majority of students with disabilities also had ADHD. This has significant ramifications for educators because the presence of ADHD in conjunction with a disability tends to exacerbate educational problems. For example, students with LD and ADHD perform significantly lower in reading than those with LD alone (e.g., Wilcutt et al., 2007).

The correlation between ADHD and achievement problems is extremely robust and has been reported both in the United States and in large-scale international studies (e.g., Ek, Westerlund, Holmberg, & Fernell, 2011; Galéra et al., 2009). Note, however, that the fact that students with ADHD are below controls *on average* does not mean that students with ADHD *as a class* are low achievers. In fact, the *range* of achievement scores among students with ADHD closely parallels that of their peers (e.g., Reid et al., 1994).

ACADEMIC TRAJECTORY

Cross-sectional and correlational studies have documented academic deficits among students with ADHD and that ADHD-related problems, most notably attention-related problems, are a risk factor for later academic achievement problems. However, they do not inform us on the academic trajectory of students with ADHD. That is: Do students with ADHD progress at the same rate as their peers? This is a difficult question to address both because of the difficulty of collecting longitudinal data and because of problems avoiding potential confounds (e.g., referral bias, clinical samples). Currently, there appears to be only one study in which researchers collected longitudinal data on achievement of students with ADHD who were identified by DSM criteria from community-based samples (as opposed to clinically referred samples) and used standardized tests for academic assessment (as opposed to measures such as teacher ratings or grades).

Bussing et al. (2010) reported data on a cohort of 111 students with ADHD and a matched comparison group. Standardized achievement test data were collected yearly from grade 3 to grade 10, which spans most school years. After controlling for gender, ethnicity, and socioeconomic status, the researchers found – as expected – that the achievement level of the students with ADHD was significantly below that of the comparison group. However, when special education status was controlled, there were

no longer significant differences in achievement across the ADHD and comparison groups. Students with ADHD but without comorbid disabilities did not differ from the comparison group or the average of the district as a whole. This suggests that the presence of a disability is a driving factor in the achievement problems of students with ADHD. The researchers also examined the rate of increase in academic performance (i.e., slope) across 3rd to 10th grades. They found that the slopes for the ADHD group (both with and without disabilities) and comparison groups were not significantly different. Thus, although the mean achievement level for students with ADHD was lower than comparisons, there was no difference in the rate of academic progress. Interestingly, the study also compared gifted students with ADHD and a gifted comparison group and found no differences between means and rate of progress. These results are somewhat encouraging in suggesting that students with ADHD are not falling farther behind academically over time. Bussing's results are also consistent with the [Frazier et al. \(2007\)](#) meta-analysis that found no age effects for achievement, suggesting that both students with and without ADHD progressed at similar rates.

CAUSAL FACTORS

Many possible explanations for academic deficits have been proposed. The strong association between LD and ADHD no doubt accounts for some of the deficits because the incidence of LD is high among students with ADHD ([Cantwell & Baker, 1991](#)). It is also possible that ADHD itself does not interfere with the ability to learn, but instead affects the "availability for learning" ([Silver, 1990, p. 396](#)); that is, students with ADHD miss out on instruction due to frequent behavior and emotional problems. The high incidence of language impairments, which affects students' ability to quickly and efficiently process verbal information, could also negatively affect academic outcomes ([Schnoes et al., 2006](#)). Another factor that could affect academic performance is overall intellectual ability. In a meta-analysis of 123 studies of intellectual ability of individuals with ADHD, [Frazier, Demaree, and Youngstrom, \(2004\)](#) found that the full-scale IQ scores of individual with ADHD were significantly lower ($d = .61$) than controls. This result would suggest that academic achievement also would be significantly lower than controls. Note, however, that although average IQ score levels are significantly lower, the *range* of IQ scores mirrors that of the individuals without ADHD.

Achievement discrepancies appear to be related to inattentive features of ADHD. Several correlational studies have found that teachers' ratings of attention problems are predictive of future academic problems, and that students diagnosed with the predominantly inattentive subtype of ADHD achieve lower reading, spelling, and mathematics scores over time than children with other ADHD subtypes and those without ADHD (Breslau et al., 2009; Massetti et al., 2008; Rabiner & Coie, 2000). This is true even when IQ and the presence of comorbid behavior problems are controlled. Inattention may interfere with students' ability to concentrate, maintain effort, and reflect before acting, and thus adversely affect learning (Breslau et al., 2009; Currie & Stabile, 2006).

Causal links between ADHD and achievement difficulties, however, must be viewed with a modicum of caution. Although the correlation is well established, causation is less clear. It is possible that the relationship between ADHD and academic difficulties is due, at least in part, to the fact that school-related problems are required for a diagnosis of ADHD. Thus, students with serious academic difficulties may be more likely to be referred and diagnosed as having ADHD (Loe & Feldman, 2007). Causal flow is another concern. It is possible that academic difficulties lead to attention problems. Breslau et al. (2009) suggested that students with ADHD "... may cease to attend to academic work because they cannot learn the academic skills rather than failing to learn because they are inattentive" (p. 407).

Core Deficit Areas That Affect Academics

Deficits in WM and EFs are well documented among students with ADHD (e.g., Martinussen, Hayden, Hogg-Johnson, & Tannock, 2005). This is significant because both WM and EF are highly correlated with academic outcomes in both the general population and in students with ADHD (Alloway, Gathercole, & Elliott, 2010; Alloway, Gathercole, Kirkwood, & Elliott, 2009; Biederman et al., 2000; Clark, Prior, & Kinsella, 2002; Meltzer, 2007). In this section, the effects of WM and EF deficits on academics are discussed.

Working Memory

WM refers to "... a limited capacity system allowing the temporary storage and manipulation of information necessary for such complex cognitive tasks as comprehension, learning, and reasoning" (Baddeley, 2000, p. 418). The

information can be either verbal (e.g., directions for a task) or visuospatial (e.g., the route from home to work). WM serves as a mental workspace where limited amounts of information can be *temporarily* stored for use (e.g., to perform mental arithmetic; Alloway, 2006). New information in WM (e.g., teacher's directions for a task) is maintained only for a short time and once lost cannot be retrieved. WM is not identical to short-term memory. The distinction is that WM involves *processing or manipulating* information as opposed to merely storing information. WM also allows students to allocate and direct attention (e.g., shift between different aspects of a task such as the steps in long division and the product of multiplying two numbers; Engle, 2002). It also allows students to resist distractions (Conway, Cowan, & Bunting, 2001). This is especially important with tasks that require prolonged attention.

Problems with WM have significant effects on classroom performance. Students with WM deficits have difficulty mentally maintaining large amounts of information (Gathercole, Lamont, & Alloway, 2006). This affects academically important skills such as remembering verbal instructions, reading comprehension, mental computation, and written composition (Gathercole et al., 2006; Lorch, Berthiaume, Milich, & van den Broek, 2007). For example, to understand a text passage students must maintain information in WM and establish links between the different ideas or content presented (e.g., main ideas and supporting details) all while decoding the actual text. If this exceeds WM capacity, information will be lost, and students may be unable to answer even simple questions about a text. Listening comprehension can also pose a problem (Lorch et al., 2007). Students with WM problems typically have difficulties remembering and following directions because crucial information needed to accomplish the task is often forgotten (Gathercole et al., 2006). In these cases, failure to follow directions may appear to be the result of inattention (i.e., failure to attend to the directions) when in reality it was a WM problem. Even apparently simple tasks can pose serious demands of WM. For example, copying a passage off the board requires students to remember the order of words in the passage, the word to be copied, its spelling, their place in the word while writing it, and how to form the letters of the text (Gathercole et al., 2006).

Complex tasks that require a sequence of steps (e.g., writing an essay) can be particularly difficult for students with WM problems because of the demands both on storing and processing information. Tasks that require a student to rapidly shift focus between multiple aspects of the task can be extremely difficult. For example, writing an essay requires

attending to mechanics of spelling and grammar, including necessary essay elements (e.g., arguments, supporting reasons), and using appropriate vocabulary. Other tasks such as math problem solving place similar demands. Effective instruction must be sensitive to WM demands, because if WM capacity is exceeded little or no learning will occur. There can also be an effect on behavior. WM is correlated with attention (Gathercole & Alloway, 2008; Kane et al., 2007), and when demands on WM increase, students with ADHD tend to exhibit increased levels of inattentive behavior (Kofler, Rapport, Bolden, Sarver, & Raiker, 2009; Rapport et al., 2009). Anxiety also can have an effect on WM (Owens, Stevenson, Norgate, & Hadwin, 2008). High levels of anxiety and the task-irrelevant thoughts that accompany it can lead to diminished WM capacity. In essence, high anxiety acts to drain cognitive resources. This in turn reduces students' ability to accomplish tasks in an efficient or effective manner.

Executive Functions

EFs are cognitive processes necessary for complex goal-directed behavior, all of which are necessary for academic success. EFs involve planning, organizing, maintaining effort, and self-monitoring activities (Meltzer, 2007). EFs also include metacognitive knowledge regarding strategies and tasks (e.g., knowledge of how a strategy can help or that different tasks require different strategies) and self-regulatory processes such as self-monitoring (Meltzer, 2007). Students with ADHD have three types of EF problems that affect academic performance: (a) adopting a planful, strategic approach to academic tasks; (b) goal-setting; and (c) persistence or maintaining effort on a task.

Lack of a systematic, planful, strategic approach to academic tasks results in erratic performance on tasks and work that appears disorganized or sloppy. Problems with monitoring behaviors and adopting a planful, strategic approach to tasks appear early and can persist into adulthood (Roth et al., 2004). Students with ADHD seldom analyze a task to determine the actions needed to accomplish the task; instead they often impulsively begin a task even when they have been instructed to plan before starting (e.g., Jacobson & Reid, 2010). They also have difficulty effectively combining the actions needed to accomplish a task (i.e., Barkley's reconstitution), thus constructing a plan or a strategy may be difficult (Siklos & Kerns, 2004). If a plan is developed, students with ADHD may be unaware of any shortcomings or may simply fail to follow the plan they have developed (Kliegel, Ropeter, & Mackinlay, 2006). Students with

ADHD may struggle even when an optimal plan is obvious. For example, Kofman, Larson, and Mostofsky (2008) gave students with ADHD a copying task consisting of high- and low-point items. Students could have scored the most points simply by copying only the high-point items, but few students with ADHD could independently derive even this simple plan.

Problems with strategy use can result in students performing poorly on academic tasks. Students with ADHD are unlikely to spontaneously use strategies. For example, Hamlett, Pellegrini, and Conners (1987) gave students with ADHD a card-matching task. Students were asked to study the location of cards for a few moments and were then tested on their recall. During the time allotted for study, they did not utilize strategies (e.g., chunking, verbal rehearsal) to help them remember locations. Students with ADHD also tend to embrace strategies that are less effective but easier to use (Douglas & Benezra, 1990; Hamlett et al., 1987; O'Neill & Douglas, 1991). For example, when asked to remember and summarize a story, rather than using a more effortful but effective approach such as re-reading or taking notes, students with ADHD tended to choose an easier approach – skimming – as their strategy (O'Neill & Douglas, 1996).

Problems with strategy use for students with ADHD become even more pronounced when tasks call for effortful and continued strategic processing (O'Neill & Douglas, 1996; Tant & Douglas, 1982). For example, when asked to memorize word lists, students with ADHD tended to choose single word repetition as opposed to more effortful but effective strategies such as grouping similar words into sets and repeating the sets. Even when provided with an effective strategy, students with ADHD may fail to employ it consistently (Kofman et al., 2008). However, when students with ADHD are provided with support for EF problems (e.g., prompted in strategy use, given examples of use, guided practice, provided with explanations of benefits of a strategy), they can use strategies effectively, and performance differences between ADHD and control groups can be greatly ameliorated or eliminated (Cornoldi, Barbieri, Gaiani, & Zocchi, 1999; Re, Caeran, & Cornoldi, 2008).

Goal-Setting

Students with ADHD may have difficulty maintaining a goal in WM or simply be unaware of the goal associated with an academic task (e.g., the purpose of reading is to comprehend the text; Barkley, 2006). This is a serious concern because goals help to guide behaviors, provide feedback on progress, and enhance motivation (Schunk, 1990). Research suggests

that explicit instruction in goal-setting can improve the academic performance of students with ADHD (Konrad, Fowler, Walker, Test, & Wood, 2007). However, without specific and appropriate goal(s) in place, students with ADHD may be unable to structure their behavior sufficiently to accomplish academic tasks. The lack of goal knowledge may be reflected in an aimless (literally) or seemingly careless approach to a task. Additionally, some students with ADHD may adopt maladaptive performance-avoidance goals (in which the goal is to avoid appearing incompetent) that can serve to inhibit performance (Barron, Evans, Baranik, Serpell, & Buvinger, 2006).

Persistence

Maintaining effort, especially if a task is repetitive or boring, is often a struggle for students with ADHD (Barkley, 2006). Compared to peers without ADHD, they are more likely to fail to persist at a task (Milich & Okazaki, 1991). Even a minor difficulty may cause a child with ADHD to quit. In part this may be due to difficulty with self-regulation of emotion that results from frustration (Walcott & Landau, 2004). When students with ADHD experience frustration, they are less likely to engage in “mood repair” (i.e., attempt to overcome feelings of frustration); this in turn makes it more likely that they will fail to persist in a task if they began to feel frustrated (Scime & Norvilitis, 2006). Frustration is due in part to a lack of performance monitoring (Barkley, 2006). Students with ADHD are often unaware of how well or how poorly they are performing a task because they do not effectively monitor their performance. This can lead to frustration that can decrease persistence.

Another problem related to the lack of monitoring is *positive illusory bias*: the tendency of students with ADHD to rate their performance much higher than is warranted (Hoza et al., 2004). This in turn can result in an unrealistic appraisal of performance or a distorted perception of ability. Positive illusory bias may serve a self-protective function (Waschbusch, Craig, Pelham, & King, 2007); however, it can be a serious problem in the classroom, because a student who does not understand or recognize that there is a problem is not likely to attempt to address the problem (Hoza et al., 2004). Additionally, positive illusory bias may lead to other maladaptive self-protection behaviors such as self-handicapping where a student engages in self-sabotage (e.g., playing games on the Internet until 2:00 AM the night before an exam) to provide an excuse for poor performance (Waschbusch et al., 2007).

IMPROVING ACADEMIC PERFORMANCE

Given the well-documented and serious academic deficits commonly found in students with ADHD, one would expect that academic interventions for these students would be the focus of intense research. Surprisingly few studies have addressed academic outcomes or interventions and in many of the studies that have reported academic outcome data, academics were not the primary focus (Raggi & Chronis, 2007). A recent review found only 41 studies of academic interventions for students with ADHD (Trout, Lienemann, Reid, & Epstein, 2007), and in many of these studies the focus was on behavioral interventions and academic achievement was a sidelight. Another serious limitation is that little research has been theoretically grounded (Barkley, 2007). As a result, we are not well informed as to how best to improve academic outcomes for students with ADHD (Loe & Feldman, 2007). Though our knowledge base is not deep, academics are receiving increased attention and there are some encouraging developments. This section discusses practices that can improve academic performance for students with ADHD.

Medication

Medication can have an effect on academic performance in the classroom. A number of studies have shown that psychostimulants (i.e., methylphenidate, amphetamine compounds) can enhance attention, increase productivity, and improve accuracy on academic tasks as measured by curriculum-based measurements (for review, see Connor, 2006). However, the long-term effects on academic achievement *as measured by standardized tests* have been either minimal or nonexistent (e.g., MTA Cooperative Group, 1999, 2004). Medication also is not an intervention that a school can control (i.e., whether or not a child receives medication). Moreover, it is not a long-term solution as most students receive medication for only a few years (e.g., Bussing et al., 2005) and effects of medication tend to decrease significantly over the course of 3–4 years (Jensen et al., 2007).

Accommodations

Accommodations refer to alterations in the instructional environment. The purpose of accommodations is to structure the instructional environment

in a manner that minimizes the difficulties students with ADHD will encounter, and maximizes the chances that they will have an opportunity to benefit from instruction. Accommodations have received considerable attention over the last 30 years, and there are a number of simple, practical accommodations that have demonstrated efficacy in improving the amount of work completed and the accuracy of work. Some common recommendations include enhancing the personal relevance of activities, increasing the novelty or level of stimulation of materials, allowing a choice of activities, controlling task difficulty level, task length, eliminating distractions, seating arrangements, and instructional grouping (for a more complete discussion of these and other accommodations, see [Pffner, Barkley, & DuPaul, 2006](#); [Reid & Johnson, 2011](#)). Note however, that accommodations are not synonymous with actual instruction (i.e., teaching new skills, concepts, or strategies).

Instructional Interventions

Instructional interventions refer to situations where students engage in activities designed to increase fluency or situations in which students are taught new knowledge or skills. As of yet there are no instructional interventions that could be accurately described as validated for students with ADHD. This is due to the small body of intervention research and because of the lack of replication (systematic or otherwise; [Trout et al., 2007](#)). There are, however, three instructional interventions that do have some degree of empirical support for use with students with ADHD.

Computer-Assisted Instruction

Computer-assisted instruction (CAI) has many features that are well matched to the needs of students with ADHD ([Pffner et al., 2006](#)): (a) the pace is set by the learner; (b) the learner is continuously prompted to make academic responses; and (c) the learner is provided frequent and often immediate performance feedback. CAI also can highlight essential material (e.g., through font choice and color) and can use multiple sensory modalities (e.g., visual and auditory). Game type formats frequently used in CAI may also be motivating for students with ADHD ([Mautone, DuPaul, & Jitendra, 2005](#)). Despite the potential, little research has been conducted on CAI for students with ADHD. Much of the early research was poorly designed and did not address academic outcomes ([Xu, Reid, & Steckelberg, 2002](#)). More recently, the results of well-controlled studies suggest that CAI can have

marked effects on engaged time and reduce time spent off-task; CAI also has positive effects on academic outcomes in terms of increased productivity and accuracy of responses; however, these effects are not as pronounced as those for attention or engaged time (Mautone et al., 2005; Ota & DuPaul, 2002; Rabiner, Murray, Skinner, & Malone, 2010).

CAI has several practical advantages for teachers who must work with large classes (Mautone et al., 2005). CAI can provide structured opportunities for students to practice a skill without requiring extensive teacher supervision. Additionally, software can be adjusted to match each student's instructional level, and some programs allow for monitoring students' progress and making appropriate instructional-level adjustments when appropriate. However, there are significant limitations to CAI. Currently, CAI largely consists of drill and practice programs designed to increase fluency on a task that has already been taught; its utility for teaching new skills to students with ADHD has not been demonstrated. Further, the range of CAI is limited in terms of coverage of the curriculum. For example, there are many programs for practicing math facts, but there are many fewer programs in other areas such as social studies or science. In sum, CAI can be a useful adjunct but is unlikely to be an instructional mainstay.

Peer Tutoring

Peer tutoring is an intervention that is effective for a wide range of students (Stenhoff & Lignugaris-Kraft, 2007). It provides students with opportunities for extra instruction, practice, repetition, or clarification to help solidify knowledge and/or develop fluency. Peer tutoring is a good match for students with ADHD (DuPaul & Stoner, 2003) because it combines (a) ongoing one-to-one peer attention, (b) frequent active responding with highly structured and individualized academic content that is presented at a student's pace, (c) frequent prompting to attend to task, (d) immediate performance feedback, and (e) no wait time.

For students with ADHD, peer tutoring can increase the rate of academic responding and attention to task, while decreasing noncompliance and inappropriate motor activity (e.g., fidgeting or leaving their seat; DuPaul, Ervin, Hook, & McGoey, 1998; DuPaul & Henningson, 1993). Peer tutoring may also benefit the teacher by decreasing the need to monitor for problem behavior during peer tutoring time, which allows for time to be spent in one-to-one instruction or small group instruction with other students. Peer tutoring is appropriate for both general education and special education classrooms. This is an important consideration because most students with

ADHD spend the majority of their school time in the general education classroom (Schnoes et al., 2006). However, as was the case with CAI, peer tutoring is primarily useful for increasing fluency, not in teaching new skills or knowledge.

Strategy Instruction

One straightforward approach to the lack of a planful strategic approach to academic tasks among students with ADHD is to simply teach students how to use strategies to better organize their behavior. There are several reasons why this approach holds promise. First, strategy instruction is theory based. It addresses one of the core problems – reconstitution – that is central to academic problems. Second, strategy instruction procedures directly address the core areas of WM and EF deficits (Reid & Lienemann, 2006a). For example, strategy instruction incorporates scaffolding and teaching the strategy to a high degree of mastery to support WM. It also includes support for EF deficits through explicit planning, goal-setting, and metacognitive strategy information, and incorporates self-regulation procedures that have been shown to be effective with students with ADHD (Reid, Trout, & Schartz, 2005). Finally, there is considerable overlap between ADHD and LD, and students with ADHD share many common characteristics with students with LD (e.g., difficulty focusing attention, problems with persistence). The fact that strategy instruction has been demonstrated to be effective with students with LD (Swanson & Sachse-Lee, 2000) suggests that it might also be effective for students with ADHD.

Strategy instruction for students with ADHD is a relatively recent development, but there is a growing body of research suggesting that strategy instruction can dramatically improve the academic performance of students with ADHD in the areas of written expression (De La Paz, 2001; Jacobson & Reid, 2010; Lienemann & Reid, 2008; Mason, Kubina, & Taft, 2009; Reid & Lienemann, 2006b) and reading comprehension (Johnson, Reid, & Mason, 2012; Rogevich & Perin, 2008). The effects of these interventions have been quite robust. In a number of cases, students' performance was actually normalized (i.e., at or above the average for students in their grade) in a relatively short time. This is encouraging because both theory and empirical evidence suggest that these are areas where students with ADHD have significant difficulties. However, all instruction was done in one-to-one settings by trained researchers, so there is still a need to determine whether strategy instruction delivered by general or special education teachers in a classroom or small group setting would be as effective. Maintenance is also a concern, especially for students with ADHD

(Reid & Lienemann, 2006a). Although all studies assessed maintenance, the longest period was only 4 weeks, thus long-term maintenance is a concern.

FUTURE DIRECTIONS

Environment

There are two environmental factors that should be considered by future researchers. First, future research should be sensitive to where instruction for students with ADHD will occur. Research shows that even students with ADHD who are served under IDEA will spend the great majority of their school day – around 80% – in the general education classroom (Schnoes et al., 2006). Thus, the general education teacher will bear the brunt of the responsibility for instruction for students with ADHD. For this reason, researchers must be sensitive to the extent to which interventions are acceptable to the general education teacher in particular. An intervention that is only effective in one-to-one or small group settings likely has limited utility in the general education classroom. Both CAI and peer tutoring have been used successfully with whole classes in general education settings. In contrast, strategy instruction has not yet been tested with students with ADHD in the general education classroom with large group instruction. To date, all strategy instruction research with students with ADHD appears to have been conducted in one-to-one or small group settings and has been done outside the classroom. Instructional grouping (e.g., individual work, small group, large group) should also be studied further, as research suggests there can be significant differences in academic productivity and on-task behavior across settings with students with ADHD (Hart, Massetti, Fabiano, Pariseau, & Pelham, 2011).

Attention to Core Deficit Areas

Intervention research should focus on instructional techniques that directly address the core deficits in WM and EF such as scaffolded instruction, self-monitoring, and goal-setting. Strategy instruction approaches typically incorporate these techniques (Reid & Lienemann, 2006a), which makes the approach well suited for students with ADHD. Additionally, support for EF deficits should be studied. The use of coaching/tutoring programs, such as Challenging Horizons (Evans, Serpell, Schultz, & Pastor, 2007), designed

to improve academic survival skills (e.g., social behavior in the classroom, note taking, organization, homework) of students with ADHD should be explored further. Programs such as these could enhance the effects of instructional interventions.

Expanded Focus

Because so few interventions have been studied with students with ADHD, there are many potentially fruitful avenues for researchers. One promising instructional intervention for students with ADHD is the use of explicit instruction/direct instruction type approaches (DuPaul & Weyandt, 2006). Explicit instruction has been used effectively with many students with learning difficulties (Slocum, 2004). This approach offers fast-moving instruction, frequent opportunities to respond, low error rates, and immediate feedback and error correction.

These features suggest that this approach would be well suited for students with ADHD as they are sensitive to WM problems. Interventions to maintain or increase the academic engagement of students with ADHD during whole class activities should also be a high priority. Much instruction will take place in the general education classroom in whole class settings and the amount will increase as students progress through school. One potentially promising technique is the use of high response formats – such as response cards (Gardiner, Heward, & Grossi, 1994). High response formats can increase the rate of academic responding and also increase time on-task and test grades (Randolf, 2007). This could in turn improve the engaged time of students with ADHD.

The content areas addressed by intervention research to date are extremely limited (i.e., math computation, reading comprehension, written expression) and should be expanded. However, researchers should focus on content areas that pose heavy demands on WM and EF, as these are the areas in which students will likely encounter the most difficulty. The area of math problem solving is an obvious area that should be considered. It is the type of task that poses high cognitive demands and requires a planful strategic approach and thus would cause difficulties for students with ADHD. Techniques such as Jitendra's schema-based approach, which provides students with a strategy to solve problems along with self-regulation strategies (e.g., Jitendra et al., 2009), could be useful with students with ADHD. Additionally, this approach has been used successfully in the general education classroom in large group settings. Future researchers should also expand the focus to

encompass factors outside of the classroom. One aspect of ADHD that has received little attention is that there are students with ADHD who are successful academically. Looking at successful students with ADHD could allow researchers to indentify factors that are predictive of success. For example, parent involvement is a strong predictor of academic success but has not been studied with students with ADHD.

In summary, the need for additional research in academic interventions for students with ADHD is obvious. While there appears to be increased attention to the academic needs of students with ADHD, the lack of validated approaches is frightening considering the potential loss of human capital.

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TEACHER EXPECTATIONS FOR STUDENT PERFORMANCE: LESSONS LEARNED AND IMPLICATIONS FOR RESEARCH AND PRACTICE

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ABSTRACT

In this chapter, we begin by exploring the lessons learned from studies of teachers' expectations for student behavior, being with early inquiry conducted following the Education for All Handicapped Children Act (P.L. 94-142) of 1975. Next, we explore the expanding knowledge base following reauthorization of the Individuals with Disabilities Education Act (IDEA, 1997), the Individuals with Disabilities Education Improvement Act (IDEIA, 2004), and No Child Left Behind Act (NCLB, 2001) as the field increasingly emphasized inclusive programming and supporting access to the general education curriculum, called for academic excellence for all students, and focused on systems-level perspectives for teaching behavioral expectations. We summarize lessons learned from

Classroom Behavior, Contexts, and Interventions
Advances in Learning and Behavioral Disabilities, Volume 25, 95–129
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ISSN: 0735-004X/doi:10.1108/S0735-004X(2012)0000025008

these bodies of knowledge, focusing attention on key findings and existing limitations of the studies conducted to date. We conclude with implications for educational research and practice, with attention to how lessons learned regarding teacher expectations for student performance can (a) facilitate inclusive programming for students with disabilities, (b) support school transitions, (c) inform primary prevention efforts and targeted supports, and (d) inform teacher preparation programs.

In Volume 25 of *Advances in Learning and Behavioral Disabilities*, editors Cook, Tankersley, and Landrum have called for a focus on current issues and trends related to student behavior and classroom management. We echo the importance of this focus, as success or failure in these areas has direct implications for teachers and students alike.

In terms of implications for teachers, very few people enter the teaching profession with a goal of working with students with social and behavioral challenges (Walker, Ramsey, & Gresham, 2004). Instead, most people enter this profession with a goal of teaching. Their efforts are focused on providing meaningful, engaging, and perhaps even inspiring instructional experiences for their students (Lane, Menzies, Bruhn, & Crnobori, 2011). Yet, many teachers quickly realize their ability to prevent the development of learning and behavioral problems as well as respond effectively when such problems do occur impacts their ability to instruct. Even the most well-crafted lesson plan is difficult to deliver if a teacher does not have clear expectations for student performance and the classroom management skills necessary to (a) support students in meeting these expectations and (b) maximize engagement in instruction.

Teachers' confidence with classroom management also impacts teacher retention and "burnout." Teachers who are (or feel) less than capable of managing challenging behaviors in the classroom may be more apt to exit the field relative to teachers who view themselves as capable of responding to such challenges (Brouwers & Tomic, 2000). Furthermore, teachers with low levels of confidence with respect to behavior management are more likely to use strategies and tactics less positive in nature and are more apt to refer students to other school personnel for assistance (Martin, Linfoot, & Stephenson, 1999).

The majority of first-year teachers report needing practical training in managing student behavior before starting their teaching experiences (Harris, 1991). For many teachers, time does not shift this perception.

Even after completing their first year of teaching, 61% of teachers report a desire for additional knowledge of and skills in classroom management (Harris, 1991).

To support the development and retention of high-quality teachers, it is important for teachers to secure the knowledge and confidence needed to (a) establish behavioral expectations for students to facilitate the instructional process; (b) prevent problem behaviors from occurring by supporting students to meet these behavioral expectations using proactive strategies; and (c) respond efficiently, effectively, and respectfully when such behavior problems do occur. This repertoire of skills will enable all teachers to better meet the academic, behavioral, and social needs of an increasingly diverse student body, some of whom come to school with a range of behavior patterns that pose challenges to teachers, administrators, and peers (Lane et al., 2011).

For students, successfully negotiating teacher and peer interactions is a formidable task. This is particularly true for students with emotional or behavioral disorders (EBD), including students with externalizing (e.g., noncompliance, aggression, and coercion) or internalizing (e.g., anxiety, depression, and social withdrawal) behavior patterns (Kauffman & Brigham, 2009). Certainly many students come to school with the skills and experiences needed to adapt well to the school setting. For example, some students easily navigate interactions with different teachers, come prepared to listen to and follow instructions, seek assistance appropriately when needed, are self-determined in their work, and adeptly resolve emerging problems with peers and teachers (Carter, Lane, Pierson, & Stang, 2008; Walker, Irvin, Noell, & Singer, 1992; Wehmeyer & Field, 2007). In essence, such students are able to meet teachers' expectations by engaging in a manner that support harmony in the classroom and facilitate the instructional processes. Such facilitative behaviors support teachers' goals of meeting rigorous state standards, enabling teachers to spend more time on instruction and less time responding to undesirable behaviors (Tomlinson & McTighe, 2005).

Other students, including those with EBD, come to school less prepared to meet teachers' expectations. Some of these students are simply unaware of existing expectations. Others tend to engage in whatever behavior patterns are necessary to access or avoid reinforcement (e.g., attention from teachers or peers, preferred tasks, or sensory experiences; Umbreit, Ferro, Liaupsin, & Lane, 2007). It is essential teachers also possess the knowledge, skills, and attitudes necessary to assist students with less than optimal behavior patterns. This maximizes instructional time and learning for all

students, including those who require additional supports beyond primary prevention (Tier 1) in the form of secondary (Tier 2) and tertiary (Tier 3) supports (Lane, Kalberg, & Menzies, 2009). The main goal of teachers is to provide opportunities for all students to experience academic success, including those with disabilities, as delineated in the No Child Left Behind Act (NCLB, 2001) and the Individuals with Disabilities Education Improvement Act (IDEIA, 2004). Indeed, this later legislation emphasizes the need for school-wide incentives for positive behavior supports.

PURPOSE: A STARTING POINT

We contend the starting point for supporting teachers and students alike in achieving academic success is better understanding the expectations teachers hold for student behavior (Lane, Pierson, Stang, & Carter, 2010). Better understanding the behaviors teachers view to be critical for school success is important for several reasons. First, this information can inform school-wide intervention efforts by allowing all students to understand key behavioral expectations likely to be reinforced by teachers. Second, information on teacher expectations can be used to support transitions across the K-12 continuum by helping students in a more deliberate manner to understand differences in teachers' expectations as they move from preschool to elementary school, elementary school to middle school, and middle to high school (Theriot & Dupper, 2010; Witherspoon & Ennett, 2011). Third, information on teacher expectations can also facilitate inclusive programming by teaching students with disabilities to understand and navigate any variations in expectations held by general and special education teachers (Hersh & Walker, 1983; Walker & Rankin, 1983). Finally, such information could also be used in teacher preparation programs to ensure pre-service teachers are cognizant of their own expectations for student performance and how their perceptions may diverge from other teachers' perceptions and from parent perceptions (Lane, Stanton-Chapman, Roorbach, & Phillips, 2007).

In this chapter, we begin by exploring the lessons learned from studies of teachers' expectations for student behavior, starting with early inquiry conducted following the Education for All Handicapped Children Act (P.L. 94-142) (1975). Walker and Rankin (1983) stated one major consequence of P.L. 94-142 was to heighten the importance of teaching management skills to general educators, who might not have been fully prepared to support the mainstreaming process. The authors raised important question

about how best to support students with disabilities to meet general education teachers' expectations. Next, we explore the expanding knowledge base following reauthorization of [IDEA 1997](#), [IDEIA, 2004](#), and [NCLB \(2001\)](#) because the field increasingly emphasized inclusive programming and supporting access to the general education curriculum, called for academic excellence for all students, and focused on systems-level perspectives for teaching behavioral expectations. We summarize lessons learned from these bodies of knowledge, focusing attention on key findings and existing limitations of the studies conducted to date. We conclude with implications for educational research and practice, with attention to how the lessons learned regarding teacher expectations for student performance can (a) facilitate inclusive programming for students with disabilities, (b) support school transitions, (c) inform primary prevention efforts and targeted supports, and (d) inform teacher preparation programs.

LESSONS LEARNED

We conducted systematic electronic searches of psychology and education databases (i.e., PsycINFO, Education Resources Information Center [ERIC], and Education Full Text) to acquire all studies regarding teacher expectations of student behavior for school-age students, including preschoolers. Search terms included all possible combinations and derivatives of the following sets of terms (a) *preschool, grade, elementary, grammar, middle, intermediate, high, secondary, school, age, adolescent, and student*; (b) *expectation, perception, assumption, presumption, prediction, anticipation, conception, attitude, and skill*; (c) *general education, special education, exceptional learner, exceptional children, and transitional program*; and (d) *social, achievement, behavior, classroom, academic, teach, educator, instructor, and schoolteacher*. We identified 330 articles via the electronic search. We read each article's title and abstract to determine if the full article should be examined.

Two authors independently read 52 articles to determine if they met the following inclusion criteria: (a) explores teacher expectations of student behavior, performance, or outcomes; (b) focuses on school-age youth, across the pre-kindergarten through twelfth-grade continuum; (c) reports findings of a quantitative, descriptive study; and (d) published in peer-reviewed journals. Fifteen articles met these inclusion criteria.

Next, we completed a master list of journals in which two or more identified articles were published. We conducted hand searches of those

journals (beginning in 1997) to identify all articles published following the initial reauthorization of IDEA. We reviewed *Exceptional Children*, *Education and Treatment of Children*, *Journal of Special Education*, and *Remedial and Special Education*. All post-1997 articles identified in electronic searches were identified in hand searches. Two additional articles were also identified for inclusion through ancestral searches of reference lists provided in articles identified via electronic and hands searches.

We identified 17 studies as appropriate for inclusion. Nine studies constituted early inquiry, exploring initial investigations conducted after the passage of P.L. 94-142 but before the IDEA (1997) (Table 1). Another eight studies constituted the expanding knowledge base following the reauthorization of IDEA (1997) (Table 2). Salient features of each article are summarized in these tables. Specific features include (a) authors, publication year, and journal outlet; (b) purpose of the study; (c) participant characteristics and sample information (e.g., number of teachers, setting, and geographic locale); (d) research design (type of study and basic information on analysis) and measures used; and (e) summary of key findings.

In the following sections, we provide a descriptive synthesis of primary lessons from the studies conducted prior to and following the 1997 reauthorization of IDEA. We do not evaluate the core quality indicators of these studies (Odom et al., 2005), but instead focus on the general themes of the intended purposes of studies, the sample populations, methodology employed, and information gleaned, with attention to the strengths and limitations of these bodies of knowledge.

*Early Inquiry: Research on Teacher Expectations from
P.L. 94-142 to IDEA (1997)*

Winetsky (1978) published the first study of behavior expectations, exploring differences in preschool teachers ($N=66$) and parents ($N=172$) of young children. Participants completed the Educational Activities Index, a 10-item picture inventory depicting choices between two value systems: one emphasizing self-direction and a second emphasizing conformity. Results suggested that teachers – regardless of social class and ethnicity – consistently placed high value on self-directive behavior for preschool children. Parents, however, were less similar in their values of behavioral expectations. Teachers' priorities were more consistent with those of white and/or middle-class parents, with non-White and/or working-class parents placing greater value on conformity.

Table 1. Studies of Teacher Expectations of Student Behavior: Early Inquiry from P.L. 94-142 to [IDEA \(1997\)](#).

Author(s) (Year), Journal	Purpose	Participant Characteristics and Sample	Research Design and Measures	Findings
<p>Winetsky (1978) <i>Child Development</i></p>	To examine differences in teacher and parent expectations of preschool children as a function of role, social class, and ethnicity.	<p>Participants: <i>N</i> = 66 teachers, <i>N</i> = 172 parents</p> <p>Setting: 6 public children's centers, 7 public preschools, 8 private education class/preschool</p> <p>Locale: San Francisco</p>	<p>Design: Quantitative, descriptive, and comparative analyses</p> <p>Measure: Educational Activities Index and Personal Background Data Questionnaire</p>	<p>Differences identified between behavioral expectations held by teachers and some parents.</p> <p>Teachers were homogenous in the value they placed on self-directed behaviors and differed only from working class and/or non-White parents.</p>
<p>Conte and McCoy (1980) <i>Exceptional Children</i></p>	To examine behavioral expectations of teachers and social workers in a day treatment program for student with EBD and classroom teachers supporting students with EBD in schools in the district.	<p>Participants: <i>N</i> = 5 day treatment teachers, <i>N</i> = 6 day treatment social workers, <i>N</i> = 7 District teachers</p> <p>Setting: Day treatment and district classrooms</p> <p>Locale: Not specified</p>	<p>Design: Quantitative, descriptive, and comparative analyses</p> <p>Measure: 83 behaviors impacting a student's ability to function in special education classroom within the district, rated on a five-point Likert-type scales</p>	<p>Results indicate differences in behavioral expectations held by individuals in the day treatment program and district classrooms, with district classroom teachers consistently rating items higher in importance with respect to functioning well in the district classroom. Teachers and social workers in the day treatment program held similar expectations.</p>
<p>Walker and Rankin (1983) <i>School Psychology Review</i></p>	To develop and provide initial evidence of reliability and validity of two scales for use in ecological assessments	<p>Study 1</p> <p>Participants: <i>N</i> = 50 general, <i>N</i> = 22 special education teachers</p> <p>Setting: Grades 1–6</p>	<p>Study 1</p> <p>Design: Quantitative, descriptive, test-retest stability, and convergent validity analyses</p>	<p>Study 1: Results indicated a high degree of similarity in ratings of adaptive and intolerable behaviors, with lowest rated items more focused on peer's</p>

Table 1. (Continued)

Author(s) (Year), Journal	Purpose	Participant Characteristics and Sample	Research Design and Measures	Findings
	of potential mainstreaming settings examining teacher tolerance levels, expectations, and standards for students’ social behavior associated with exceptionalities.	Locale: Eugene district	Measures: SBS Inventory; SBS Checklist; CII	social behavior. Individual teachers differed immensely in their tolerance levels and behavioral expectations. Initial evidence of reliability and validity established
		Study 2 Participants: <i>N</i> = 43 general education teachers Setting: Grades 1–6 Locale: Eugene district	Study 2 Design: Quantitative, descriptive and correlational analyses Measure: SBS Inventory; SBS Checklist; direct observations	Study 2: Results suggested significant relation between SBS Instrument scores and seven teacher code category scores
		Study 3 Participants: <i>N</i> = 33 intern teachers, <i>N</i> = 38 student teachers, <i>N</i> = 53 college students Setting: Teacher preparation program Locale: University of Oregon	Study 3 Design: Quantitative, comparative and predictive analyses Measures: SBS Inventory; SBS Checklist	Study 3: Results indicated high degree of similarity between the three groups of preservice teachers
		Study 4 Participants: <i>N</i> = 72 (Study 1) <i>N</i> = 124 (Study 3)	Study 4 Design: Quantitative, factor structure Measures: SBS Inventory	Study 4: Three factors: (1) excellent work habits (organized and efficient), (2) self-control (responsive to the teacher,

<p>Kerr and Zigmond (1986) <i>Treatment of Children</i></p>	<p>To explore and compare standards and expectations for classroom behavior according to general and special education high school teachers.</p>	<p>Participants: $N = 220$ general, $N = 24$ special education teacher Setting: Three large urban high schools (grades 9–12); two served lower middle-class, racially diverse; one served a lower class, mostly white neighborhood Locale: Not specified</p>	<p>Design: Quantitative, descriptive and comparative analyses Measure: SBS Inventory of Teacher Social Behavior Standards and Expectations</p>	<p>behavior role model for peers), and (3) social skilled and positive with peers Results indicated high school general and special educator rated behaviors related to good academic performance, study habits, and classroom deportment as most critical for success. Students' interpersonal skills and problems were de-emphasized. General educators held more rigorous expectations than special educators.</p>
<p>Walker and Lamon (1987) <i>Journal of Special Education</i></p>	<p>To (a) determine how Australian and U.S. teacher groups converge and diverge on two of the AIMS assessment instruments (the SBS Inventory and Correlates Checklist) and (b) compare responses from Australian general and special education preservice and in-service teacher samples.</p>	<p>Phase 1: Four Australian teacher groups Phase 2: Comparative analysis of Australian and U.S. teacher groups Participants: $N = 179$ Australian elementary ($n = 23$ special education graduate students, $n = 57$ graduating general education student teachers, $n = 22$ special educators, and $n = 77$ general educators); $N = 72$ U.S.</p>	<p>Design: Quantitative, descriptive, and comparative analyses Measure: AIMS: SBS Inventory and SBS Checklist</p>	<p>Results indicated similarities and difference between Australian and U.S. teacher groups, with U.S. teachers rating more adaptive items as critical and more maladaptive items as unacceptable. U.S. teachers' expectations exceed those of Australian teachers. Australian groups were consistent in behavioral expectations and standards. Differences between novice and practicing Australians were more pronounced than those in U.S. General and special educators</p>

Table 1. (Continued)

Author(s) (Year), Journal	Purpose	Participant Characteristics and Sample	Research Design and Measures	Findings
Gersten, Walker, and Darch (1988) <i>Exceptional Children</i>	To examine the relation between teachers' reports on their tolerance of students in their classrooms with learning and behavioral challenges and observed teaching performance.	elementary ($n = 22$ special, $n = 50$ general) Setting: Australia; U.S. Eugene, Oregon District Locale: Australia and the United States	Design: Quantitative, predictive analysis Measures: SBS tolerance (maladaptive); SBS resistance; SBS expectations (adaptive); perceived technical assistance needs; TEEF (Gersten et al., 1979)	were consistent in adaptive items rated critical and maladaptive items rated unacceptable. Special educators had lower demands and greater tolerance.
		Participants: $N = 15$ primary grade teachers, all involved with the Follow Through Project Setting: Low-income, rural community Locale: Texas		Results indicated variability in TEEF scores. Correlations indicated teachers with the strongest teaching techniques report they will tolerate less maladaptive behavior and are more apt to resist placement of students with disabilities. The most successful teachers held the highest expectations for classroom behavior and achievement and were more willing to receive assistance.
Kauffman, Lloyd, and McGee (1989) <i>Journal of Special Education</i>	To extend the knowledge base regarding technical assistance needs by examining (a) behaviors identified as critical and unacceptable, (b) views of special and general	Participants: $N = 34$ elementary, $N = 22$ secondary teachers, $N = 5$ not specified Setting: Enrolled in an in-service course in behavior management	Design: Quantitative, descriptive, and comparative analyses Measure: SBS Inventory; SBS Checklist; brief demographic questionnaire	Results indicate teachers are less focused on students' peer relationships and more concerned about order in the classroom. Elementary and secondary teachers reported more maladaptive behaviors as

<p>educators, and (c) examining expectations along the dimensions of demandingness, self-efficacy, and responsibility.</p>	<p>Locale: Southwestern Virginia, Northern North Carolina, and eastern West Virginia</p>	<p>intolerable than adaptive items as critical. Most were not supportive of technical assistance to help students with disabilities learn critical behaviors, stating they could teach these skills without support. Most were not willing to deal with antisocial behavior even with assistance. General and special educators were similar in the number of items marked critical and unacceptable. Differences evident between groups regarding demandingness (level of expectations), responsibility for students' behavior, and self-efficacy (confidence to change behavior).</p>
<p>Kauffman, Wong, Lloyd, Hung, and Pullen (1991) <i>Remedial and Special Education</i></p>	<p>To explore the relationship between teachers' judgments of risk and specific behavior characteristics</p>	<p>Results indicated teachers reporting more adaptive behaviors as critical for success and more maladaptive behaviors as unacceptable, were apt to judge the absence of adaptive behavior, and the existence of more maladaptive as placing a student at risk. Teachers differentiated between their ratings of behavioral expectations and those apt to heighten risk. Demandingness</p>
	<p>Participants: $N = 54$ general education teachers Setting: Large urban school district; enrolled in an in-service course in teaching at-risk students Locale: Virginia</p>	<p>Design: Quantitative, descriptive, and comparative analyses Measure: Modified version of the SBS Inventory; demographic questionnaire</p>

Table 1. (Continued)

Author(s) (Year), Journal	Purpose	Participant Characteristics and Sample	Research Design and Measures	Findings
Fuchs, Fuchs, and Phillips (1994) <i>The Elementary School Journal</i>	To examine and describe teachers' views of the importance of good academic work habits and behavior. Then, to explore the effects of these beliefs on (a) teachers' responsiveness during instructional planning to individual students' performance and (b) low-performing students' achievement.	Participants: $N = 121$ general education elementary and middle school teachers, each with at least one student with a learning disability; $n = 24$ high- and $n = 18$ low-standard teachers Setting: 32 schools serving grades 1–6 Locale: 85 teachers in the southeast region of the United States and 36 in upper midwest	Design: Quantitative, descriptive, and comparative analyses Measure: Classroom Standard Scale (Fuchs, Fuchs, Simmons, & Bishop, 1991), Classroom Planning Scale (Fuchs et al., 1991), CRAB, MOST, MAST, RBPC	was associated with perceptions of risk. Teachers viewed themselves as more capable of managing high-risk behaviors related to academics and less for social-interpersonal behavior. Results suggested teachers who had high classroom standards (a) indicated they were more responsive to student performance during planning and (b) effected higher achievement as compared to teachers with lower standards.

EBD, Emotional and Behavioral Disorders; SBS Inventory, Social Behavioral Survival (SBS) Inventory of Teacher Social Behavior Standards and Expectations; SBS Checklist, Social Behavioral Survival (SBS) Checklist of Correlates of Child Handicapping Conditions; CII, Classroom Integration Inventory; HS, High School; AIMA, Assessment for Integration into Mainstream Settings; TEEF, Teacher Effectiveness Evaluation Form; CRAB, Comprehensive Reading Assessment Battery (Fuchs, Fuchs, & Hamlett, 1989); MOST, Math Operations Skills Test; MAST, Math Applications Skills Test (Stecker, Fuchs, & Hamlett, 1991); RBPC, Revised Behavior Problem Checklist (Quay & Peterson, 1983).

Table 2. Studies of Teacher Expectations of Student Behavior: Expanding the Knowledge Base, Following Reauthorization of IDEA.

Author(s) (Year), Journal	Purpose	Participants	Research Design and Measures	Findings
Lane, Pierson, and Givner (2003) <i>Treatment of Children</i>	To identify student behaviors K-12 teachers view as important for success in their classrooms.	Participants: $N = 366$ teachers ($n = 304$ general educators, $n = 48$ special educators, $n = 13$ other) Setting: 8 schools (4 ES, 2 MS, 2 HS) Locale: Southern California	Design: Quantitative, descriptive, comparative, and predictive analyses Measure: SSRS, demographic information	Results indicated assertion was less important than cooperation and self-control. Five skills were critical across K-12, none were assertion. MS teachers' scores were most alike. General educators rated assertion and cooperation as more critical than special educators. General and special educators held similar views of self-control. HS special educators rated self-control as less important than HS general educators.
Lane, Givner, and Pierson (2004) <i>Journal of Special Education</i>	To extend the work of teacher expectations at the elementary level	Participants: $N = 126$ teachers ($n = 105$ general educators, $n = 18$ special educators, $n = 3$ other) Setting: 4 ESs from 2 school districts Locale: Southern California	Design: Quantitative, descriptive, comparative, and predictive analyses Measure: SSRS, demographic information	Results showed primary and intermediate teachers rated cooperation and self-control equally important, with assertion less important. Seven skills were critical. General and special education teachers placed similar value on self-control and assertion. General educators viewed cooperation more critical compared to special educators. No differences between (a) novice vs. experienced and (b) primary, upper, vs. combined grades.

Table 2. (Continued)

Author(s) (Year), Journal	Purpose	Participants	Research Design and Measures	Findings
Lane, Pierson, and Givner (2004) <i>Journal of Special Education</i>	To extend the work of teacher expectations at the secondary level.	Participants: <i>N</i> = 240 teachers (<i>n</i> = 89 MS, <i>n</i> = 151 HS) Setting: 2 MS and 2 HS Locale: Southern California	Design: Quantitative, descriptive, and comparative, and predictive analyses Measure: SSRS, demographic information	Results indicated teachers held similar views of cooperation and self- control. Most MS teachers rated six skills critical and HS teachers eight, with five in common. Views of assertion diverged. MS teachers rated greater importance relative to HS teachers, and general educators rated greater importance relative to special educators. No assertion items were critical for any subgroups. HS general educators rated self-control important compared to HS special educators. General, MS, and uncredentialed educators placed a higher value on cooperation.
Beebe- Frankenberger, Lane, Bocian, Gresham, and MacMillan (2005) <i>Preventing School Failure</i>	To examine differences between teacher and parent perceptions of adolescent students' social skills.	Participants: <i>N</i> = 33 students, <i>N</i> = 32 parents, <i>N</i> = 26 ES teachers, <i>N</i> = 27 MS teachers Setting: Participants in a longitudinal study beginning in the primary grades,	Design: Quantitative, descriptive, and comparative analyses Measure: SSRS	Results indicated four core behavioral expectations across ES and MS teachers. Teachers and parents with adolescents with behavior challenges diverged in expectations. Teachers rated cooperation as more important in class compared to self- control and assertion. Parents emphasized self-control,

<p>followed in to the middle grades</p> <p>Locale: Southern California</p>		<p>responsibility, and assertion in the home more than cooperation.</p>
<p>Lane, Wehby, and Cooley (2006)</p> <p><i>Exceptional Children</i></p>	<p>To examine teachers' expectations of student behavior in the areas of cooperation, assertion, and self-control as a function of school level (elementary, middle, or high), program type (general or special education), and school type (high or low risk).</p>	<p>Design: Quantitative, descriptive and comparative analyses</p> <p>Measure: SSRS, demographic information</p> <p>Participants: $N = 717$ ($n = 210$ ES, $n = 259$ MS, $n = 248$ HS)</p> <p>Setting: 7 ES, 8 MS, and 4 HS in a large, socioeconomically and culturally diverse district</p> <p>Locale: Middle Tennessee</p> <p>Results indicated all teachers held five critical skills in common. Teachers placed similar importance on cooperation. Special educators rated cooperation less important compared to general educators. ES and MS teachers placed similar emphasis on self-control, whereas HS general educators rated self-control as less important than HS special educators. Compared to ES and MS teachers, HS teachers rated assertion less important. General and special educators held similar views of assertion. High-risk schools rated assertion and self-control more important than low-risk schools.</p>
<p>Lane, Stanton-Chapman, Roorbach, and Phillips (2007)</p> <p><i>Topics in Early Childhood Special Education</i></p>	<p>To examine the degree to which teachers' and parents' expectations of preschool-age students' behavior align, with attention to the importance of specific skills sets.</p>	<p>Design: Quantitative, descriptive, and comparative analyses</p> <p>Measure: SSRS, demographic information</p> <p>Participants: $N = 35$ preschool teachers, $N = 124$ parents of preschoolers</p> <p>Setting: 3 private preschools (2 at-risk neighborhoods, 1 rural farming community)</p> <p>Locale: Virginia</p> <p>Results indicated teachers and parents shared similar views of cooperation, yet different views regarding assertion and self-control with parents rating both more important. Most teachers and parents rated three skills as critical. Parents rated five others as critical.</p>

Table 2. (Continued)

Author(s) (Year), Journal	Purpose	Participants	Research Design and Measures	Findings
McMullen, Shippen, and Dangel (2007) <i>Instructional Psychology</i>	To study inclusive MS teachers' expectations regarding classroom organization behavior for students with learning disabilities.	Participants: <i>N</i> = 12 middle school inclusive science and social studies teachers Setting: 2 middle schools Locale: Central Georgia	Design: Quantitative and descriptive Measure: Classroom Organization Behavior Survey (COBS)	Results indicate expectations of classroom organizational behaviors may vary as a function of compliance and competence.
Lane, Pierson, Stang and Carter (2010) <i>Remedial and Special Education</i>	To replicate earlier study of teacher expectations and extend the knowledgebase regarding teacher expectations and school risk.	Participants: <i>N</i> = 1,303 (<i>n</i> = 596 ES, <i>n</i> = 361 MS, <i>n</i> = 346 HS) Setting: 29 ES, 12 MS, and 8 HS in 6 ethnically and economically diverse districts Locale: Western state	Design: Quantitative, descriptive, comparative, and longitudinal random coefficients analyses Measure: SSRS, demographic information	Results indicated four items were critical across all levels. Teachers had similar views of cooperation. Special educators rated cooperation less important than general educators. ES teachers placed more emphasis on self-control than MS and HS teachers. General and special educators held similar views. School risk did not predict assertion, self-control, or cooperation. School level predicted assertion, with ES teachers rating greater importance than MS teachers. ES teachers rated self-control more important than MS and HS teachers.

ES, Elementary School; MS, Middle School. HS, High School; SSRS, Social Skills Rating System (Gresham & Elliott, 1990).

Subsequent studies focused less on exploring the extent to which teachers and parents aligned in their views, instead focusing on behavioral expectations for students with disabilities. For example, Conte and McCoy (1980) compared the behavioral expectations of teachers ($N=5$) and social workers ($N=6$) in a day treatment program for students with EBD to those of classroom teachers ($N=7$) supporting these students in the district. Results indicated teachers and social workers in the day treatment facility held comparable views regarding the importance of specific behaviors believed to influence a student's success in the district-level classrooms for students with EBD. Yet, there were marked differences in behavioral expectations held by individuals in the day treatment program and district classrooms, with classroom teachers consistently rating items related to functioning well in the district classroom higher in importance. This has important implications for supporting students who are transferring from more to less restrictive settings. It is possible that students who are meeting expectations in the former setting may still lack the requisite skills deemed critical for success in the receiving setting. Yet, like many early investigations, this study is limited by a small sample size that restricts generalizability of the findings.

Walker and Rankin (1983) extended this line of inquiry by conducting a series of landmark studies describing the development of two instruments: (a) the Social Behavioral Survival (SBS) Inventory of Teachers Social Behavior Standards and Expectations (SBS Inventory) and (b) the SBS Checklist of Correlates of Child Handicapping Conditions (SBS Checklist), which became the main assessment tools of subsequent inquiry during this early period. The SBS Inventory is a 107-item scale containing three scales. Section I contains 56 items describing adaptive student behavior (teacher-child behavior and peer-to-peer social skills and behaviors) evaluated on a three-point Likert-type scale ranging from *critical*, *desirable*, to *unimportant* for successful adjustment in the classroom setting, both through facilitating classroom adjustment and achievement as well social competencies. Section II contains 51 items describing maladaptive student behaviors that impede classroom adjustment and negatively impact peer social relationships. These behaviors are also evaluated on a three-point Likert-type scale ranging from *unacceptable*, *tolerated*, to *accepted*. Section III assesses teacher's technical assistance needs in supporting students who are either (a) deficient in critically rated items in Section I or (b) exceeding normative ranges (unacceptable) on behavioral items in Section II. For items marked critical in Section I, the teacher indicates whether a student lacking this skill must master it prior to integration and whether technical assistance would be

needed in remediating or adjusting to the behavior following placement in the general education setting. For items marked unacceptable in Section II, the teacher indicates if the student needs to be within normal limits on the behavior before mainstreaming occurs and if technical assistance would be necessary to manage the behavior after the placement occurred.

The SBS Checklist is a 24-item scale developed to assess teacher tolerance levels regarding conditions and characteristics associated with disability conditions that are neither social nor behavioral in nature (e.g., incontinence, self-help skills, and slow academic progress). Teachers indicated which items would cause them to be resistant to mainstreaming. Both tools were developed for use prior to placing a student receiving special education services in a less restrictive or inclusive environment.

The SBS Inventory and SBS Checklist are part of the Assessments for Integration into Mainstream Settings (AIMS), a multi-method/multi-purpose assessment system for use in the decision-making process associated with mainstreaming students with exceptionalities into the least restrictive environments (Walker & Lamon, 1987). The AIMS system included five tools: three teacher ratings of students' behaviors and two direct observations codes. The intent of these tools is to (a) identify potential placement settings in the general education settings, (b) identify environmental demands and behavioral expectations evident in a given context necessary for entry into and satisfactory adjustment in this new settings, and (c) use this information to systematically prepare the student to adjust to the new setting by meeting teachers' expectations and supporting teachers with specific technical assistance needs in supporting this transition. We focus on the SBS Inventory and SBS Checklist scales as these tools were foundational assessments in subsequent inquiry of teacher expectations.

In these initial studies, Walker and Rankin (1983) determined elementary teachers' behavior expectation or standards to be quite demanding, narrow in scope, and intense. Furthermore, expectations held by general and special education elementary teachers were highly comparable. The highest rated maladaptive behaviors were low frequency, yet high intensity, behaviors (e.g., aggression). The highest rated adaptive behaviors focused on classroom control, general discipline, and compliance with teacher directives. Teachers rated peer-to-peer social skills much lower than behaviors that supported classroom or academic adjustment. However, this was not true in a subsequent study comparing Australian and U.S. elementary teacher's behavioral expectations that reported Australian teachers as having more balanced views of the importance of peer-related adjustment (Walker & Lamon, 1987). In this international study, U.S. teachers overall appeared to

be more demanding, rating more adaptive items as critical for success and more maladaptive items as unacceptable relative to their Australian counterparts.

Kerr and Zigmond (1986) used a similar methodology to extend this line of inquiry to explore standards and expectations held by secondary general ($N=220$) and special ($N=24$) education teachers. Teachers at three high schools completed the SBS Inventory, with results yielding comparable standards and behavioral expectations to those of elementary teachers' delineated by Walker and Rankin (1983). Specifically, high school general and special education teachers rated behaviors related to good academic performance, study habits, and classroom deportment as most critical for success. As with elementary teachers in the Walker and Rankin (1983) study, high school students' interpersonal skills and problems were de-emphasized by both general and special education teachers. Although general and special educators held similar views on the percentage of behaviors essential for success, general educators were more rigorous in their expectations compared to special educators as evidenced by the percentage of behaviors deemed intolerable.

Findings of Walker and Rankin (1983) and Kerr and Zigmond (1986) were confirmed in a subsequent study of elementary ($N=34$) and secondary ($N=22$) teachers enrolled in an in-service course in behavior management in the southeast (Kauffman, Lloyd, & McGee, 1989). Results provided additional evidence to suggest teachers focus less on students' relationships with their peers and are more concerned about control and order in the classroom. Elementary and secondary teachers reported substantially more maladaptive behaviors intolerable than adaptive items as critical, with a consistent lack of tolerance for aggressive, antisocial behavior patterns. Similarly, uncontrollable aggression, lack of bowel or bladder control, and lack of self-help skills were among the most frequent reasons to resist having a student with a disability in their classrooms. As in previous studies, general and special education teachers were similar in the number of adaptive items marked critical for success and maladaptive items marked as unacceptable; yet, there were considerable individual differences.

In a subsequent study, Kauffman, Wong, Lloyd, Hung, and Pullen (1991) examined the relation between teachers' judgments of risk and specific behavior characteristics. Fifty-four general educators enrolled in a course focused on teaching at-risk students completed a modified version of the SBS Inventory. In addition to rating adaptive and maladaptive behaviors listed on the scale, teachers also marked which items they believed placed a student at risk if the behavior was demonstrated. The following composite

scores were computed: risk (number of items marked as placing a student at risk), demandingness (sum of Section I items rated as critical and Section II items rated as unacceptable), responsibility (degree to which the teacher was willing to assume responsibilities for behaviors rated as critical or unacceptable), self-efficacy (degree to which they could manage the problem without technical assistance), and job satisfaction (sum of five items from demographic measure). It is interesting to note teachers did not indicate a behavior placed a student at risk for negative outcomes simply because it was contrary to their own standards. Yet, many of the behaviors marked as critical or unacceptable were identified as placing a student at risk. Overall results suggest teachers may perceive risk as a constellation of behaviors reflecting difficulties in communication, motivation, independence, and responding to failure. Collectively, these challenges impede the instructional process. More specifically, data suggest that as demandingness and teachers' expectations for success increased, "so did their perception that failure to meet expectations places students at risk" (Kauffman et al., 1991, p. 13).

After the earlier works of Walker and Kauffman, studies of teacher expectations began to shift. These studies focused less on determining which adaptive behavioral expectations or standards were critical for success and maladaptive behaviors deemed unacceptable and more on relations between teacher expectations and observed teacher performance (Gersten, Walker, & Darch, 1988) and instruction and performance (Fuchs, Fuchs, & Phillips, 1994). For example, Gersten and colleagues, in a study of 15 primary grade teachers involved with the Follow Through Project, found teachers with the strongest repertoire of effective teaching techniques (a) held high expectations for classroom behavior and achievement, (b) tolerated few maladaptive behaviors, (c) were more resistant to placement of students with exceptionalities, and (d) were more open to receiving technical assistance. These findings were consistent with the first studies conducted by Walker and Rankin (1983). Fuchs and colleagues (1994), in a study of 121 elementary and middle school teachers, reported teachers with high classroom standards were more responsive to student performance during planning and yielded higher student achievement relative to teachers with lower standards.

Lessons learned from these initial inquiries suggest teachers may be more alike than different in their expectations for students with exceptionalities. Yet, subtle differences in expectations are important to recognize as they carry implications for successfully supporting teachers and students when transitions are made into least restrictive settings. Furthermore, it is possible that high teacher expectations may have some unintended consequences that

do not bode well for students with disabilities. Indeed, they might limit teachers' willingness to include students with disabilities into general education settings (Gersten et al., 1988).

*Expanding the Knowledge Base: Research on Teacher Expectations
Following IDEA (1997)*

Research regarding teacher expectations for student behavior fell quiet for several years until shortly after the reauthorization of IDEA (1997), which called for an increased emphasis on promoting access to the core curriculum, and the introduction of NCLB (2001), which called for academic excellence for all learners. Gresham, Dolstra, Lambros, McLaughlin, and Lane (2000) resumed inquiry of teacher expectations of student behavior, focusing on exploring teacher-expected model behavior profiles. As part of this presentation at Teacher Educators for Children with Behavior Disorders (TECBD), Gresham and colleagues analyzed data from a longitudinal study of upper elementary students (grades 4–6) at risk for school failure. One instrument used in this project was the teacher version of Social Skills Rating System (SSRS; Gresham & Elliott, 1990), which is composed of three scales: social skills, problem behavior, and academic competence. The SSRS has excellent psychometric properties at the elementary level (total scale coefficient alpha reliability estimates of .94 for boys and .93 for girls). The social skills scale includes a list of 30 social skills, each rated using three-point Likert-type scales to assess the frequency (0 = *never*, 1 = *sometimes*, and 2 = *very often*) and importance (0 = *not important*, 1 = *important*, 2 = *critical* for success) of each item. The 30 items are equally distributed across three subscales: cooperation (e.g., ignores peer distractions when doing classwork), assertion (e.g., invites others to join in activities), and self-control (e.g., responds appropriately to peer pressure). For this study, importance scores were examined for 424 third-grade students from five school districts. Results indicated it was important for students to demonstrate competence in the areas of cooperation and self-control to be successful in a teacher's classroom. In contrast, assertion skills were not rated as critical for success (score of 2) by the majority of teachers. Findings were consistent with early inquiry elementary settings (e.g., Kauffman et al., 1989; Walker & Rankin, 1983). Results also indicated teacher expectations shifted between fourth and sixth grade, with sixth-grade teachers rating an increased number of skills as critical for school success.

This initial study by Gresham et al. (2000) sparked additional inquiry to determine if these patterns were consistent across the K-12 grade span, between general education and special education teachers, and between teachers and parents. Instead of focusing solely on mainstreaming issues, a broader view of the importance of understanding teachers' expectations for student behavior was established. For example, in addition to using this information to assist the placement process by supporting teachers and preparing teachers to negotiate the demands of the new setting (Hersh & Walker, 1983; Lane, Givner, & Pierson, 2004), special educators emphasized other values during this decade. Knowledge of teacher expectations was also recommended for use by general and special education teachers to (a) support key transitions across the grade levels (e.g., preschool to elementary school, elementary to middle school, and middle to high school; Alspaugh, 1988), (b) assist all students in negotiating varied expectations of teachers in secondary schools as they transition between classes during the school day, (c) improve interventions developed by prereferral intervention teams by attending to issue of goal alignment, and (d) inform primary prevention efforts by providing school-wide instruction in skills rated by the majority of teachers as critical for success (Lane et al., 2004, 2010). In essence, it is difficult for any student to meet teachers' expectations if those expectations are unclear because the skill is not taught explicitly or reinforced consistently (Colvin, 2002). By establishing expectations, providing didactic instruction, and offering contingent reinforcement for meeting stated expectations, it is possible for students to have more school success on multiple dimensions (e.g., academic, behavioral, and social performance; Lane et al., 2009; Sugai & Horner, 2002).

Moving forward, most inquiry conducted since 2000 involved using a modified version of the SSRS in which teachers rated only the importance of each items. Specifically, most survey research conducted during this period involved teachers rating the relative importance of each skill for students to succeed in their classrooms using the same three-point Likert-type scale. Rather than rating individual students as in the Gresham et al. (2000), the focus was on more global rating of teachers' expectations for school success (with the exception of the Beebe-Frankenberger, Lane, Bocian, Gresham, & MacMillan, 2005, which involved teachers ratings of specific students). Two studies deviated from this approach (Beebe-Frankenberger et al., 2005; McMullen, Shippen, & Dangel, 2007), with the latter focusing exclusively on inclusive middle school social studies and science teacher' expectations regarding classroom organization behavior for students with learning disabilities. McMullen et al. (2007) used the 12-item Classroom

Organizational Behaviors Survey. Because information was not provided on the reliability or validity of this scale, this study is not discussed beyond the information provided in Table 2. In the following sections, we highlight findings related to (a) comparisons between general and special education teachers across the grade span, (b) variations in expectations as a function of overall risk evident in the school, and (c) alignment between teacher and parent expectations for behavior.

Comparisons between General and Special Education Teachers Across the Grade Span

To extend the initial inquiry conducted by Gresham et al. (2000), Lane, Givner, and Pierson (2004) conducted a study of teacher expectations involving 126 K-6 teachers ($n=105$ general educators, $n=18$ special educators, $n=3$ other) from 4 elementary schools in southern California. Teacher ratings of cooperation, assertion, and self-control skills indicated teachers viewed cooperation and self-control skills as equally important for success in schools, with seven items rated as critical by the majority of teachers: (1) follows directions, (2) attends to instructions, (3) controls temper in conflict situations with peers, (4) controls temper in conflict situations with adults, (5) gets along with people who are different, (6) responds appropriately to when hit or pushed, and (7) uses free time in an acceptable way. These behaviors were highly similar to behaviors identified by Walker and Rankin (1983), Gresham et al. (2000), and those specified in Walker et al.'s (1992) model behavior profile literature. These findings suggest teachers emphasize skills that foster the instructional process by encouraging compliance and harmony, minimizing disruption, and emphasizing restraint. Assertion skills were not emphasized as important according to teacher ratings. In terms of group differences, general and special education teachers placed similar value on self-control and assertion skills. Yet, general education teachers viewed cooperation skills as more critical for success compared to special education teachers. There were no differences in expectations held by (a) novice and experienced teachers or (b) primary, upper, and combined grade level teachers, suggesting some degree of uniformity in expectations at the elementary level.

To extend Kerr and Zigmond's research (1986) on teacher expectations conducted in at the high school level, Lane, Pierson, and Givner (2004) conducted a study of teacher expectations involving 240 secondary teachers ($n=89$ middle, $n=151$ high school) from two middle and two high schools in southern California. Information gleaned from this study confirmed Kerr and Zigmond's findings, which suggested high school teachers prioritized

skills in the areas of compliance, rule governed behavior, and listening to teachers instructions. Nearly 20 years later, high school teachers did not emphasize the importance of assertion skills despite the increased attention to fostering self-determined behaviors for secondary-age students (Carter, 2010; Carter, Lane, Crnabori, Bruhn, & Oakes, 2011). These same findings were true of middle school teachers. However, middle school teachers placed greater importance on assertion skills relative to high school teachers, as did general education teachers compared to special education teachers. It is possible middle school teachers stressed assertion skills more than high school teachers to support the transition from elementary school, where students typically have one main teacher to work with during the school day. Students may need to develop assertion skills to ensure their needs are met in this new context. Similarly, general education teachers may view assertion skills as essential for negotiating teacher and peer relationships. Despite these differences, none of the assertion items were rated as critical by the majority of any subgroups. In terms of self-control skills, high school general educators rated self-control skills as significantly more important compared to high school special education teachers. In terms of cooperation skills, general educators rated these skills as more important compared to special educators, as did teachers without credentials (compared to credentialed teachers) and middle school teachers (compared to high school teachers).

In looking at data from these same samples across the entire K-12 continuum, Lane et al. (2003) identified five skills rated by elementary, middle, and high school teachers as critical for success: (1) follows directions, (2) attends to your instruction, (3) controls temper in conflict situations with peers, (4) controls temper in conflict situations with adults, and (5) responds appropriately to physical aggression from peers. Items 1–4 were also identified as common priorities by elementary, middle, and high school teachers in a follow-up study of 717 teachers in Tennessee (Lane, Wehby, & Cooley, 2006) and a study of 1,303 teachers in California (Lane et al., 2010), suggesting some degree of generalizability. Lane et al. (2003) found middle school teachers were most alike in their expectations for student behaviors as compared to elementary and high school teachers. However, this finding was not confirmed in either of the subsequent studies (Lane et al., 2006, 2010).

Variations in Expectations as a Function of the Overall Level of Risk Evident in the School

Lane et al. (2006) conducted the first study to determine if teachers' expectations vary as a function of school risk. Participants included 717

($n=210$ elementary, $n=259$ middle, $n=248$ high) general and special education teachers from 7 elementary, 8 middle, and 4 high schools in a large, socioeconomically, and culturally diverse district in Tennessee. For this study, the percentage of students receiving free or reduced-priced lunches served as a proxy for socioeconomic status given poverty is associated with negative school and life outcomes (Yates, Egeland, & Sroufe, 2003). Results yielded differences in teachers' expectations between teachers working at high- and low-risk schools. Specifically, where there were no differences with respect to the importance of cooperation skills, teachers at high-risk schools viewed assertion and self-control skills as more important for success compared to teachers at low-risk schools. It may be that assertion skills are more necessary to meet their educational needs given the limited enrichment activities often available in higher-risk schools and higher transiency rates often experienced by students residing in higher-poverty contexts. Or, self-control skills may be placed at a premium at high-risk schools due to higher levels of antisocial behavior (e.g., aggression) and more limited resources in terms of personnel to assist and supervise students. Yet, this study is limited by the fact only one variable was used to define risk status.

Lane et al. (2010) addressed this limitation by conducting a subsequent study exploring the relation between teachers' expectations and the level of risk evident in the school. Participants included 1303 ($n=596$ elementary, $n=361$ middle, $n=346$ high) general and special education teachers from six ethnically and economically diverse districts in California. The value placed on cooperation skills was similar to that reported by Lane et al. (2006): elementary, middle, and high school teachers placed similar importance on cooperation skills. Special education teachers rated cooperation skills as less important compared to general education teachers. However, findings regarding the importance of assertion and self-control skills diverged from those reported by Lane et al. (2006; see Table 2). School-level variables examined using longitudinal random coefficients analyses included school level (elementary, middle, or high), enrollment, percentage of students receiving free and reduced-price lunch, and percentage of school mobility, with the latter two variables serving as a proxy for socioeconomic status (Walker, Block-Pedego, Todis, & Severson, 1991). Contrary to the initial hypothesis, level of school risk did not predict the importance scores for cooperation, assertion, and self-control skills. Additional inquiry is needed to further elucidate the relation between teachers' expectations of behavior and the overall level of risk in a school. Findings from Lane et al. (2010) suggest teachers are consistent in their expectations for behavior

independent of school risk, perhaps only influenced by the age of the student. Yet, questions remained, such as whether teacher expectations vary across regional or cultural differences.

Alignment between Teacher and Parent Expectations for Behavior

Two studies examined the extent to which parent expectations aligned with teacher expectations: the first focusing on adolescent students (Beebe-Frankenberger et al., 2005) and the second focusing on preschool-age students (Lane, Stanton-Chapman, Roorbach, & Phillips, 2007). Beebe-Frankenberger et al. (2005) involved a subset of students from a larger longitudinal study of students referred to the prereferral intervention team due to academic, behavioral, or combined concerns. The intent of this follow-up study was to explore familial and parent risk and resiliency factors pertaining to academic and social competence. Fifty-three teachers (26 elementary and 27 secondary) completed SSRS rating scales as did the students' parents. Teacher ratings included the original ratings by elementary teachers as well as the students' middle school teachers. Parents completed the SRSS during this second time point. Of the 33 students rated, 9 had behavior problems (elementary problem behavior standard score ≥ 115) and 23 were part of a comparison group (elementary problem behavior standard score < 115) from the original study. Results indicated 60% of elementary and middle school teachers rated four behavioral expectations as critical for success in the classroom: (1) produces correct school work, (2) ignores peer distractions while working, (3) easily makes transitions, and (4) finishes class assignments on time. Teachers and parents of adolescents with behavior challenges diverged in their behavioral expectations. Teachers viewed cooperation skills as more important for success in the classroom compared to self-control and assertion skills, whereas parents emphasized self-control, responsibility, and assertion skills in the home more than cooperation skills. Beebe-Frankenberger et al. (2005) suggested students with behavior problems "may be caught betwixt and between the teacher and parent expectations for behavior requiring qualitatively different skills at home than at school" (p. 15).

Lane et al. (2007) conducted a study of 35 preschool teachers and 124 parents of preschoolers in Virginia. In this study, researchers gave teachers and parents respective versions of the Social Skills Rating System for preschool students and asked participants to rate the importance of each behavior for students' success in the classroom (teacher perspective) or at school (parent perspective). Results indicated teachers and parents placed similar importance regarding cooperation skills, yet held different views

regarding assertion and self-control with parents rating both skills sets as significantly more important. The majority of teachers and parents rated three skills as critical for success: (1) follows your directions, (2) controls temper in conflict situations with adults, and (3) controls temper in conflict situations with peers. These expectations were consistent with prioritized expectations in elementary, middle, and high school context (Lane et al., 2010). However, preschool teachers rated fewer skills as critical for success relative to K-12 teachers. Findings diverge from the Beebe-Frankenberger et al. (2005) study of adolescents, yet it is important to recall this sample included a small, referred population whereas Lane et al. (2010) involved a nonclinical sample.

While only two studies have yet been conducted, this line of inquiry is important. Research suggesting young students who have negative relationships with their teachers exhibit higher levels of problem behaviors and fewer adaptive skills in preschool as well as in kindergarten and first grade when they transition to elementary school (Pianta & Stuhlman, 2004). Yet, additional research is needed in this area to establish the generalizability of these initial findings.

CONSIDERATIONS

Before considering the educational implications of the knowledge base of teacher expectations, it is important to consider the existing limitations of these studies. For example, none of the studies conducted following IDEA (1997) involved direct observations. Clearly, relying strictly on teacher and self-report data has substantial drawbacks. For example, issues exist pertaining to social desirability factors (suggesting people may be presenting themselves in a more favorable light) and deviations between perceptions of reality and reality itself (suggesting people may indicate they value a certain type of behavior, when in actuality they tend to reinforce other types of behavior; Cooper, Heron, & Heward, 2007). Other limitations to these studies include (a) the possibility teacher expectations may not be uniform across students (more ideographic in nature), (b) the absence of academic markers in existing studies (e.g., the absence of academic performance as an index of school risk; Lane et al., 2010), and (c) limited sample sizes in some studies restrict statistical power to detect potential differences and pose concerns regarding validity issues. Yet, despite these limitations, the studies conducted to date offer important implications for researchers and practitioners alike.

IMPLICATIONS FOR RESEARCH AND PRACTICE

Over thirty years of studies of teacher expectations have several implications for the field, several of which have already been alluded to in this chapter.

Facilitating Inclusive Programming for Students with Exceptionalities

Access to the general curriculum is now a legal mandate. [IDEA \(1997\)](#) and [IDEIA \(2004\)](#) emphasized the importance of students with disabilities being (a) educated in the least restrictive environment appropriate and (b) exposed to the core academic curriculum offered in the general education context to the maximum extent possible. The initial work conducted by Walker and colleagues suggested that “both teacher expectations and teacher attitudes directly influence the potential success of mainstreaming efforts” ([Walker & Lamon, 1987, p. 57](#)).

An important aspect of promoting successful inclusive experiences is ensuring students enter the least restrictive setting with the skill sets necessary to negotiate teachers’ expectations and participate in educational activities in a manner that facilitates teachers’ instructional goals ([Walker et al., 1992](#)). One early concern was the possibility that professionals working with students with disabilities in more restrictive settings might hold different behavioral expectations than teachers working in less restrictive settings. Studies suggest this was in fact the case (e.g., [Conte & McCoy, 1980](#)). For example, [Lane et al. \(2004\)](#) reported general education teachers placed greater emphasis on the importance of cooperation skills compared to special education teachers. Although the reasons for these differences were not explored (a suggested area of inquiry), such differences may be evident because general education teachers need to manage a larger number of students over the course of the school day. Also, it is possible special education teachers may be more accustomed to dealing with less cooperative behavior.

In terms of implications for practitioners, students with disabilities need to be made aware of these potential differences and provided explicit instruction in the skill sets expected by general education teachers. This instruction would allow students with disabilities to acclimate to inclusive placements quickly and with greater ease due to their fluency with the specific target behaviors (e.g., responds appropriately to conflicts with peers) most likely to be reinforced by the receiving teacher ([Kerr & Zigmond, 1986](#)). An alternative is for general and special education teachers to use this

information as a starting point for aligning expectations, with consideration to developmental considerations.

Supporting Transitions Across the K-12 Continuum

Another recommendation pertains to using information about variations in teacher expectations for students' behavior to support transitions across the developmental continuum. For example, noted differences between expectations held by preschool, elementary, middle, and high school teachers could be taught explicitly to students before making these transitions. In the most recent study of teacher expectations, Lane et al. (2010) replicated earlier findings regarding the lack of emphasis placed on assertion skills. As in previous studies, assertion skills were not rated as critical for success by the majority of teachers at any age level. Yet, elementary teachers rated assertion skills as significantly more essential compared to middle school teachers. This information regarding assertion could be used to facilitate transitions from elementary to middle school. Namely, elementary teachers could pre-teach the differences in expectations before students graduate from elementary school. Middle school teachers could also teach expectations during orientation or other similar venue at onset of the school year to all incoming middle school students (e.g., if you need help from a teacher during class, it would be to do X rather than do Y as you did when you were in elementary school). While this will not address the problem of performance deficits (when students knowingly violate established expectations), but it will reduce the likelihood of acquisition deficits. Namely, teaching these expectations may minimize problems occurring because students do not know the expectations in a new context. We recommend practitioners support students who are making key transitions by familiarizing students with differences in academic and behavioral expectations.

Informing Primary Prevention Efforts and Targeted Supports

In addition to supporting school transitions, information on teacher expectations can also inform intervention efforts on a number of levels by addressing issue of goal alignment. For example, consider the current practice of establishing three-tiered models of prevention. Rather than constructing expectations for student behavior in key settings (e.g., classrooms, hallways, and cafeterias) via committee decision, a more data-based approach could be employed. Specifically, recently efforts have focused on

surveying all faculty and staff in a building to identify the importance they place on central social skills. Item rates as critical for success by the majority of adults are used to establish school-wide expectations. Then, all students in the school receive formal instruction on these data-derived, universal expectations (Lane et al., 2009). Teachers should assume an instructional approach to behavior, teaching behavioral expectations explicitly in the same manner academic skills are taught. Using this approach, students are taught behaviors likely to access reinforcement by all adults in the building, which increases the probability of the behaviors being acquired initially, maintained over time, and generalized across settings and individuals (Cooper et al., 2007). The same process could be used for informing Tier 2 and Tier 3 supports in schools with three-tiered models of prevention as well as interventions designed by the prereferral intervention team (Lane, Mahdavi, & Borthwick-Duffy, 2003).

One consideration we would like to raise with the research community is the need to examine goal alignment more closely. In reviewing the full body of work in this area we are concerned by two issues. First, summative findings suggest most teachers place limited importance on assertion skills, which share many of the same features as self-advocacy skills emphasized in the self-determination literature (Wehmeyer & Field, 2007). Is there a disconnect here for students with disabilities? Meaning, are special education scholars inadvertently emphasizing skills *not* likely to be valued by teachers? We are not suggesting self-advocacy skills be minimized. But, we are suggesting individuals involved with professional development and teacher preparation programs consider issues of goal alignment and issues of reinforcement to ensure we are preparing teachers who are ready to support the development of behaviors likely to be reinforced in naturalistic settings. Second, social success and the ability to interact with schools carry implications not only for school success, but also for success beyond the school setting (e.g., working with colleagues in employment settings). As such, we think it is important for the research and teacher professional development communities to determine how best to assist teachers in developing their skills and confidence with respect to teaching peer-peer social competencies (Walker & Rankin, 1983).

Considerations for Teacher Preparation Programs

In addition to attending to issues of alignment and reinforcement and the focus of peer-related social competencies, we also contend this body of work

offers other important implications for teacher preparation programs, particularly in regards to home-school partnerships. Findings suggest expectations for student behavior and performance varies along socioeconomic and cultural dimensions, by role (e.g., parent and teacher), and grade level provide valuable information for teacher preparation programs (see Lane et al., 2007; Winetsky, 1978). If value systems vary along socioeconomic and cultural dimensions, it is important for teacher preparation programs to equip teachers to be fully prepared to deal not only with children's developmental stages of growth, but also divergent beliefs regarding behavior expectations. This is not to say parents and teachers must agree on all behavior expectations. Yet, teachers will need training to support students in recognizing and negotiating different value systems evidenced in different settings.

With the goal of inclusive programming, it is also essential that teacher preparation programs develop inclusive teachers' knowledge, skill sets, and confidence in supporting students whose behavior patterns tend to impede the instructional process. We applaud the development of the SBS assessment methodology for use in selecting appropriate mainstream settings immediately following the introduction of P.L. 94-142. We think the goal of teacher preparation programs needs to be expanded to provide greater training in helping all pre-K-12 general educators support students with exceptionalities and address expectations for critical behaviors in the general education context. Given the press for academic excellence accentuated in NCLB, providing such training and supports may help to address the concern raised by Kauffman et al. (1991): "Raising teachers' expectations and demands could have the unintended effect of increasing the number of students perceived as at risk and, consequently, being referred to special education, if more students fail to meet higher expectations" (p. 14).

SUMMARY

In this chapter, we examined lessons learned regarding teachers' expectations for student behavior, starting with early inquiry conducted following P.L. 94-142 Education for All Handicapped Children Act that first established special education supports. Then, we explored the expanding knowledge base following reauthorization of IDEA (1997), IDEIA (2004), and NCLB (2001) as education moved toward an increased emphasis on inclusive programming and supporting access to the general curriculum (IDEA, 1997), a call for academic excellence for all students (NCLB), and a

focus on a systems-level perspective for teaching behavioral expectations (IDEIA, 2004). We summarized lessons learned from these bodies of knowledge, with attention to key findings and existing limitations of the work conducted to date. Finally, we addressed implications of this literature for practice related to (a) facilitating inclusive programming for students with exceptionalities, (b) supporting pre-K through K-12 transitions, (c) informing primary prevention efforts and targeted supports, and (d) informing teacher preparation programs.

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ADOLESCENT DEVELOPMENT FOR STUDENTS WITH LEARNING DISABILITIES AND BEHAVIORAL DISORDERS: THE PROMISE OF SOCIAL EMOTIONAL LEARNING

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ABSTRACT

Although a large body of research has focused on young children with learning disabilities (LD) and behavioral disorders (BD) in preschool and elementary school settings, there is considerably less information about this population during adolescence. Recent work suggests that youth with these disabilities experience challenges in areas such as social skills, increased depressive symptoms, and involvement in the juvenile justice system. In addition, for a small percentage of the population, negative outcomes experienced during early childhood appear to persist in adolescence and early adulthood suggesting the need for additional interventions. Two primary aims guide the current chapter. First, we review key domains of adolescent development (social, emotional, and

Classroom Behavior, Contexts, and Interventions
Advances in Learning and Behavioral Disabilities, Volume 25, 131–166
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ISSN: 0735-004X/doi:10.1108/S0735-004X(2012)0000025009

behavioral) and highlight ways in which development differs for students with LD and BD. Second, we introduce the field of social and emotional learning (SEL) and the accumulating body of research that suggests that this approach could have numerous benefits for this population. We describe the results of recent meta-analytic reviews of SEL programs to indicate the current state of the field, highlight a few evidence-based universal and indicated SEL programs for secondary school settings, and describe important areas for future research.

Studying adolescent development for students with learning disabilities (LD) and behavioral disorders (BD) is important for several reasons. First, work related to students with disabilities has highlighted students experiencing a range of deficits in areas such as self-concept, emotion regulation, attributions for success, social processing skills, and socially acceptable behaviors (see Bryan, Burstein, & Ergul, 2004; Kavale & Forness, 1996; Swanson & Malone, 1992, for reviews of this literature). Perhaps the most troubling body of literature, which has grown considerably over the past 15 years, pertains to increased rates of loneliness, depression, and/or suicide for students with LD (Gallegos, Langley, & Villegas, 2012; Kiuru, Leskinen, Nurmi, & Salmela-Aro, 2011; Maag & Reid, 2006).

Second, research indicates the association of social-emotional development and academic success (Zins, Weissberg, Wang, & Walberg, 2004) and the relative lack of academic success of students with high-incidence disabilities in secondary settings. Nelson, Benner, Lane, and Smith (2004) found that students with BD are likely to experience academic achievement deficits in all core content areas and that these deficits become broader in math as students enter middle and high school. Some work suggests that students with LD reach a plateau at the 4th- to 5th-grade level of skill attainment in academic achievement when they are in 10th grade and make little gains thereafter (Deshler, Schumaker, & Lenz, 1984; Warner, Schumaker, Alley, & Deshler, 1980). However, research has identified a number of social-emotional factors that can contribute to students' positive academic achievement including promoting student focus and motivation, creating supportive student-teacher relationships, and developing effective school-family partnerships to help students succeed (Dweck, 1986; Guerra & Bradshaw, 2008; Hamre & Pianta, 2001; Mart, Dusenbury, & Weissberg & 2011). Given this association, there is a need to investigate how aspects of positive adolescent social and emotional development could promote academic performance for this population.

Third, problems experienced during adolescence for students with LD and BD are associated with a range of negative outcomes in secondary school settings as well as early adulthood (Bradley, Doolittle, & Bartolotta, 2008). The research suggests that some students, with even mild impairments, continue to struggle as they enter adulthood. For example, in the National Longitudinal Transition Study-2 (NLTS2), 55% of the students with BD dropped out of high school, more than twice the rate of students in general education (Sanford et al., 2011). These data are consistent with NLTS1, where only 48% of students with BD graduated (Wagner, Cameto, & Newman, 2003). Differences for enrollment in 4-year universities are also concerning. Upon completion of high school, only 16% of the population with learning disabilities and 6% of the sample with emotional disturbance enrolled in postsecondary education versus 29% of the general population of learners (Sanford et al., 2011). Lower employment rates for adolescents with different disabilities have also been found (e.g., employment rates were 64% for students with LD and 42% for students with emotional disabilities) versus 66% for the general population (Alverson, Naranjo, Yamamoto, & Unruh, 2010). In addition, youth with disabilities are entering the correctional system at rates four to five times higher than the general population (Sanford et al., 2011).

DEFINING ADOLESCENCE AS A PERIOD OF DEVELOPMENT

Adolescence can be defined biologically as the physical transition marked by the onset of puberty and termination of physical growth; cognitively, as changes in the ability to think abstractly and multidimensionally; socially, as a period of preparation for adult roles (Harter, 1998; Steinberg & Morris, 2001); and emotionally, as establishing a realistic and coherent sense of identity in the context of relating to others and learning to cope with stress and manage emotions (Eisenberg, 2006). All of these different aspects of development prepare adolescents to experiment with new behaviors as they transition from childhood to adulthood (American Psychological Association, 2002). This experimentation, and the feedback they receive from engaging in these behaviors, allows them to fine-tune their cognitive, social, and emotional development.

For the purposes of this chapter, we define adolescence as beginning at age 10 and ending at age 18 as is generally agreed upon in the literature (US Census Bureau, 2011). We acknowledge the discussion in the field to broaden the definition of adolescence and the movement to distinguish

between different periods of development such as “early adolescence” (age 10–13), “middle adolescence” (age 14–17), and “early adulthood” (age 18–21). The distinctions among ages allow us to focus primarily on the research that looks at adolescent development within the context of middle and high school settings – early and middle adolescence.

In the next section, we briefly describe how development differs for students with BD and LD within the three key domains of social, emotional, and behavioral development (Jones, 2009).¹ The choice to focus on these three domains speaks to our interest in social-emotional competencies that develop during adolescence and have been identified as a mediator of social adjustment as well as associated with greater well-being and school performance (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Eisenberg, 2006; Guerra & Bradshaw, 2008). Although we attempt to describe development for students with LD and BD in broad brush strokes, it is important to acknowledge the great variability that exists within this population. For example, comorbidity of these deficits occurs for many students, and factors such as race/ethnicity, gender, and poverty can impact development in different ways (Dymnicki, Antonio, & Henry, 2011). One illustration involves much higher, unemployment and dropout rates for youth of color (Gardecki, 2001).

SOCIAL DEVELOPMENT

Important aspects of development within the domain of social development include social competence and family relationships. Adolescence involves an increased orientation toward peers, which requires students to possess social competence in order to establish functioning peer relationships (Wiener & Schneider, 2002). By far the largest body of research on social development speaks to deficits for many students with LD and BD in social information processing, social cognition, and social behavior (Gresham & MacMillan, 1997). For example, students with LD consistently perform worse than peers on accurately recognizing and identifying prosody, facial expressions, and body language (Semrud-Clikeman & Hynd, 1990), as well as nonverbal perception and their ability to encode dilemmas and generate competent solutions (Crick & Dodge, 1994; Dodge et al., 2003; Swanson & Malone, 1992).

A key aspect to healthy social development involves the ability of adolescents to develop and maintain close friendships, which has been shown to relate to feelings of self-worth at age 30 (Bagwell, Newcomb, & Bukowski, 1998). Research has consistently established that students with LD are less likely to be socially accepted and more likely to be socially

rejected than their peers (Roberts & Zubrick, 1993; Wiener & Schneider, 2002). Friendships for students with LD involve less contact with friends, less intimacy and validation, and more conflict (Wiener & Schneider, 2002). In addition, students with LD are reported to be more aggressive or disruptive by their peers and less insensitive, less tactful, and more likely to engage in attention-seeking behaviors by their teachers (Pearl, Donahue, & Bryan, 1986). Longitudinal research also indicates that early peer rejection predicts growth in aggression during adolescence (Dodge et al., 2003). Students with BD who have close friendships with other students demonstrating behavioral problems in turn demonstrate increased behavioral problems themselves (Berndt, Hawkins, & Jiao, 1999). Peer rejection, sharing antisocial interests, and grouping youth with BD together for intervention can lead students with BD to associate with each other more and can reinforce and accelerate problem behavior (Dishion, McCord, & Poulin, 1999; Dishion & Van Ryzin, 2011).

Although the majority of research on social development focuses on the peer group, the influence of family relationships should not be overlooked. Increased parent-child conflict in early adolescence is accompanied by a decline in reported closeness and in the amount of time parents and children spend together (Larson & Richards, 1991). However, the protective role of family relationships continues to be important during adolescence. A strong sense of bonding and attachment with family is associated with better emotional development, enhanced school performance, and engagement in fewer high-risk activities such as drug use as compared with youth who did not report a strong sense of bonding and attachment with family (Perry, 2000; Resnick et al., 1997). Research has also suggested a fairly clear relationship between LD and conflictual family climates (Feagans, Merriwether, & Haldane, 1991; Oliver, Cole, & Hollingsworth, 1991). Green (1990) suggested that a disjointed parental communication style coupled with unclear behavioral contingencies in the home is related to LD for some children, but cautioned against determining the direction of the relationship. Similarly, longitudinal studies of aggressive youth have shown that families with violent delinquent children report poorer discipline, less cohesion, and less parental involvement in their child's life than families of nonviolent children (Gorman-Smith, Tolan, Zelli, & Huesmann, 1996).

EMOTIONAL DEVELOPMENT

Emotional development during adolescence primarily involves identity development when adolescents begin to view themselves in terms of their

own personal beliefs and standards and start to evaluate themselves along several distinct domains (e.g., academics, social relations; [Steinberg & Morris, 2001](#)). Another widely researched construct, identity development, involves self-concept (e.g., beliefs about one's attributes, goals, interests, and values) and self-esteem (e.g., evaluating how one feels about his/her self-concept; [Berger, 2001](#)). In relation to self-concept, individuals tend to develop more abstract characterizations of themselves over time, describing themselves in ways that are occasionally discrepant during middle adolescence but then become more consistent in later adolescence ([Harter, 1998](#)). In general, though, self-esteem is fairly stable during adolescence, with a slight increase over the period of development ([Harter, 1998](#)). Although those trajectories are typical for most adolescents, the development of identity does not always follow the same path for students with LD or BD. Most studies investigating the issue of identity development for adolescents with disabilities have documented lower self-concept and lower perceived academic competence for students with LD when compared to students without LD (e.g., [Ayres, Cooley, & Dunn, 1990](#); [Raviv & Stone, 1991](#)). Moreover, the research about self-esteem for students with BD is less than equivocal, with some research suggesting that low self-esteem is the persistent cause of the violence among youth gangs ([Anderson, 1994](#)) and a traditional cause of all violence ([Staub, 1989](#)), and other research suggesting that students direct anger outward to avoid revising their positive feelings about self ([Baumeister, Smart, & Boden, 1996](#)).

In addition to difficulties related to identify development, students with LD and BD demonstrate an increased risk for a range of emotional problems including negative attributions, anxiety, loneliness, and depression/suicide. Research on success–failure attributions (e.g., locus of control, causal attributions) has found that students with LD exhibit more external versus internal attributions than students without LD ([Lewis & Lawrence-Patterson, 1989](#)). For example, LD students frequently perceive academic outcomes as controlled by others rather than as products of their making. Perhaps related to this feeling of limited control are findings about increased trait anxiety levels for students with LD ([Margalit & Zak, 1984](#)). This anxiety manifests itself in different ways, including a higher prevalence of somatic complaints and higher levels of loneliness than reported by typically developing students ([Margalit, 1991](#)). As mentioned previously, a considerable body of work has also documented increased rates of depression/suicide for students with LD as compared to the general population, with rates of both increasing throughout adolescence ([Maag & Reid, 2006](#); [Wiener & Schneider, 2002](#)). One explanation for this increased

risk involves the meditational role of self-concept. Montague, Ender, Dietz, Dixon, and Cavendish (2008) found that the effect of learning difficulties on depressive symptoms was mediated via feelings of inadequacy as a student.

Although research has shown that students with BD also display high levels of emotional distress, including anxiety (Frick et al., 2003), a subgroup of students with BD also exhibit a distinct temperamental style. Research on students with early symptoms of conduct disorder shows a preference for novel and dangerous situations, a lack of emotional responsiveness to negative emotional material, and a lack of sensitivity to cues of punishment, which are all consistent with a temperamental style described as low fearlessness (Rothbart & Bates, 1998). This subgroup of students with BD also demonstrate low behavioral inhibition, low harm avoidance (Frick, 2004), and impaired emotion regulation (Frick & Morris, 2004).

Deficits in emotion regulation are often cited as a direct and indirect mechanism for developing conduct problems, because deficits in emotion regulation can result in impulsive and unplanned aggressive behavior for which the child is remorseful, but still has difficulty controlling in the future (Pardini, Lochman, & Frick, 2003). Moreover, because emotion dysregulation can impair the development of social processing skills, it is also associated with increased peer rejection, which is related to increased aggression (Crick & Dodge, 1994; Dodge et al., 2003).

BEHAVIORAL DEVELOPMENT

Most of the literature on adolescent behavioral development focuses on risk-taking behaviors (e.g., increased tobacco, alcohol, drug use; risky sexual behavior; increased delinquency, crime, violence; Hawkins, Catalano, & Miller, 1992; Scales & Leffert, 2004). Several reasons suggest the need to be concerned about adolescent's involvement in risky behaviors. First, the majority of individuals who engage in unhealthy behaviors as adults developed the habit during adolescence (e.g., more than 80% of adult smokers begin smoking before the age of 18; Riordan, 2009). Not all adolescents who experiment with risky behaviors continue these behaviors into adulthood (Moffitt, 1993), yet the continuation of risky behaviors throughout the life course for some is significant. In fact, Moffitt (1993) has made great strides in differentiating qualitatively different pathways of development for youth who experiment in risky behavior during this time period and has termed youth who continue to engage in this type of

behavior later on as demonstrating “life course persistent antisocial behavior” (p. 674). Second, adolescent risk-taking behaviors are concerning because of the negative social outcomes that accompany them (e.g., teen childbearing is associated with school dropout; Hoffman, 2008) as well as the vulnerability of youth to interventions that have iatrogenic effects (Dishion & Dodge, 2005; Dishion, Poulin, & Burraston, 2001). Finally, there has been compelling research that suggests multiple serious risky behaviors tend to cluster in the same group of adolescents, putting this small group at increased risk for negative outcomes both in adolescence (e.g., drinking and driving), as well as later on in life (Hamburg, 1997).

In addition to research regarding risk-taking behaviors, a growing body of work over the past 25 years has looked at adaptive behaviors, assets, and protective factors that also develop during adolescence (Hawkins et al., 1992; Scales & Leffert, 2004). Research on protective factors suggests that resilience (i.e., having positive outcomes despite serious threats to healthy development) can be facilitated not just by reducing the level of risk individuals take but also by promoting their competence and strengthening their assets (Margalit, 1993). A number of external and internal factors associated with increased resilience have been identified, including having a stable, positive relationship with one caring adult; attending schools that provide students with a sense of cooperative shared responsibility and belonging, high expectations, and adequate support; being part of a warm and nurturing family environment; and having emotional intelligence that allows students to cope with and handle stress (Cowen & Work, 1988; Garbarino & Haslam, 2005; Jessor, 1991).

In her recent book describing social-emotional development for students with disabilities, Jones (2009) included separate chapters to describe the social, emotional, and self-concept development for students with different disabilities including students with BD, LD, and physical and other health impairments. In the following sections, we introduce social and emotional learning, a coordinated approach to meeting the developmental needs of students with these different disabilities.

WHAT IS SOCIAL AND EMOTIONAL LEARNING?

Social and emotional learning (SEL) is a unifying concept for organizing and coordinating school-based programming that integrates competence promotion and positive youth development frameworks for the prevention of problem behaviors and fostering of protective factors. SEL involves the

processes through which children and adults develop five core competencies (Durlak et al., 2011; Elbertson, Brackett, & Weissberg, 2010). These core competencies include self-awareness (e.g., the ability to know what one is feeling and accurately assess one's capabilities, interests, and values), self-management (e.g., the ability to regulate one's emotions to handle stress, control impulses, and set and monitor progress toward achieving goals), social awareness (e.g., the ability to take the perspective of others and recognize and appreciate group similarities and differences), relationship skills (e.g., the ability to establish and maintain healthy relationships, resist peer pressure, and manage interpersonal conflict), and responsible decision making (e.g., the ability to make decisions based on the considerations of others, ethical standards, and social norms).

The aim of SEL programs/programming is to foster positive youth development through the promotion of personal and social competencies. In schools, SEL programs promote a caring and engaging learning environment which in turn should lead to better adjustment and improved school performance and functioning (Durlak et al., 2011), and be evident in improved outcomes later on in life. SEL includes both specific programs and skills curricula focused on improving students' social-emotional skills, attitudes, and behaviors, classroom-wide approaches such as daily morning meetings designed to improve student-teacher relationships, and class- and school-wide approaches that attempt to improve school environments (e.g., changing the way students transition from one class to the next to reduce peer conflict). This all takes place within the context of safe, participatory schools as well as family settings and community environments that support children's development and allow them to have opportunities to practice and apply these competencies (Kress & Elias, 2006).

DISTINCTION BETWEEN SEL INTERVENTIONS AND OTHER INTERVENTIONS

Given that other chapters in this volume describe similar interventions, it is important to note how SEL intersects with several of these interventions or school-wide programs. Universal behavioral systems/positive behavior supports (PBS), developed first within the special education tradition, traditionally focused on establishing clear and consistent behavioral practices. More recently, PBS practices have evolved to include

a whole school approach (Lewis & Sugai, 1999). PBS does not include a curriculum, but rather is a decision-making framework to guide selection, integration, and implementation of the best evidence-based practices to improve academic and behavioral outcomes of all students. In comparing PBS and SEL, both interventions address the needs of all children; however, SEL has a slightly different focus because of its emphasis on emotions and the development of social and emotional competencies (Osher, Bear, Sprague, & Doyle, 2010). The two approaches can work together in school settings by having PBS establish a common discipline and behavioral skills approach that is reinforced school-wide and having evidence-based SEL programs teach social-emotional skills explicitly and provide opportunities for practice, feedback, and application within content areas and throughout the school setting (Osher et al., 2010).

Another school-wide approach, Response to Intervention (RtI), works to integrate assessment practices and intervention approaches within a three-tiered prevention model to maximize student achievement and reduce behavioral problems (Fuchs & Fuchs, 2011).² Four key components of the RtI approach involve quality core instruction, universal screening to identify students at risk of academic failure, individualized interventions for those identified students, and continual monitoring of student progress. Although SEL approaches reflect a belief in the importance of screening and assessment to identify students who are experiencing difficulty, it also emphasizes the importance of promoting positive development for all students from the start and advocates universal SEL programs to be introduced into the school to teach students social and emotional competences. Thus, combining both approaches could involve implementing quality core SEL instruction for all students with additional tiered responses for students who need greater levels of support (Osher, Dwyer, & Jimerson, 2006).

DESCRIPTION OF THE META-ANALYSES EVALUATING SOCIAL AND EMOTIONAL LEARNING PROGRAMS

Recent meta-analyses of SEL programs have indicated that these programs have positive impacts on a number of domains including increasing students' social and emotional skills, attitudes toward self and others,

positive social behaviors, and academic achievement as well as reducing students' risky behaviors and emotional distress (Durlak et al., 2011; Durlak, Weissberg, & Pachan, 2010; Payton et al., 2008). Three separate reviews have been conducted regarding SEL programs: (a) a review of K-12 universal programming delivered to all students ($N=213$; Durlak et al., 2011); (b) a review of K-8 indicated programming delivered to students showing signs of social, emotional, or behavioral problems who had not yet been diagnosed with BD or LD ($N=103$; Payton et al., 2008); and (c) a review of K-12 programs delivered after school ($N=68$; Durlak et al., 2010).

All three reviews suggested positive impacts of SEL programs for many students on a range of outcomes, although the effect sizes (ES) associated with the indicated programming (ES ranged from .38 to .77; Payton et al., 2008) were larger than ES associated with the universal programming (ES ranged from .22 to .57; Durlak et al., 2011) and programs in the after-school review³ (ES ranged from .08 to .17; Durlak et al., 2010).

These meta-analyses provide information about the current state of the field and also point out gaps in current research and practice. For example, there were considerably fewer programs that serve high school versus elementary school students in each review (i.e., 13% versus 56% in the universal review; 22% versus 53% in the indicated review; and 9% versus 46% in the after-school sample). Three findings that were fairly consistent across the three reviews are important to discuss. First, in all three reviews, programs that did not report problems with implementation versus those that did report problems with implementation were associated with more positive effects.⁴ Second, in two of three reviews (universal and after-school), programs that included a set of evidence-based practices referred to as sequenced, active, focused, and explicit (SAFE programs) produced stronger effects than programs without these practices.⁵ Third, in two of three reviews (universal and indicated), school staff were as effective as, and in some cases more effective than, nonschool personnel (e.g., university researchers) at delivering programs.

Although all three reviews included programs that served K-12 students, the report describing the indicated set of studies (Payton et al., 2008) only reported on K-8 SEL programs. Given this chapter's focus on classroom practices mediating behavioral and emotional concerns of adolescents, we describe the 52 indicated SEL programs for middle and high school students. The 52 studies included 32 studies that were included in the indicated review and 20 studies that met the inclusion/exclusion criteria established for the indicated review⁶ but were not described in Payton et al. (2008)

because they included indicated programs that were conducted in secondary school settings. Appendix A presents the list of the 52 studies included in our analyses. Below, we present study, participant, and program characteristics of this set of studies, and then highlight a few studies that produced strong effects. We refer readers interested in learning more information about the universal and after-school reviews to these two articles: [Durlak et al. \(2010, 2011\)](#).

IDENTIFICATION OF SEL PROGRAMS SERVING ADOLESCENTS PRESENTING EARLY SIGNS OF PROBLEMS

As shown in [Table 1](#), 40 studies were included, which evaluated 32 separate programs. Two studies evaluated the program outcomes of Adolescent Transitions Program (ATP), two studies evaluated assertion training, two studies evaluated Counselors CARE (C-CARE) and Coping and Support Training (CAST), two studies evaluated the Penn Prevention Project (PPP), two studies evaluated Rational Emotive Behavior Therapy (REBT), two studies evaluated Systemic Desensitization (SD), two studies evaluated Penn Resiliency Program for Children and Adolescents (PRP-CA), two studies evaluated Coping with Depression (CWD), three studies evaluated Cognitive Behavior Therapy (CBT), four studies evaluated Structured Learning Therapy (SLT), and nine studies evaluated Social Skills Training (SST). To broadly describe the focus of these programs, 10 programs provided instruction in positive skill development more holistically (e.g., self-control, assertiveness, anger control, and social skills) and were mostly for students with assorted or multiple problems, 11 programs provided more focused skills instruction to reduce emotional distress (e.g., anxiety, depressive symptoms, and shyness), and 19 programs provided more focused skills instruction to reduce behavioral problems. Programs for students with increased anxiety/depressive symptoms as well as programs for students with increased anger/aggression both provided explicit instruction in self-awareness and self-monitoring. However, most programs for students with increased anxiety/depressive symptoms also provided explicit instruction in relationship skills, while most programs for students with increased anger/aggression also provided explicit instruction in conflict resolution and problem-solving skills. It is important to acknowledge the wide variety of programs available for this population as well as the vastly positive impacts overall. Specifically, over 90% of the ES presented in [Table 1](#) are

Table 1. Identification of Indicated SEL Programs Included in the Current Study.

SEL Program	Age of Participants	Outcome Measures (Effect Sizes)	Sample Studies Evaluating Effectiveness of the SEL
Moral reasoning development intervention	High school students	SEL skills (ES = 1.55) Conduct problems (ES = 1.09) Academic performance (ES = .68)	Arbuthnot and Gordon (1986)
Cognitive Behavior Therapy (CBT)	Middle school students	Emotional distress (ES = -.31) Positive social behavior (ES = -.77)	Asarnow, Scott, and Mintz (2002)
Social Skills Training (SST)	Middle school students	Attitudes (ES = .65) Positive social behavior (ES = .65)	Bienert and Schneider (1995)
Rational Emotive Behavior Therapy (REBT)	High school students	Conduct problems (ES = .65) Emotional distress (ES = .65) Conduct problems (ES = 2.00) Academic performance (ES = 2.43)	Block (1978)
Cognitive Behavior Therapy (CBT)	Elementary and middle school students	Conduct problems (ES = .20) Emotional distress (ES = .93) Attitudes (ES = 1.21)	Dadds Spence, Holland, Barrett, and Laurens (1997)
Cognitive Relaxation Coping Skills (CRCS) training	Middle school students	Conduct problems (ES = 1.27) Emotional distress (ES = .52) Attitudes (ES = .60)	Deffenbacher, Lynch, Oetting, and Kemper (1996)
Social Skills Training (SST)	Middle school students	Conduct problems (ES = 1.17) Emotional distress (ES = .67) Conduct problems (ES = .01)	Deffenbacher et al. (1996)
Adolescent Transitions Program (ATP)	Middle school students		Dishion and Andrews (1995)
Adolescent Transitions Program (ATP) with parent involvement	Middle school students	Conduct problems (ES = .32)	Dishion and Andrews (1995)

Table 1. (Continued)

SEL Program	Age of Participants	Outcome Measures (Effect Sizes)	Sample Studies Evaluating Effectiveness of the SEL
Interpersonal Relations Class (IRC)/Personal Growth Class	High school students	Attitudes (ES = .31) Academic performance (ES = .33)	Eggert, Thompson, Herting, Nicholas, and Dicker (1994)
Making Life Choices Program (MLCP)	High school students	Attitudes (ES = .44) Positive social behavior (ES = .48)	Ferrer-Wreder et al. (2002)
Social Skills Training (SST) tailored for urban, suburban, and rural populations	Middle school students	Conduct problems (ES = .10) Academic performance (ES = .20)	Filipczak, Archer, and Friedman (1980)
Social Skills Training (SST) tailored for urban, suburban, and rural populations	Middle school students	Conduct problems (ES = .00) Academic performance (ES = .45)	Filipczak, Archer, and Friedman (1980)
Social Skills Training (SST) tailored for urban, suburban, and rural populations	Middle school students	Conduct problems (ES = .00) Academic performance (ES = .38)	Filipczak, Archer, and Friedman (1980)
Social Skills Training (SST) tailored for urban, suburban, and rural populations	Middle school students	Conduct problems (ES = .25) Academic performance (ES = .34)	Filipczak, Archer, and Friedman (1980)
Strong Families and Making Choices Programs	Elementary and middle school students	Positive social behavior (ES = .28) Conduct problems (ES = .15)	Fraser, Day, Galinsky, Hodges, and Smokowski (2004)
Penn Resiliency Program for Children and Adolescents (PRP-CA)	Middle school students	Attitudes (ES = 1.36) Positive social behavior (ES = .59)	Gallegos (1985)
Penn Resiliency Program for Children and Adolescents (PRP-CA) with family involvement	Middle school students	Emotional distress (ES = .26) Attitudes (ES = .62) Positive social behavior (ES = .03) Emotional distress (ES = .72)	Gallegos (1985)

Rational Emotive Behavior Therapy (REBT)	High school students	Attitudes (ES = .00) Conduct problems (ES = .00) Emotional distress (ES = .00)	Gonzalez (1988)
Social skills training (SST) life skills training	Middle school students	Attitudes (ES = .14) Conduct problems (ES = .53) Emotional distress (ES = .22) Academic performance (ES = .15)	Greene and Ollendick (1993)
Structured Learning Therapy (SLT)	Middle school students	Positive social behavior (ES = .68)	Greenleaf (1982)
Positive Adolescents Choices Training (PACT)	Middle school students	Positive social behavior (ES = .66)	Hammond and Yung (1991)
Cognitive Behavior Modification (CBM)	Elementary and middle school students	Conduct problems (ES = 1.96) Emotional distress (ES = .91)	Harris and Brown (1982)
Violence Prevention Project	High school students	Conduct problems (ES = .48)	Hausman, Pierce, and Briggs (1996)
Progressive Relaxation (PR)	Middle and high grade students	Emotional distress (ES = .57)	Hiebert, Kirby, and Jaknavorian (1989)
Attributional intervention Assertion training	Middle school students Middle and high school students	Conduct problems (ES = 1.13) Positive social behavior (ES = .72)	Hudley and Graham (1993) Huey and Rank (1984)
Penn Prevention Program (PPP)	Middle school students	Conduct problems (ES = .48) Attitudes (ES = -.08)	Jaycox, Reivich, Gillham, and Seligman (1994)
Systematic desensitization (SD)	Middle school students	Conduct problems (ES = .30) Emotional distress (ES = .27) Emotional distress (ES = 1.42)	Johnson, Tyler, Thompson, and Jones (1971)
Coping with Depression (CWD)	Middle school students	Attitudes (ES = 1.18) Emotional distress (ES = 2.05)	Kahn, Kehle, Jenson, and Clark (1990)
Relaxation and self-awareness techniques	Middle school students	Attitudes (ES = .74) Emotional distress (ES = .91)	Kahn, Kehle, Jenson, and Clark (1990)

Table 1. (Continued)

SEL Program	Age of Participants	Outcome Measures (Effect Sizes)	Sample Studies Evaluating Effectiveness of the SEL
Stress Inoculation Training (SIT)	High school students	Attitudes (ES = .72) Emotional distress (ES = .82) Academic performance (ES = .36)	Kiselica, Baker, Thomas, and Reedy (1994)
Assertion training	High school students	Positive social behavior (ES = 1.23)	Lee, Hallberg, and Hassard (1979)
Coping with Depression (CWD)	Middle school students	Conduct problems (ES = .71) Skills (ES = .60)	Lewinsohn and Clarke (1984)
Hero/heroine modality class designed to foster ethnic identity, self-concept, and adaptive coping behavior	Middle and high school students	Emotional distress (ES = -.08) Attitudes (ES = .55)	Malgady, Rogler, and Costantino (1990)
Systematic desensitization (SD)	Middle school students	Emotional distress (ES = .39)	
		Emotional distress (ES = .77) Academic performance (ES = .77)	Muller and Madsen (1970)
Structured Learning Therapy (SLT) taught by school-based personnel	High school students	Positive social behavior (ES = .68)	Pentz (1980)
Structured Learning Therapy (SLT) taught by peers	High school students	Positive social behavior (ES = .68)	Pentz (1980)
Structured Learning Therapy (SLT) taught by nonschool-based personnel	High school students	Positive social behavior (ES = .65)	Pentz (1980)
LISA-T cognitive-behavioral approach	Middle school students	Attitudes (ES = -.44) Emotional distress (ES = .10)	Possel, Horn, Goren, and Hautzinger (2004)

Counselors CARE (C-CARE) and Coping and Support Training (CAST)	High school students	Attitudes (ES = .37) Positive social behavior (ES = .18) Conduct problems (ES = .51) Emotional distress (ES = .64) Attitudes (ES = -.22) Emotional distress (ES = 1.92) Conduct problems (ES = .22) Emotional distress (ES = .33) Emotional distress (ES = .11) Attitudes (ES = 1.43) Emotional distress (ES = 1.91) Attitudes (ES = .18) Emotional distress (ES = 1.30) Attitudes (ES = .22) Positive social behavior (ES = .36) Emotional distress (ES = .34) Skills (ES = .25) Positive social behavior (ES = .30) Conduct problems (ES = .27) Attitudes (ES = .34) Conduct problems (ES = .73) Academic performance (ES = .50) Attitudes (ES = .21) Positive social behavior (ES = .72) Attitudes (ES = -.01) Emotional distress (ES = 1.15) Attitudes (ES = .37) Emotional distress (ES = .33)	Randell, Eggert, and Pike (2001) Reynolds and Coats (1986) Roberts, Kane, Thomson, Bishop, and Hart (2003) Silbert and Berry (1991) Stark, Reynolds, and Kaslow (1987) Stark, Reynolds, and Kaslow (1987) Thompson, Eggert, Randell, and Pike (2001) Tiffen and Spence (1986) Tobias and Myrick (1999) Verduyn, Lord, and Forrest (1990) Wilson and Rotter (1986) Yu and Seligman (2002)
Cognitive Behavior Therapy (CBT)	High school students		
Penn Prevention Program (PPP)	High school students		
Suicide prevention curriculum	Middle school students		
Self-Control Therapy	High school students		
	Middle school students		
Behavioral Problem-Solving Therapy	Middle school students		
Counselors CARE (C-CARE) and Coping and Support Training (CAST)	High school students		
Social Skills Training (SST)	Elementary and middle school students		
Peer facilitator intervention	Middle school students		
Social Skills Training (SST)	Middle school students		
Anxiety management training	Middle school students		
Penn Optimism Program (POP)	Elementary and middle school students		

positive. Out of the 129 ES in total, there were only 5 negative ES (3.9%) and 6 zero ES (4.7%).

OVERVIEW OF SEL PROGRAMS SERVING ADOLESCENTS PRESENTING EARLY SIGNS OF PROBLEMS

The majority of included studies (80.8%) used a randomized control design. Perhaps not surprising given the usual small group format of these programs, the average sample size was small ($M = 83.4$, median = 57.0, range of 13–509 participants). More programs were implemented in middle schools (67.3%) than in high schools (32.7%). As seen in Table 2, about half (44.3%) of the studies included children with multiple categories of problems or with assorted problems while the remaining studies were more specialized toward children with one category of problems (e.g., internalizing, behavioral, or learning problems). About half (46.2%) of the studies used a single-measure screening process to identify children for the program, while the remaining studies used a variety of techniques to identify students (e.g., adult referrals, multiple screening processes). A quarter of the studies ($n = 11$) included multiple components (which involved some form of parental involvement), whereas the remaining studies only included direct student instruction. Overall, programs were of relatively short duration, with an average length of 12 weeks (range of 2–36 weeks). The majority of programs used small group approaches (92.3%), with the remaining studies implementing class-wide interventions that all students received. Programs were most commonly delivered by nonschool personnel (48.1%), followed by school personnel (26.9%), and sometimes a combination of the two (9.6%). More than half (61.5%) of the studies monitored implementation and reported no problems. The majority of studies included SAFE practices (90.4%).

The descriptive characteristics of this sample of studies provide some information about the current state of research for indicated SEL programming for adolescents. Many of the characteristics of these studies are promising (e.g., the majority of the programs used randomization to assign students to conditions, monitored implementation and did not report problems, and met SAFE criteria). Of some concern, however, is the limited number of studies that reported results for students with different disabilities separately (i.e., reported effects separately for students with LD versus students with BD). Given the short-term nature of many of the programs

Table 2. Descriptive Characteristics of 52 School-Based Studies with Outcomes at Post in the Indicated Review.

Study and Participant Features	<i>N</i>	%
Presenting problem(s) of child in study		
Internalizing problems	17	32.7
Behavioral problems	8	15.4
Learning problems	2	3.8
Problems with forming peer relationships	1	1.9
Problems from multiple categories	11	21.2
Children with assorted problems	12	23.1
How children were identified for program		
Adult referral	8	15.4
Peer nomination	3	5.8
School records	4	7.7
Single screening measure	24	46.2
Multiple screening measures	8	15.4
Multiple gating screening method	4	7.7
Intervention component		
Single component intervention	41	78.8
Multiple component intervention, including parent training	11	22.2
Duration		
Less than 3 months	40	78.4
3–6 months	7	13.7
6 months–1 year	4	7.8
Intervention format		
Small group intervention	48	92.3
Class-wide intervention that all children receive	4	7.7
Program deliverer		
School personnel	14	26.9
Peer led	2	3.8
Nonschool personnel	25	48.1
Combination of both	5	9.6
Program implementation status		
No problems noted	32	61.5
Problems noted	5	9.6
Not monitored	15	28.8
Included SAFE practices		
Yes	47	90.4
No	2	3.8

Note: *Ns* do not always add up to 52 studies because of missing information.

and the body of evidence that suggests programming must be of sufficient length and intensity to effect long-term change (Elbertson et al., 2010), we also recommend that researchers consider developing longer programs.

PROCEDURES USED TO CALCULATE EFFECT SIZES

The standardized mean difference or ES is usually calculated by subtracting the control group mean from the intervention group mean at post and dividing the remainder by the pooled standard deviation of the two groups (Hedges & Olkin, 1985; Lipsey & Wilson, 2001). Typically, one ES per study was calculated for each outcome; therefore, multiple ES per outcome were averaged (e.g., two outcomes of emotional distress would be averaged). Higher ES indicate a greater improvement for program students than for comparison students. Means are statistically significant when their confidence intervals reported in Table 3 do not include zero. The same procedures were followed to calculate ES for this study as in the other three reviews so we refer readers to those reviews for a more technical description.

**FINDINGS OF SEL SERVING ADOLESCENTS
PRESENTING EARLY SIGNS OF PROBLEMS**

The SEL programs included in this review were designed to meet the needs of students presenting a range of social, emotional, and behavioral problems, and were associated with a range of benefits including improved skill

Table 3. Student Outcomes Obtained at Post in 52 Studies in the Indicated Review.

Outcome Category	Mean Effect Size	Confidence Interval	Number of Studies
SEL skills	.74*	.27–1.21	3 ^a
Attitudes	.37*	.21–.53	23
Positive social behavior	.46*	.26–.66	18
Conduct problems	.47*	.33–.62	27
Emotional distress	.58*	.43–.73	28
Academic performance	.53*	.31–.76	11

^aBecause of the small sample size, caution is suggested in interpreting these effects.

*Denotes mean effect is significantly different from zero at the .05 level.

development, attitudes, positive social behavior, and academic performance as well as reduced conduct problems and emotional distress. As seen in [Table 3](#), most findings for the middle and high school indicated programs were within .05 of the ES reported for the K-8 indicated programs (range from .37 for positive social behavior to .74 for social emotional skills). For example, the ES for conduct problems was the same for middle and high school indicated programs and for elementary and middle school indicated programs ($ES = .47$). The two outcomes for which there was a larger difference between the two reviews were for emotional distress (ES of .58 for middle and high school indicated programs and .50 for elementary and middle school indicated programs) and academic performance (ES of .53 for middle and high school indicated programs and .43 for elementary and middle school indicated programs). Of note, the ES for positive social behavior ($ES = .46$) was more than twice the magnitude of the ES found for social skills in another review of behavioral interventions ([Quinn, Kavale, Mathur, Rutherford, & Forness, 1999](#); i.e., .46 versus .20).

DESCRIPTION OF THE PROGRAMS ASSOCIATED WITH THE STRONGEST EFFECTS

We turn now to highlight three of the highly effective programs in this set of studies that included detailed descriptions of the SEL interventions and illustrate a range of different SEL approaches. By “highly effective,” we mean the studies that produced large positive ES on the previously described six outcomes: SEL skills, attitudes, positive social behavior, academic performance, conduct problems, and emotional distress (see [Table 1](#)). The first program, CWD, designed for middle school students exhibiting depressive symptoms followed a cognitive-behavioral, psychoeducational treatment paradigm ([Lewinsohn & Clarke, 1984](#)) with a few modifications including the introduction of communication, negotiation, and problem-solving skills and a parent training component ([Kahn & Kehle, 1990](#)). CWD included 12 one-hour sessions followed by one-month and six-month booster sessions delivered in small groups (average of 5 students in each). Sessions involved instruction designed to improve students’ ability to correctly identify and label emotions, self-change skills including how to set goals and reinforce positive thoughts, as well as SST in communication and negotiation/problem-solving skills. Participation in the program was

associated with gains in students' attitudes ($ES = 1.18$) and reductions in emotional distress ($ES = 2.05$) as compared to comparison students.

The second program, Cognitive Relaxation Coping Skills (CRCS), designed for middle school students experiencing high levels of anger incorporated cognitive relaxation coping skills instruction (Deffenbacher et al., 1996). CRCS included nine 45-minute sessions delivered in small groups (average of 12–14 students in each) during regular school hours. The first few sessions focused on helping students identify different anger-provoking situations and learn relaxation and coping skills that can be used when handling these types of situations. Students were given ample opportunities to practice these skills as well as homework assignments to reinforce these skills outside of the curriculum. The final few sessions focused on how emotions and cognitive thoughts influence anger and how correctly labeling emotions and thoughts that arise in anger-provoking situations can help to identify the appropriate coping skills to use. Participation in the program was associated with gains in students' self-esteem ($ES = 1.21$), reduction in anxiety ($ES = .52$), and decrease of conduct problems ($ES = 1.27$) as compared to comparison students.

The third program designed for high school students experiencing high levels of anxiety paralleled Meichenbaum's (1985) Stress Inoculation Training (SIT) model and included an assertiveness training component (Kiselica et al., 1994). This program included eight 50-minute sessions delivered in small groups (average of six students in each) by two professional counselors. During the first five sessions, the counselors introduced relaxation and coping strategies designed to help students recognize and manage their anxiety as well as cognitive restructuring techniques designed to help students correctly label their emotions and learn self-management skills. During the remaining three sessions, assertive skills designed to increase social awareness and improve peer relationships were introduced and practiced in role-play situations. Participation in the program was associated with reductions in students' anxiety ($ES = .82$) and stress-related symptoms ($ES = .72$), as well as gains in grade point average ($ES = .36$) relative to comparison students.

Overall, effective SEL programs for students with LD and BD involved explicit skills instruction in correctly labeling and identifying emotions, self-management skills designed for students to learn how to control their anger, relationship skills such as those covered in assertiveness training, and problem-solving skills to help students generate alternative solutions when faced with anxiety-inducing or anger-provoking situations.

DESCRIPTION OF PROVEN SEL UNIVERSAL PROGRAMS

Although the indicated review of SEL programs includes approaches specific to students with LD or BD, there are a number of effective universal SEL programs relevant for all students in a school that we also wanted to highlight. Unfortunately, only a few universal SEL interventions have analyzed effects separately for students with LD or BD; however, the results of these analyses are promising. For example, the FAST Track programs and the Multisite Violence Prevention Project both found differentially positive effects for students manifesting aggressive behavior ([Conduct Problems Prevention Research Group, 2010](#); [Multisite Violence Prevention Project, 2009](#)).

In the following text, we describe three universal SEL programs with a compelling body of research to support their effectiveness⁷ although less evidence is available at the high school level. First, Lions Quest programs are based on social development, social influence, and social cognitive approaches that are designed to teach students cognitive-behavioral skills (e.g., self-refusal, communication, goal-setting skills) to build social-emotional competencies, and to increase knowledge and consequences of drug use and bullying ([Eisen, Zellman, & Murray, 2003](#)). The middle school curriculum of Lions Quest (Skills for Adolescence) consists of 102 sessions and the high school curriculum of Lions Quest (Skills for Action) consists of 33 sessions on leadership and service learning in the curriculum manual, 166 social and emotional skills in the Skills Bank, and 15 sessions in the drug prevention supplement. While the programs are designed to be offered as year-long courses that are taught at least one day per week, studies have evaluated shorter versions that meet program goals ([Rain & Brehm Consulting Group, 2006](#)). Both middle and high school versions can be implemented into existing subject areas or taught as an evidence-based, stand-alone nine-week course by trained classroom teachers. In addition, Lions Quest programs work to reinforce essential academic, social, and emotional skills throughout the school day, in the home setting, and in the community through guides and materials on how to improve school climate and how to engage families and community members in activities that reinforce lesson content. Service learning is included in both programs, which has been shown to reinforce academic, social, and emotional skills in all students and to be especially effective for students with a higher tendency toward dropping out of school ([Muscott, 2000](#)).

The RULER Approach to Social and Emotional Learning (“RULER”) (Brackett et al., 2009; Rivers & Brackett, 2011) involves a series of evidence-based SEL programs anchored in the achievement model of emotional literacy (Brackett, Rivers, Reyes, & Salovey, 2012). This model posits that teaching children and adults how to Recognize, Understand, Label, Express, and Regulate emotions (RULER) leads to enhanced personal, social, and academic outcomes for students and all adults involved in their education (Brackett, Rivers, Reyes, & Salovey, 2010). Both adults and children learn specific “anchor tools” that help to develop the RULER skills, create a positive school climate, and promote school success. For example, the Mood Meter teaches self- and social-awareness, by helping all stakeholders develop a sophisticated emotion vocabulary. Another key component of RULER is the Feeling Words Curriculum, which works to integrate seamlessly into standard classroom curricula in language arts, social studies, and other subjects. This curriculum provides opportunities for students to regularly and consistently write, read, speak, listen, and think about emotions in the context of learning. In this five-step process, teachers first introduce a “feeling word” (e.g., discouraged), students then connect this emotion to content studied across the curriculum (e.g., a poem), involve their family members in structured conversations about this emotion, express their understanding of the emotion using visual representations, and engage in a strategy-building session to brainstorm ways to reach a regulation goal (e.g., reduce feelings of being discouraged). This curriculum is only one part of the overarching district-wide approach that involves a long-term implementation process, including training for school leaders, teachers and support staff, and families (Brackett et al., 2009).

A third program, the 4Rs (Reading, Writing, Respect, and Resolution), originally developed for elementary schools by the Morningside Center for Teaching Social Responsibility, has recently been adapted for middle school settings. The 4Rs has been evaluated within the context of a large randomized control trial (Brown, Jones, LaRusso, & Aber, 2010; Jones, Brown, & Aber, 2011). The 4Rs links the teaching of social and emotional competencies and literacy development by using high-quality children’s literature as a foundation for teaching students anger management, assertiveness, cooperation, empathy, and problem-solving skills. Primary program components include a 21- to 35-lesson literacy-based curriculum and 25 hours of teacher training followed by ongoing coaching. Each of the seven units focuses on a specific grade-appropriate book and begins with a group discussion of primary themes and content. Students then practice

three to five SEL skills within the context of the larger book discussion. The lessons, which involve opportunities for skill development, effective conflict resolution, and community building, are laid out for teachers in a standardized, grade-specific teaching guide.

AREAS FOR FUTURE RESEARCH

We outline six directions for future research in adolescent development for students with LD and BD as well as SEL programs and practices for adolescents. First, although there is a considerable amount of work about development for students with LD and BD during middle school, there is less research on this population in high school or postsecondary settings. Of particular need is research on factors promoting successful transition to postsecondary settings and the supports that help these students to persist and graduate from postsecondary settings. Second, we encourage researchers to explore the heterogeneity that exists among students with LD and students with BD from a resiliency framework (Jessor, 1991; Margalit, 1993). For example, Cowen and Work (1988) found college students with LD had developed coping strategies to compensate for their processing deficits. Because only a small percentage of students with LD attend college, it would be fruitful to study this subgroup to understand what competencies they possess that have helped them to succeed in this setting. Third, although we described findings from meta-analytic reviews of SEL programs both for students with LD and BD and for all students in general education settings, there is a need for research on the effectiveness of other SEL approaches that did not fit into the scope of these reviews. For example, there are some encouraging findings about the use of advisory periods which work to promote positive student–teacher relationships and increase student bonding and connectedness (Mac Iver, 1990). Another promising area to investigate involves incorporating experiential learning or service learning into the school day, which is particularly relevant for high school and college settings (Celio, Durlak, & Dymnicki, 2011; Muscott, 2000) and could be effective in helping students with LD and BD to develop more positive relationships with others. Fourth, we encourage more studies to incorporate measures of mediators or other mechanisms to confirm or disprove the theoretical assumptions about how SEL programs are leading to observed changes for students with LD and BD. Given the findings on the differences in adolescent development for this population (e.g., lower self-concept), it seems particularly important to

identify malleable factors that SEL programs can attempt to target and improve. Fifth, the NLTS documents different outcomes for students based on race, ethnicity and gender as well as language and economic status. Future research should address these factors for this population. Finally, when evaluating the impact of indicated and universal SEL approaches for this special population, differential analyses should be conducted to understand the effects of the SEL program for students with LD and BD as well as those with co-occurring LD and BD. This is particularly true for universal SEL approaches that could have additional benefits for these students but have not been extensively empirically tested in the literature. Research indicates many benefits of incorporating SEL into secondary education settings through evidence-based programs and practice that could help students with LD and BD to develop the competencies that can support healthy adolescent development and adult functioning.

NOTES

1. Frequently, we describe findings for students with LD versus BD, as there is a much larger body of research on this population. However, researchers have demonstrated a large overlap of these populations (between 24% and 75% of students experience both types of problems; [Fristad, Topolosky, Weller, & Weller, 1992](#); [McConaughy, Mattison, & Peterson, 1994](#)).

2. Efforts are underway to understand the efficacy of the RtI model applied at the secondary level ([National Center on Response to Intervention, 2011](#)), given most research evidence speaks to its effectiveness in elementary school settings.

3. While the study reports an ES of .91 for emotional distress, given the small number of outcomes included ($n = 5$), we do not report this as the upper range.

4. Programs were only coded as having no implementation problems if implementation was monitored and authors reported no problems or that the program was delivered as intended.

5. Sequenced refers to whether the program uses a connected and coordinated set of activities to achieve their objectives that build upon skill development; active refers to the program including active versus didactic forms of learning to help youth learn new skills; focused refers to a program having at least one component devoted to developing personal or social skills, and explicit refers to the program targeting specific SEL skills rather than targeting skill development in a more general way.

6. Studies eligible for inclusion in the indicated review had to be written in English, appear by December 2007, emphasize the development of one or more SEL competencies, target students between the ages of 5 and 13 (i.e., grades K-8), include a control group, and report information sufficient for calculating effect sizes (usually the mean outcome of a treatment group and that of a control group post-intervention and the standard deviation of each).

7. The middle school version of Lions Quest is identified as a SAMSHA model program and the middle and high school versions are recognized by the Character Education Partnership as “school-based programs with scientifically demonstrated student outcomes,” and as “Highly Effective” service-learning programs by the National Youth Leadership Council. Emotional Literacy in the Classroom was described as a model SEL program (Elbertson et al., 2010) and has found a range of positive effects such as 11% gains in academic grades and 19% gains in adaptability for middle school students (Brackett et al., 2012). The elementary version of 4Rs was associated with improvements across several domains including hostile attributional bias, interpersonal negotiation strategies, attention skills, depression, attendance, and aggressive and socially competent behavior (Brown et al., 2010; Jones et al., 2011).

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APPENDIX A: BIBLIOGRAPHY OF REVIEWED INDICATED STUDIES

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BEYOND GRADE RETENTION AND SOCIAL PROMOTION: TOWARD SUPPORTING STUDENTS WITH LEARNING AND BEHAVIORAL DISABILITIES

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ABSTRACT

During the past decade, amid the current context emphasizing educational standards and accountability, the practice of grade retention has increased. The call for an end to social promotion has generated a variety of recommendations and legislation regarding promotion policies. This context has served as a catalyst for numerous debates regarding the use of grade retention and social promotion. In an era emphasizing evidence-based interventions, research indicates that neither grade retention nor social promotion is a successful strategy for improving educational success. Meta-analyses of studies during the past 100 years reveal deleterious outcomes associated with grade retention. Moreover, research also reveals prevention and intervention strategies that are likely to promote the social or academic competence of students at-risk of poor

Classroom Behavior, Contexts, and Interventions

Advances in Learning and Behavioral Disabilities, Volume 25, 167–190

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ISSN: 0735-004X/doi:10.1108/S0735-004X(2012)0000025010

school performance. It is essential that educational professionals are familiar with the research when implementing interventions to promote student success. This chapter provides a brief synthesis of contemporary concerns and empirical studies examining student outcomes associated with grade retention, and also describes alternatives to grade retention. Particular consideration is given to implications for students with learning and behavioral disabilities, and the importance of focusing empirically supported strategies to promote student social and cognitive competence. Overall, educational professionals are encouraged to incorporate evidence-based programs and policies to facilitate the success of all students.

In the United States, the practice of grade retention as an intervention for students is a controversial topic that has been examined since the early 1900s. Grade retention is the practice where a student who has been in a specific grade level for a full school year is required to remain at that level for a subsequent school year (Jackson, 1975; Jimerson, 2001). The following chapter provides a brief synthesis of contemporary concerns and empirical studies examining student outcomes associated with grade retention and also describes alternatives to grade retention. Particular consideration is given to implications for students with learning and behavioral disabilities, and the importance of focusing empirically supported strategies to promote student social and cognitive competence.

With the No Child Left Behind federal legislation passed in 2001, U.S. states increasingly use performance on tests to evaluate schools and make decisions about grade promotion, leading to a rise in the utilization of grade retention since the early 1990s (Bali, Anagnostopoulos, & Roberts, 2005; Frederick & Hauser, 2008; Hauser, Frederick, & Andrews, 2007; Owings & Magliaro, 1998; Roderick & Nagaoka, 2005; Wu, West, & Hughes, 2008). Although grade retention is increasingly employed, recent research has indicated that the use of test-based retention policies may violate professional standards for fair and appropriate test use (Penfield, 2010). Grade promotion is not always tied to standardized assessments in other countries, yet retention is used at varying rates in countries around the world (Guèvremont, Roos, & Brownell, 2007; Uysal, 2010). Although individual differences exist among retained students, factors that are often associated with an increased risk of retention include living in poverty, frequent changes in school or chronic absenteeism, reading and behavior problems,

difficulties with peer relationships, and social immaturity (Jimerson & Skokut, 2008; Tomchin & Impara, 1992).

Although few studies focused on outcomes associated with grade retention have specifically examined students with learning and behavioral disabilities, some studies reveal that students who were retained in early grades may subsequently receive special education services, in some instances being identified with a learning or behavioral disability later in their educational experience (Hauser et al., 2007; Temple, Reynolds, Arteaga, 2010). Findings from the Chicago Longitudinal Study (CLS, 2005) indicate that in the Chicago public schools, students with learning disabilities “were much more likely to be addressed by the school practice of grade retention” (Temple et al., 2010, p. 720) than placement in special education. Due to lack of funding and resources, impoverished schools are frequently unable to provide special education services to all children in need. As a result, the CLS study reveals that some schools may reserve special education services for students with the most apparent learning problems and utilize grade retention as an alternative method of addressing the needs of students with learning disabilities, resulting in an underidentification of children qualifying for special education placement and the provision of inappropriate services for children with learning difficulties (Temple et al., 2010). Although the pervasiveness of such a practice is unclear, special education practitioners, professionals, and scholars recognize the risk it poses for students with learning disabilities.

Because of potential short- and long-term effects that grade retention can have on student achievement and socio-emotional outcomes, it remains a controversial topic in research and practice. Those who advocate its use claim that it enables students making inadequate academic progress to catch up, supports students who are emotionally immature, and increases academic homogeneity within the classroom (Ehmke, Drechsel, & Carstensen, 2010; Lorence, 2006). On the other hand, those opposed to grade retention emphasize the deleterious outcomes (e.g., achievement, motivation to learn, self-concept) revealed in multiple meta-analyses (Holmes & Matthews, 1984; Jimerson, 2001). Researchers also indicate that although educators may choose to retain students because it is a fairly easy approach to implement, thorough assessment is not always conducted to determine whether students should repeat the entire grade curriculum or if they would be unable to perform specific academic and cognitive activities if promoted to the following grade level (Hong & Yu, 2007). The following chapter reviews key articles and meta-analyses that inform this debate, offers a brief summary of existing critiques of grade retention research,

discusses alternatives to retention, including programs to promote social and academic development, and provides recommendations for future research and practice.

RESEARCH EXAMINING THE EFFECTIVENESS OF GRADE RETENTION

Too often, anecdotal evidence, clinical experience, and folklore overshadow the results of empirical research when discussing the merits and limitations of grade retention. It is essential to consider the results of empirical research examining its effectiveness. Research indicates that neither grade retention nor social promotion alone is an effective strategy for improving educational success. Moreover, as discussed in the following sections, research demonstrates that grade retention is not effective for addressing academic or social/emotional concerns, is associated with negative long-term consequences, and is perceived negatively by students.

Research demonstrates that initial academic improvements may occur during the year the student is retained. However, numerous studies reveal that achievement gains decline within two to three years of retention (Jacob & Lefgren, 2004; Roderick & Nagaoka, 2005). This means that over time, children who were retained either did not show higher achievement relative to their low-achieving promoted peers (Beebe-Frankenberger, Bocian, MacMillan, & Gresham, 2004; Hong & Raudenbush, 2005; Jimerson, Carlson, Robert, Egeland, & Sroufe, 1997; Silbergliitt, Appleton, Burns, & Jimerson, 2006) or performed worse than similar groups of children who were not retained (Hong & Yu, 2007; McCoy & Reynolds, 1999; Reynolds, 1992). Research has found that for most students, grade retention has a negative impact on all areas of academic achievement (e.g., reading, math, oral and written language) and social and emotional adjustment (e.g., peer relationships, self-esteem, problem behaviors, attendance; Jimerson et al., 1997; Jimerson & Ferguson, 2007; Nagin, Pagani, Tremblay, & Vitaro, 2003).

There is evidence of negative effects of retention on long-term school achievement and adjustment. Research demonstrates that during adolescence, previously experiencing grade retention during elementary school is associated with health-compromising behaviors (e.g., emotional distress, low self-esteem, poor peer relations, cigarette use, alcohol and drug abuse, early onset of sexual activity, suicidal intentions, violent behaviors). Furthermore, students who were retained are much more likely to drop

out of school (Guèvremont et al., 2007; Jimerson, 1999; Temple, Reynolds, & Ou, 2004). A recent systematic review of research exploring dropping out of high school indicates that grade retention is one of the single most powerful predictors of high school dropout, with retained students being 5 to 11 times more likely to dropout (Jimerson, Anderson, & Whipple, 2002; Rumberger, 1987, 1995). Moreover, based on data in the CLS (2005), Ou and Reynolds (2010) found that grade retention is associated with lower rates of participation in postsecondary education, above and beyond the effects of family demographics and early school achievement. Finally, grade retention is perceived negatively by students. Sixth-grade students have rated grade retention as one of the *most* stressful life events (Anderson, Jimerson, & Whipple, 2005).

Four seminal reviews provide historical perspective during the past century (1900–1999). The following section provides a brief synthesis of the results from published meta-analyses of research examining outcomes associated with grade retention. Meta-analysis is based on the concept of effect size (ES). Calculation of ESs allows researchers to systematically pool results across studies. Thus, results from multiple studies may be included to examine the relative benefit of an educational intervention. Meta-analysis statistical procedures provide a measure of the difference between two groups that is expressed in quantitative units that are comparable across studies. Analyses resulting in a negative ES suggest that an intervention (retention in this case) has a negative or deleterious effect relative to the comparison groups of promoted students. In the following synthesis, quotations from the original authors of the studies are used to convey the original statements without interpretation.

Jackson (1975) Systematic Review

Jackson (1975) provided one of the first systematic reviews of research examining the efficacy of grade retention. This review included 30 studies published between 1911 and 1973. “The purpose of this review was to determine, whether students who are doing poor academic work or who manifest emotional or social maladjustment in school are generally likely to benefit more from being retained in a grade than from being promoted to the next one” (p. 615). Jackson declared, “One general conclusion about the effects of grade retention relative to grade promotion is clearly warranted by all the results taken as a whole: There is no reliable body of evidence to indicate that grade retention is more beneficial than grade

promotion for students with serious academic or adjustment difficulties. Thus, those educators who retain pupils in a grade do so without valid research evidence to indicate that such treatment will provide greater benefits to students with academic or adjustment difficulties than will promotion to the next grade” (p. 627).

Holmes and Matthews (1984) Meta-Analysis

Holmes and Matthews (1984) completed a meta-analysis exploring the effects of retention on elementary and junior high school students, including both achievement and socio-emotional outcomes. This 1984 meta-analysis included 44 studies published between 1929 and 1981 (including 4,208 retained students and 6,924 regularly promoted students). Of these 44 studies, 18 included comparison samples matched on various combinations of intelligence (IQ), achievement tests, socioeconomic status (SES), gender, grades, and other dimensions. The Holmes and Matthews meta-analysis indicated statistically significant differences favoring the promoted students in each area of comparison (e.g., academic achievement, language arts, reading, mathematics, work study skills, social studies, personal adjustment, social adjustment, emotional adjustment, behavior, self-concept, attitude toward school, attendance). The results of the meta-analysis indicated that overall the retained students had lower academic achievement, poorer personal adjustment, lower self-concept, and held school in less favor than promoted students. Based on the results of the meta-analysis, Holmes and Matthews (1984) concluded, “Those who continue to retain pupils at grade level do so despite cumulative evidence showing that the potential for negative effects consistently outweighs positive outcomes. Because this cumulative research evidence consistently points to negative effects of nonpromotion, the burden of proof legitimately falls on proponents of retention plans to show there is compelling logic indicating success of their plans when so many other plans have failed” (p. 232).

Holmes (1989) Meta-Analysis

During the same decade, Holmes (1989) included 19 additional studies and completed another meta-analysis (using a total of 63 studies published between 1925 and 1989 comparing retained students to promoted students). Of the 63 studies in this review, 25 studies included participants matched on

areas such as IQ, achievement, SES, gender, grade, and other variables. Holmes reported that 54 studies found overall negative effects associated with grade retention, including socio-emotional maladjustment and lower academic achievement. Furthermore, of the nine studies that yielded positive results, the benefits of retention appeared to diminish over time. For example, in these studies students often demonstrated gains during the repeated year and sometimes the following year; however, subsequent comparisons across the years usually demonstrated no significant differences and sometimes favored the comparison group. Based on the results of the meta-analysis of 63 studies, Holmes (1989) concluded, "When only well-matched studies were examined, a greater negative effect was found for retention than in the research literature as a whole. In studies where retained children and promoted controls matched on IQ and prior achievement, repeating a grade had an average negative effect of $-.30$ standard deviations. The weight of empirical evidence argues against grade retention" (p. 28).

Jimerson (2001) Systematic Review and Meta-Analysis

Following a systematic literature search, Jimerson (2001) included 20 articles published between 1990 and 1999, totaling over 1,100 retained students and over 1,500 regularly promoted students. The studies included samples from diverse geographic regions across the United States. One of the key criteria for selection in the meta-analysis was that the study must have included an identifiable comparison group of promoted students. Comparison groups ranged from those with only one matched variable to those with students who were recommended for retention but were not retained and essentially matched on all variables considered (i.e., IQ, academic achievement, socio-emotional adjustment, SES, gender). Eighteen of the 20 studies included two or more matching variables. Across the 20 studies included 45% matched on or controlled for IQ, 65% matched on or controlled for academic achievement, 30% matched on or controlled for socio-emotional adjustment, 75% matched on or controlled for SES, and 70% matched on or controlled for gender. Most studies included only students retained during kindergarten, first, second, and third grades; however, a few included students retained in kindergarten through eighth grade. Most of the studies examined outcomes through seventh grade, whereas five included outcomes during eighth grade and beyond. Of the 20 studies, the authors of 80% of studies reported negative conclusions

regarding the efficacy of grade retention intervention for academic achievement and socio-emotional adjustment.

Results of the meta-analysis indicated that overall, retained students had lower academic outcomes and more maladjusted socio-emotional and behavioral outcomes relative to the comparison group of promoted students. Based on the results of 20 studies published between 1990 and 1999, Jimerson (2001) concluded, “Studies examining the efficacy of early grade retention on academic achievement and socio-emotional adjustment that have been published during the past decade report results that are consistent with the converging evidence and conclusions of research from earlier in the century that fail to demonstrate that grade retention provides greater benefits to students with academic or adjustment difficulties than does promotion to the next grade” (p. 27).

Allen and Colleagues (2009) Meta-Analysis

A recent meta-analytic, multilevel analysis by Allen, Chen, Willson, and Hughes (2009) focused on identifying systematic sources of variability in ESs in studies investigating the effect of retention on academic achievement to assess how the quality of research design moderates these effects. The authors used multilevel modeling to scrutinize characteristics of 207 ESs across 22 studies published between 1990 and 2007 at two levels: the study (between) and individual (within) levels. Notably, the Allen and colleagues meta-analysis evaluated the design quality of the existing recent literature, much of which is reported herein. These authors hypothesized that the negative effects found in previous meta-analyses would be decreased (i.e., show more positive effects) in studies that do a better job of removing the impact of preretention differences on outcomes by controlling for differences through careful selection of the comparison group and through the use of rigorous statistical controls.

The results of Allen and colleagues’ meta-analysis (2009) challenge the widely held negative evaluation of utilizing the school practice of grade retention as an appropriate intervention for low-achieving students. The authors reported that differences in the design quality of studies account for a statistically significant amount of the variability in ESs and concluded that studies that do a better job of removing the effect of preretention differences on achievement yield a less negative picture of the effects of grade retention. Importantly, the authors caution that “these results provide little support for proponents of grade retention” (p. 493) since a finding of

“no significant difference” for retention on achievement calls into question the educational benefits of grade retention policies, particularly when the added financial expense and emotional toil retention exacts on students are taken into account.

The results of these meta-analyses have revealed negative effects associated with grade retention, including lower academic achievement, higher socio-emotional maladjustment, lower self-concept, more negative attitudes toward school, and increased problem behavior. Research further indicates that retained students display more aggressive behaviors as adolescents (Jimerson & Ferguson, 2007) and score significantly higher on the Behavior Problem Index (Byrd, Weitzman, & Auinger, 1997). Students must navigate the interaction of a number of environmental conditions, task demands, and social interactions with peers and adults by employing a variety of age-appropriate learning and self-regulatory strategies to engage successfully in the learning process. In accordance with their age and/or grade level, students are expected to participate in classroom experiences with certain appropriate social and behavioral competencies. For example, research has shown that teachers expect students to listen attentively, follow directions, cooperate with peers, complete school work, and control their emotions. However, students with learning and behavioral disabilities frequently have trouble with the skills necessary to manage these fundamental expectations of appropriate classroom engagement.

Several studies indicate that rather than enhancing struggling students’ social and behavioral competencies, grade retention may actually lead to increases in both externalizing and internalizing behavior that hinder students’ ability to participate appropriately at school. For example, researchers have found that retained students tend to display increases in aggression, oppositional behavior, and externalizing behaviors, with results of studies examining the effects of grade retention on internalizing behavior also indicating negative effects (Pagani, Tremblay, Vitaro, Boulerice, & McDuff, 2001; Pianta, Tietbohl, & Bennett, 1997). Rather than assuaging the anxiety, depression, and withdrawal that disrupts attention, cripples academic performance, and leads to peer avoidance and social rejection, it appears that retaining students likely only makes their problems more acute (Jimerson et al., 1997; McCombs Thomas et al., 1992; Pianta et al., 1997).

A recent preliminary study by Crothers, Schreiber, Schmitt, Bell, Blasik, and Comstock (2010) provided evidence that old-for-grade students, whether due to grade retention or delayed school entry, are significantly more likely to engage in bullying and victim behavior. These authors

hypothesized that grade-retained or delayed-entry students may be more likely to engage in bullying and victim behaviors because they are in reality displaying behavioral and learning disabilities, but are not receiving early identification and appropriate intervention, which may suggest that grade retention is associated with underidentification of children who would otherwise qualify for early intervention services, making peer rejection more likely given the presence of an untreated learning or behavioral problem.

Research conducted outside of the United States has also yielded similar results. Guèvremont et al., 2007 utilized a large sample of students in kindergarten through eighth grade as well as students retained in third grade within a given year in Manitoba, Canada. Results indicated that there were no short-term improvements in standardized test scores for the majority of third-grade students and that ninth-grade students who had been retained were significantly more likely to withdraw from school. Research conducted in Germany (e.g., Ehmke et al., 2010) has also found that there are no academic differences between matched groups that are retained and those promoted with respect to math and science achievement, suggesting that it would be more beneficial to promote students and provide them with additional academic support. Furthermore, a recent large-scale longitudinal study based on a random stratified sample of 122 Flemish primary schools consistently found negative effects on children's academic growth and psychosocial functioning (Goos, Van Damme, Onghena, & Petry, 2010).

Given the various research designs used in grade retention research, researchers have commented upon the inability to make conclusions about the causal effects of grade retention, because random assignment to different treatment conditions is typically needed to assess causality (Allen et al., 2009; Lorence, 2006; Wu, West, & Hughes, 2010). This limitation will be further discussed below when examining the critiques of grade retention research. One of the studies that was able to examine the causal effects of grade retention on different school outcomes (Uysal, 2010) found that grade retention has a worsening effect on student educational achievement, leading to increases in dropout rates and decreased grades in mathematics and German. On the other hand, researchers have been more successful at examining factors that moderate the effect of grade retention on student achievement. These include school setting, peer interactions, teacher effectiveness, grade level, limited English language proficiency, home-school relationships, children's externalizing problems, number of school changes per year, and socioeconomic status (Guèvremont et al., 2007; Hong & Yu, 2007; Wu et al., 2008).

CRITIQUES OF GRADE RETENTION RESEARCH

The primary critique of both early and more recent research involves methodological concerns and a dearth of empirical evidence (Alexander, Entwisle, & Dauber, 2003; Allen et al., 2009; Jackson, 1975; Lorence, 2006; Wu et al., 2010). These researchers indicate that many studies do not use a control group of non-retained students and that a potential decline in performance may instead be due to general changes that exist for any group. They also emphasize that the most effective way to assess the effects of such practices would be to first match students on various factors (e.g., age, SES, sex) and then randomly assign them to different treatment conditions to take into account initial differences in academic achievement, but that such an experimental design does not align with parent and teacher beliefs and school-based practices.

Another critique is the use of group comparison strategies such as same-age or same-grade comparisons (Lorence, 2006), as the specific method of comparison used may bias results. Research using same-grade comparisons has initially supported grade retention with positive effects declining after a few years, and results using same-age comparisons often indicate that promoted students have higher scores than retained students. Lorence also suggests that many sample sizes used in grade retention research are too small to yield sufficient power and valid results, and that they are not always representative of the population (e.g., students from different social, economic, and cultural backgrounds). However, there has been an increased emphasis to address these concerns, particularly with respect to methodological concerns (Uysal, 2010; Wu et al., 2008).

Alternatives to Retention: Empirically Supported Intervention Strategies

Given that the extant empirical evidence calls into question the use of grade retention to promote student achievement and adjustment, it is essential to examine empirically supported prevention and intervention strategies that may be used in lieu of grade retention. The following strategies are aimed at promoting the social and academic competence of students with learning and behavioral disabilities instead of simply retaining them (see brief summary in Table 1). It is important to respect developmental, cultural, linguistic, and gender differences among students when selecting and implementing interventions. As such, there is no single “silver bullet” intervention that can meet the needs of all students. Rather, it is vital to

Table 1. Examples of Evidence-Based Alternatives to Grade Retention and Social Promotion.

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- *Parent involvement with their children's schools and education.* Examples include frequent contact with teachers, supervision of homework, and ongoing communication about school activities to promote learning.
 - *Early reading programs.* Developmentally appropriate, intensive, direct instruction strategies have been effective in promoting the reading skills of low-performing students.
 - *Early developmental programs and preschool programs to enhance language and social skills.* Implementing prevention and early intervention programs is more promising than waiting for learning difficulties to accumulate. Effective preschool and kindergarten programs develop language and pre-reading skills using structured, well-organized, and comprehensive approaches.
 - *Age-appropriate and culturally sensitive instructional strategies to accelerate progress in the classroom.*
 - *Systematic assessment strategies, including continuous progress monitoring and formative evaluation, to enable ongoing modification of instructional efforts.* Effective programs frequently assess student progress and modify instructional strategies accordingly.
 - *School-based mental health programs.* These programs are often valuable in promoting the social and emotional adjustment of children. In addition, addressing behavior problems has been found to be effective in facilitating academic performance.
 - *Behavior management and cognitive-behavior modification strategies to reduce classroom behavior problems.*
 - *Student support teams with appropriate professionals to assess and identify specific learning or behavior problems, interventions designed to address those problems, and evaluation designed to measure the efficacy of those interventions.* Effective programs tend to accommodate instruction to individual needs and maximize direct instruction.
 - *Extended year, extended day, and summer school programs that focus on facilitating the development of academic skills.*
 - *Tutoring and mentoring programs with peer, cross-age, or adult tutors focusing on promoting specific academic or social skills.*
 - *Comprehensive school-wide programs to promote the psychosocial and academic skills of all students.* Collaboration and consistency between regular, remedial, and special education are essential.
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consider the context and specific needs of the individual children receiving the prevention or intervention services. Once the needs of an individual student and/or the entire student population are understood, it is important for educators to be familiar with specific evidence-based intervention strategies (Kratochwill & Stoiber, 2000). Although a complete review of all preventative and remedial approaches is beyond the scope of this chapter (see Algozzine, Ysseldyke, & Elliot, 2002 for a discussion of research-based strategies for effective instruction; see Shinn, Walker, & Stoner, 2002 for a more extensive discussion of interventions for academic and behavior

problems), the following section provides a brief review of evidence-based intervention strategies that may be implemented by educational professionals as alternatives to retention.

Children are most often retained due to low academic achievement, behavioral difficulties, or a combination of the two. Alternatives designed to prevent academic failure, remediate academic deficits, address behavioral problems, and reduce retention rates include an array of possible school-wide interventions and instructional strategies (Rafoth & Carey, 1995). School-wide interventions refer to administratively commissioned programs that are pervasive throughout the school, whereas instructional strategies are direct, teacher-led interventions implemented within the existing classroom structure. Depending on the timing, such interventions may serve a preventative function for at-risk students who have not yet been retained, or as interventions for students who have been recommended for retention.

Interventions briefly reviewed below include (a) preschool programs, (b) comprehensive school-wide programs, (c) summer school and after school programs, (d) looping and multiage classrooms, (e) school-based mental health programs, (f) parent involvement, (g) early reading programs, (h) effective instructional strategies and assessment, and (i) behavior/cognitive behavior modification. Some of the alternatives described below may involve substantial changes to existing school structure. School psychologists and special education professionals are encouraged to advocate for these types of changes as appropriate; however, it may not always be possible to immediately implement systemic reform. Therefore, several intervention strategies that can be used at the individual and classroom levels are also described (a table delineating key scholarship related to each of these strategies is available at the Beyond Grade Retention and Social Promotion website; <http://www.education.ucsb.edu/jimerson/NEW%20retention/index.html>).

Preschool Intervention Programs

A primary purpose of preschool intervention programs is generally to assist at-risk students before they experience academic challenges, through enhancing foundation skills necessary for subsequent academic success (Casto & Mastropieri, 1986; Zigler & Styfco, 2000). Basic literacy skills, pro-social behaviors, and socio-emotional development are often emphasized in preschool programs. Preschool programs offer a range of individualized services in the areas of health, nutrition, and parent involvement designed to

foster healthy development of children. For instance, Head Start and the Chicago Child-Parent Center (CPC) are two examples of early childhood intervention programs that provide comprehensive educational and family support-services to children from economically disadvantaged families to increase school readiness. Schwartz, Garfinkle, and Davis (2002) provide valuable information and guidance on setting up preschool classrooms including membership, relationships, and knowledge/skills to promote positive outcomes for children. A significant body of research has shown that enhancing skills for academic success through preschool programs may prevent retention (Barnett & Boocock, 1998; Karoly, Kilburn, Bigelow, Caulkins, & Cannon, 2001).

Comprehensive Programs to Promote Social and Academic Development

Proponents of comprehensive programs emphasize that schools are likely to be most successful when they integrate strategies to promote children's academic, social, and emotional learning (Zins, Weissberg, Wang, & Walberg, 2004). Comprehensive intervention programs generally emphasize a systems approach for redesigning schools to prevent academic and behavior problems through proactive instruction and school-wide behavior support (Sugai, Horner, & Gresham, 2002). Programs have also been developed to strengthen children's social and academic skills and promote problem-solving and conflict resolution skills, such as Promoting Alternative Thinking Strategies (Greenberg, Kusche, Cook, & Quamma, 1995). Implementation of comprehensive programs requires a significant commitment by the school administration and faculty, including considerable training, personnel, and resources. However, if these programs are successful, they may lead to reductions in retention as well as behavior problems.

Summer School and After School Programs

Recognizing that many children may benefit from additional instructional opportunities (beyond the 5–6 hours a day and approximately 175 days a year), well designed summer school and after school programs may provide students with additional time and exposure to master academic material. Summer school programs focus on providing instruction during the summer months of a traditional academic year, while after school programs provide instruction and/or supplementary support outside of the normal school day

(or schools may offer morning programs or Saturday school). There have been numerous studies examining the effects of summer school and after school programs (see Cooper, Charlton, Valentine, & Muhlenbruck, 2000 for a review). When implementing summer school or after school programs as an intervention to improve student achievement, it is important that the programs contain key elements commonly found in effective programs (as delineated in Cooper et al., 2000). Giving students additional instruction after school or in summer school, as opposed to retaining them for a year, may also reduce the subsequent risk of students dropping out due to being overage for grade.

Looping and Multiage Classrooms

Considering individual differences in learning and development, looping and multiage classrooms are two alternative classroom structures that allow more flexibility to address the needs of students. Looping classrooms have students spend two or more years with the same teacher, allowing the teacher to provide instruction to meet the needs and embrace the strengths of each student. Multiage classrooms include students of different ages and abilities, thus allowing each student to move ahead at his/her own pace and learn from one another (May, Kundert, & Brent, 1995). Both looping and multiage classrooms provide teachers an opportunity to better understand and adapt to individual learning needs of students (Nicholas & Nicholas, 2002; Yang, 1997). Other countries that have significantly lower retention rates in comparison to the United States (e.g., Japan, Germany) often use looping (Reynolds, Barnhart, & Martin, 1999).

School-Based Mental Health Programs

Students with mental health problems (e.g., Attention Deficit Hyperactivity Disorder, depression, Post-Traumatic Stress Disorder) often fall behind their classmates academically. As noted previously, behavioral difficulties and socio-emotional problems are often associated with recommendations for retention. Some schools have adopted school-based mental health programs in an effort to address the broad mental health needs of students in the most efficient manner possible. Preliminary evaluation results suggest that school-based mental health programs are promising interventions for promoting social and emotional competence (Armbruster & Lichtman, 1999).

Parent Involvement

Parent involvement (i.e., a combination of a parent's attitude toward education and school, as well as a parent's willingness to assist in creating a home atmosphere that is conducive to doing homework) is associated with greater success among students (Christenson, 1995; Fan & Chen, 2001; Sheridan & Kratochwill, 1992; Swap, 1993). Parent involvement is often an essential component of broad-based interventions aimed at improving academic achievement (Slavin & Madden, 2001), and the addition of a parent component may improve the outcomes of many interventions. It is important to consider cultural variations among parents/families and the ways in which cultural factors may interact with the school's outreach. Policy changes that encourage parent involvement, increasing understanding among administrators, teachers, and staff, and inviting parents' involvement in all aspects of their children's education, are proactive strategies that may make parent involvement more feasible.

Early Reading Programs

Reading is an essential skill for subsequent knowledge acquisition, thus early reading interventions attempt to facilitate children's reading skills before they fall behind and are subsequently recommended for retention. Structured early reading programs have been demonstrated to promote student success (Slavin & Madden, 2001). Teaching phonemic awareness and decoding skills and providing opportunities to practice reading are valuable instructional strategies (Talbot, Lloyd, & Tankersley, 1994). There is an assortment of early reading programs, including Writing to Read (Martin & Friedberg, 1986), Reading Recovery (Clay, 1987; Gredler, 1997), Success for All (Slavin & Madden, 2001), and Exito Para Todos (Spanish version of Success for All). It is important to consider the needs of diverse student populations and establish multiple forms of instructional support when implementing early reading programs.

Effective Instructional Strategies and Assessment

There are numerous teaching techniques that can be easily implemented within existing classroom structures to increase student performance; for instance, direct instruction, curriculum-based measurement, cooperative

learning, and use of mnemonic strategies have been shown to improve academic performance (see the following sources for more information: Barnett, Clarizio, & Payette, 1996; Dretzke & Levin, 1996; Forness, Kavale, Blum, & Lloyd, 1997; Fuchs & Fuchs, 1986; Mastropieri & Scruggs, 1998; Shapiro, 1996; White, 1988). Implementing effective, research-based teaching strategies in the classroom is an important facet of facilitating student success. When consulting with classroom teachers, school psychologists and special education practitioners are encouraged to highlight research findings regarding effective strategies to promote learning that may, in turn, reduce the perceived need to retain students experiencing learning problems.

Behavior and Cognitive Behavior Modification Strategies

Behavior and cognitive behavior modification strategies are valuable to reduce disruptive behavior and increase positive classroom behaviors. Although behavior and cognitive behavior strategies are grouped together in this section, there are important distinctions between them. Often behavior modification strategies use token reinforcement systems and peer or adult monitors, or may involve the use of publicly posted positive group and individual behaviors (Shapiro, 1996). Cognitive behavior modification aims to address both the behaviors and the underlying cognitions influencing external behaviors. A combination of behavioral approaches such as modeling, feedback, and reinforcement with cognitive approaches, such as “cognitive think alouds,” may be effective to teach strategies such as anger control and self-coping. Both behavior and cognitive behavior strategies have consistently been found to reduce disruptive behaviors and increase on-task classroom behavior, therefore providing an opportunity for students with learning and behavioral disabilities to increase academic and social skills, thus boosting achievement (Robinson, Smith, Miller, & Brownell, 1999).

SUMMARY AND RECOMMENDATIONS

Research reveals that grade retention is associated with various deleterious outcomes (e.g., school dropout) but not with academic growth; moreover, there is compelling empirical evidence supporting alternative interventions

to promote the social and cognitive competence of students. Although no single intervention will address the needs of every low-achieving student, evidence-based practices can be incorporated into general education to facilitate academic success. Recommended practices include parental involvement through regular contact with teachers and homework supervision, early reading and developmental programs to support low-achieving students and enhance language and social skills, school-based mental health programs to support children in their social and emotional adjustment, as well as tutoring and mentoring programs and other interventions that target specific academic skills (Ehmke et al., 2010; Jimerson & Skokut, 2008). It has also been suggested that the transition from elementary school to middle school or from middle school to high school warrants special consideration, because higher rates of retention have been found in seventh and eighth grade (Guèvremont et al., 2007). Consequently, such practices not only focus on remediation for struggling students, but also on preventing problems by supporting all students. These practices emphasize the importance of collaboration between all educational professionals, families, and students to facilitate student success.

Limitations of the existing grade retention literature include methodological concerns, use of age or grade norms, and sample size. Further research is warranted, including additional studies that examine factors that moderate the effect of retention on student achievement, the role that attrition may play in explaining retention effects, the use of grade retention as a substitute for special education placement, and increased focus on the psychometric properties of achievement measures. Although it may be valuable to further expand upon grade retention research, it is also important to remember that neither social promotion nor grade retention will address the challenges that many students face. Consequently, it is more beneficial for future research and practice to focus upon specific remedial intervention strategies that facilitate the socio-emotional and academic success of youth, decreasing the need for retention (Jimerson, 2001). In summary, students with learning and behavioral disabilities appear more likely to be retained and the confluence of research examining academic and adjustment outcomes associated with grade retention indicates there are no benefits to student retention over promotion. Conversely, some studies reveal negative effects of grade retention, including lower academic achievement, higher socio-emotional maladjustment, and increased risk for school withdrawal. Thus, we have recommended and briefly described an array of empirically supported effective interventions as alternatives to grade retention for low-performing students and students with learning

and behavioral disabilities. Implementing these strategies into educational practices will help foster academic and socio-emotional improvement for all students.

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UNIVERSAL SYSTEMS FOR PREVENTING BEHAVIOR PROBLEMS

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ABSTRACT

School-wide positive behavior support (PBS) is a systems approach to prevention and intervention involving multiple levels of support. At the universal level (all students), prevention of behavior problems involves four very basic steps that are repeated with smaller numbers of students and greater intensity as directed by data. The first step is the prediction of problems or failures. To the extent to which we can predict a problem by time, location, student, and other contexts, we have the information to prevent. Prediction leads directly into the second step, which involves the development of effective prevention practices. The key to effective prevention is to approach all problems from an instructional perspective by considering what needs to be taught and how the environment can be arranged to increase the probability of success. The third step involves creating consistency with prevention efforts. Instructional efforts that are inconsistent are not effective in teaching new behavior. The last step involves development of the simplest way of monitoring performance so that those students who are not responding (i.e., are falling through the screen) may be quickly identified. This chapter describes the key features

Classroom Behavior, Contexts, and Interventions
Advances in Learning and Behavioral Disabilities, Volume 25, 191–216
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ISSN: 0735-004X/doi:10.1108/S0735-004X(2012)0000025011

of effective universal systems as they are specifically related to the prevention of behavior problems and provides an overview of how such systems are developed, implemented, and sustained.

In public schools, classroom teachers deal with a variety of challenging student behaviors. While instances of violence and crime in schools garner the most popular media attention, the most common disciplinary referrals are for behaviors whose purpose is to avoid class (i.e., truancy and tardiness), followed by fighting and bothering others (McFadden, March, Price, & Hwang, 1992; Morgan-D'Atrio, Northup, LaFleur, & Spera, 1996). Many schools repeatedly cite instances of bullying, disrespect, verbal abuse, and general classroom disorder as daily or weekly occurrences (DeVoe et al., 2004). The majority of challenging behaviors that teachers address on a daily basis, such as simple disrespect and noncompliance, are not typically violent or intense, but are frequent and usurp great amounts of instructional time (Sprague & Walker, 2000). All together, teachers report that issues related to challenging student behavior are the most difficult and stressful aspect of their day (Furlong, Morrison, & Dear, 1994; Simonsen, Britton, & Young, 2010).

School-wide positive behavior support (PBS) is a systems approach to prevention and intervention involving multiple levels of support (Sugai, Horner et al., 2000; Sugai, Sprague, Horner, & Walker, 2000). This conceptualization of PBS has been used to assist schools in promoting and encouraging success across all students. A founding premise of PBS is that the structure and actions of systems, or "host environments" (Zins & Ponti, 1990) impact the behavior of individuals. In schools, the key to effective prevention is the development of strategies that affect both environments and the actions of adults, resulting in positive outcomes for students. Implementation of universal assessment and systemic prevention is based on a well-described conceptual foundation (Sugai, Horner et al., 2000), supported by numerous positive examples in the literature (e.g., Luiselli, Putman, & Sunderland, 2002; Nersesian, Todd, Lehmann, & Watson, 2000).

At the universal tier, the goal is to examine the school environment and develop proactive interventions to prevent common challenging behaviors. When considering systems for preventing behavior problems, the term "universal" denotes an ambitious effort to control all facets of a student's life to predict successful outcomes. In reality, despite political and personal efforts to create policy and practice to support children and youth wherever

they may go, universal refers to the entirety of the school in which a particular group of students exists. That is, from the moment students step onto school property until the moment they leave the care of their school, the environment (rules, relationships, routines, and physical arrangements) predicts success and failure. Because the school environment is wholly controlled by the adults in the school (Richter, Lewis, & Hagar, 2012; Ross, Romer, & Horner, 2012), the careful development of all aspects of the environment must be seen as an inherent responsibility or basic component of what it means to be an educator (see Lane, Bocian, MacMillan, & Gresham, 2004). This chapter describes the key features of effective universal systems as they are specifically related to the prevention of behavior problems, and provides an overview of how such systems are developed, implemented, and sustained. Examples from two representative schools, one an elementary and one a high school, are used to illustrate these key features.

MULTITIERED SYSTEMS

As is implied by its name, universal systems are the largest level or tier of prevention within a multitiered system. Other tiers are increasingly more focused on students for whom universal systems have not been sufficient to predict success. Secondary or targeted systems focus on students deemed at risk due to lack of success and are typically applied to small groups of students with similar needs. Tertiary or intensive systems focus on individual students who have continued to fail despite efforts of the previous two systems. While a good number of students at this tier may qualify for special education, it is not synonymous with special education, as there also will be students whose needs are great but who do not meet special education eligibility requirements.

Multitiered systems are well established in the research literature and have been widely cited as an evidence-based practice (Bradshaw, Mitchell, & Leaf, 2010; Spaulding, Horner, May, & Vincent, 2008). The best known of the multitiered systems in schools are Positive Behavior Interventions and Supports (PBIS) for behavior and Response to Intervention (RTI) for academics. The two approaches are identical in structure and similar in processes (Sandomierski, Kincaid, & Algozzine, 2007). Indeed, one might think of PBIS as RTI for behavior. Regardless of their names, each multitiered system can be characterized as a complex screening system. Consider that all the students in the school are resting atop a giant screen. We can

consider staying atop the screen as success and falling through the gaps as failure. As such, we would want to make the screen as tight as possible, within the bounds of what is realistic for adults to do in the scope of a typical day. The strands of that screen are composed of clear rules that are taught, effective and consistent routines, consistent encouragement and enforcement of expectations, and well-considered arrangement of the physical environment. The more carefully conceived and implemented these strands, the tighter the screen and the fewer students will fall through as we monitor for success and failure. This is the idea behind universal systems.

While about 15% of students will fall through and require a tighter screen (Sugai, Sprague et al., 2000), this does not necessarily require us to tighten up the screen for the entire school. Rather, it will be more efficient in terms of time and effort to develop a new screen for this smaller group of students as they will require even more instruction for rules and some variations in how other components of the screen are developed. This is the concept of secondary systems. We continue to monitor and we will likely find that a smaller number of individual students are slipping through even this tightened screen. These students will require individualized screens as part of a tertiary system. If we have done a good job of building the first two screening systems, the number of students identified at this tier will be low (Sugai, Horner et al., 2000).

UNIVERSAL SYSTEMS: KEY FEATURES

Universal systems for prevention of behavior problems involve four very basic steps that encompass the key features of an effective prevention system (Sugai & Horner, 1999). The first step is to predict problems or failures. To the extent we can predict a problem by time, location, student, and other contexts, we have the information necessary to prevent the problem from occurring. Prediction takes us directly into step 2, which involves the development of effective prevention practices. The key to effective prevention is to approach all problems from an instructional perspective by considering what needs to be taught and how the environment can be arranged to increase the probability of success (Leedy, Bates, & Safran, 2004). The third step involves creating consistency with prevention efforts. Instructional efforts that are inconsistent are not effective in teaching new behavior. In the last step, we must find the simplest way of monitoring performance so that we may quickly identify those students who are not responding (i.e., are falling through the screen). Identification of students in need of

further assistance brings us back to step 1, except that prediction is now focused on a smaller group of students (e.g., [Epstein et al., 2005](#)).

Predicting Failure

Predicting student behavioral problems (i.e., failures) is best accomplished with a comprehensive system of data collection that affords schools the opportunity to ask detailed questions about the times, location, behaviors, and other contexts associated with common problems ([Roach & Kratochwill, 2004](#)). Such comprehensive monitoring systems are tailored to the school so that the information gathered is unique to particular locations and contexts within a particular school. But when getting started with universal systems most schools do not have data with this degree of specificity and likely have the capacity to report no more than the total number of major incidents that have occurred. Under such circumstances, it is impossible to identify predictors from these data alone. However, the people who work in the school collect this data informally every day as they observe and respond to problem behaviors, and often have additional contextual data at their disposal. An introductory exercise with a school at this stage might be to encourage the faculty and staff to consider the most common behavior problems they observe directly most often. It is important to prompt people to think about their own experience, rather than what they have heard or what they believe data will show. The question can be as posed as

I'm coming to your school tomorrow and will follow you around for 10 minutes. If I see a problem behavior that you predict you get \$10,000. When would you have me come, where would we be in the school, what should I be looking for, and who is likely to be the perpetrator?

Most educators could probably answer this question with little thought, maybe suggesting "You need to be here at 12:08 PM, in the Cafeteria, looking toward the lunch line for boys who will push and shove one another." While this may not represent the most reliable data we could have, it is the type of data that can serve as a start for discussion. It should be noted, however, that such reminiscences serve only to begin predicting failures. Future monitoring and evaluation of prevention efforts will require a more valid system of data collection.

Another method of predicting problems across the school is to have the faculty and staff plot problems on a school map. For this we will consider a

Table 1. Prediction Analysis for Greer Elementary.

Where	What	When	Why
Hall	Running Yelling Pushing Hands on walls	During transitions, all day	Rules not clearly taught Not enough adults in the hall Too many students at one time
Cafeteria	Loud Chaotic; students roaming Trading food Leaving mess	Lunch: arrival and dismissal times	Inconsistent rules Slow routines Students allowed to roam

with the second largest category of ODR being for not attending the detention that was assigned as a result of being tardy. The school requested assistance with widespread tardy behavior and, although universal systems generally focus on the entire school and all potential problems, a system of rules, routines, and arrangements was developed and implemented solely for tardy behavior, both because of the intensity of the problem and as a way to get the school to buy into the process.

The school's referral forms included only student name and offense and thus were of little use in predicting failure. The faculty were gathered together and asked to predict tardy behavior based on their experience and observations. Although there was wide agreement that tardy behaviors occurred across the majority of students and times of day, faculty and staff were able to identify some especially prominent predictors. First, it was noted that no clear definition of "tardy" was used consistently across the school. Rather, each teacher had his or her own rules about what constitutes being tardy. Generally speaking, when the definition of a rule includes "it depends," it will be a rule with which students have more frequent errors. Thus, the lack of a clear definition was seen as a predictor of tardy behavior. Second, the Brant HS faculty and staff noted that even after the tardy bell sounded, many students continued to socialize in the hallways rather than moving toward their classes; faculty reasoned that students may assume that because they are already considered tardy, there is no incentive to move quickly to their classes. These issues were considered as the group moved into the prevention phase of the process.

Preventing Failure

The second step of the universal process is to develop a full array of strategies and procedures to prevent the most predictable failures (Windle & Mason, 2004). Again, active *instruction* offers the highest probability of success (see Hattie, 2009). Thus, the development of prevention strategies may be thought of as a universal lesson plan. That is, the task is determining what to teach, how to teach it, what examples and activities will be most relevant and engaging, how to create routines to predict success, and how to provide immediate and consistent feedback.

Developing Rules

Effective teaching requires effective presentation of rules (Johnson, Stoner, & Greene, 1996; Malone & Tietjens, 2000). Rules are easy to create and most schools have at least a basic set of rules that may take the form of a code of conduct or other legal document. But such documents do not represent effective instruction and cannot be considered a prevention component. Relying on the code of conduct to change behavior is akin to simply reading directly from a math text everyday and assuming students will acquire and effectively use all the skills presented. The first consideration in developing effective rules is that they need to be positively stated in order to prevent problems (Kerr & Nelson, 2010). For example, if the problem is running in the hall, teaching students to walk is a logical skill to emphasize in that when the students engage in walking they cannot be running (i.e., failing with that predictable problem). To simply say that the rule is “no running” does not provide the student with sufficient instruction to predict walking anymore than crawling, sliding, or rolling. The second consideration is whether the student is capable of being successful with the rule; educators can create any number of rules based on their own desires or preferences, but these will be of no value if students are not capable of performing the behaviors specified. This means that it is very important to examine the natural environment and carefully consider not only what behaviors are appropriate from an adult point of view, but also what behaviors students consider socially acceptable in their natural environments, and are thus more likely to display. The third consideration in developing effective rules is the number of specific rules by location. Generally speaking, smaller numbers are easier to remember than larger numbers and schools must strive to highlight the most important aspects of success. Finally, effective rules must be made public and must be taught, reviewed, and enforced (Johnson et al., 1996). These issues are further described below.

Initial universal rules for Greer Elementary are presented in [Table 2](#). At Greer Elementary, the initial set of rules was tied to the cafeteria and hallways. Each area is associated with three to five clear and positively stated rules. The rules were created in response to the specific problems observed: noise, running, pushing, and hands on walls. As depicted in [Table 2](#), the four hallway rules were (a) use an inside voice, (b) stay to the right, (c) keep hands to self, and (d) stop at stop signs. The cafeteria problems included loud talking, students moving about the room in an unorganized manner, trading food, and leaving a mess. The five rules developed in response to these issues were (a) single file lines in and out of the cafeteria, (b) raise hand to move, (c) eat own food, (d) talk only to people next to or right across from you at the table, and (e) leave the table as clean as you found it. Further, the faculty agreed that these rules would be specifically taught to all students and that reminders would be provided on a daily basis.

At Brant HS, the faculty discussion was almost solely dedicated to defining a tardy. While this seems fairly straightforward, there was wide disagreement across different groups of faculty members. One group was of the opinion that a student must be seated when the bell rings in order to be considered on time, while another faction was much more lenient, preferring to say that a tardy should be defined as tardy only when the student is not present when important work begins. Because it is important to have a single consistent rule, the faculty at Brant HS discussed this issue for over an hour before finally reaching consensus that a tardy would be defined as not

Table 2. Agreed-Upon Rules for Predictable Problem Areas at Greer Elementary.

Rules
Hallway
Inside voice
Stay to right
Hands to self
Stop at stop signs
Cafeteria
Single file in/out
Raise hand to move
Eat own food
Talk only to those next to you
Leave as clean as you found it

being inside the classroom (i.e., over the threshold of the door) when the bell rings. In addition, they decided that students would be taught to be moving in the direction of their next assigned location, and to be doing so in the final 30 seconds – which is tied to a new routine to be described below.

Routines

Rules can be thought of as the behaviors students are expected to exhibit. In contrast, routines and arrangements are the things adults do to alter the likelihood that students will be successful with the rules. In math and reading there are explicit rules regarding the content, yet effective instruction comes not just from reciting the rules but through instructional routines in which the teacher engages students with effective examples, prompts, encouragement, and feedback on performance (Savage, 1999; Vaughn, Bos, & Schumm, 2000). These are the same teacher behaviors that must be considered for behavior. For example, would the probability of success be higher or lower if students sat in the cafeteria before lining up for lunch, or if they were excused from the cafeteria by table rather than entire grades? Either of these decisions represents a routine change. Instructionally, teachers must think back to the most common errors and use those examples during instruction. The more natural the examples during instruction, the more likely students will be to acquire and use the skills being taught (Engelmann & Carnine, 1991). Further, understanding when and where errors are most likely to occur provides guidance for the most effective timing and location of simple verbal prompts, or reminders, which are an extremely effective preventive part of a routine (Hodges, 2001; Werts, Caldwell, & Wolery, 2003).

Another key feature of effective instructional routines is consistent feedback following both successful and unsuccessful attempts. Feedback, or what can be termed “enforcement” with regard to rules, is a useful tool in helping students discriminate between right and wrong, or correct and incorrect (Engelmann & Carnine, 1991; Hattie & Timperley, 1997). Effective school rules are taught in a direct manner, modeled and discussed, encouraged with routines and arrangements such as prompts and signs, and enforced with feedback. At the universal tier, feedback need only provide the student with information about their performance, and need not include tangible reinforcers or punitive practices. Rather, specific verbal praise and public acknowledgement (i.e., public praise) are among the most naturally effective forms of positive feedback (Reinke, Lewis-Palmer, & Martin, 2007). When errors occur, feedback should take the form of correction, involving a statement that the behavior was incorrect, prompts to lead the student

to understand the error, and an appropriate demonstration by the student that results in verbal praise (Barbetta, Heward, Bradley, & Miller, 1994).

At Greer Elementary, the faculty spent a significant amount of time discussing how their current routines were ineffective in promoting student success in the cafeteria and hallway. As a result, they determined that the hallway rules would be unlikely to have the desired effect in the absence of frequent reminders, and thus faculty agreed that hallway rules would be reviewed briefly with all students immediately preceding transitions. They also decided that it would be important to adhere closely to the scheduled transition times in order to limit the number of students in the hall at any one time. Finally, they agreed to provide more frequent feedback in the form of praise for appropriate behavior and correction for errors. In the cafeteria, the faculty also determined that the rules they developed would be unlikely to have the desired effect in the absence of frequent reminders and agreed that both teachers and cafeteria staff would provide consistent and frequent reminders on a daily basis. In addition, all agreed that arrival and dismissal times needed to be prompt and consistent to prevent long lines or overcrowding and they worked with cafeteria staff to ensure consistency with rules. Finally, they agreed that feedback needed to be increased so that students would hear more positive statements. A summary of agreed-upon routines at Greer Elementary is presented in Table 3.

At Brant HS, recall that faculty and staff determined the bell system was not helping to prevent tardy behavior, and in fact was likely causing students to arrive even later to class. As a result the school decided to implement a change in the bell system so that a warning bell sounded 30 seconds prior to the final tardy bell. This routine was changed because it was believed that this simple prompt, provided consistently, would help

Table 3. Agreed-Upon Routines at Greer Elementary.

Routines
Hallway
Reminders before entering hall
Feedback (pos/neg) in hall
Prompt on transition times
Cafeteria
Prompt on delivery and pick-up of students
Reminders on way in
Work with cafeteria staff to be consistent
Feedback throughout lunch

students perform the expected behavior (arriving at class on time) more successfully. However, the routine change necessitated development of a new rule that required all students to be moving during the 30 seconds after the warning bell. That is, students may stop at a locker or talk to friends between classes, but when the warning bell rings they must immediately begin walking – there is no standing still allowed in this final 30 seconds. This rule was clearly and directly communicated to all students as part of instruction.

Arrangement

Arranging the physical environment involves an array of very basic and effective strategies (Conroy, Asmus, Ladwig, Sellers, & Valcante, 2004; Hastings, 1995). Designating an area as “out of bounds” for students, decreasing the number of students in an area at one time, changing the number or placement of adults in a given area, and keeping doors open to maintain a sightline are all examples of environmental arrangements that can be manipulated (Gunter & Shores, 1995; Hastings, 1995). The development of physical arrangements should be undertaken with the same driving question as routine generation: what changes will create the highest probability of success for the identified locations and problems? Perhaps more important with respect to arrangements than with other decisions is the balance of logic and reality. With all strategies it is imperative that the strategies chosen offer a high probability of success. But it is equally important to consider whether strategies are sufficiently simple to be implemented on a consistent basis. The most logical strategy will not be effective if not implemented regularly and with fidelity, just as the simplest strategies will not necessarily be effective if they fail to move the odds of success in the desired direction. The key is in finding the best balance of logic and reality. One tact is to list all the agreed-upon logical strategies on paper, arranged from simplest to most difficult to implement. Obviously, the best course of action among equally logical choices will always be to choose the simplest. If this strategy proves ineffective, then the next simplest on the list can be brought in to replace it. Because arrangements involve both where adults are and what they do, more so than other strategies, there is more concern for reality and the adults must be honest in their assessment of what will and will not be consistently implemented.

At Greer Elementary, the faculty and staff considered physical arrangements in the context of their agreed-upon rules and routines. New arrangements in the hallway include an agreement that teachers would be line leaders whenever students were moving through the hall. In addition, all

adults agreed to supervise all students in the hall by observing and providing feedback on a consistent and frequent basis. In the cafeteria, teachers agreed that they should deliver students directly to their table or line and then pick students up from a designated table rather than meeting them at the door. In addition, all agreed that when entering or leaving the cafeteria any adult should move throughout the students to provide prompts and feedback.

Staff at Brant HS realized that simply changing the rules and adding a modified bell system would not provide a sufficient probability of success for many students, and thus they agreed to two new arrangements. First, all teachers agreed that, as much as possible during transition times between classes, they would stand in their doorway so that they could see students in the hallway. Second, they agreed that they would step into the hallway to prompt particularly frequent offenders to make sure to be to class on time. Further, they agreed to be very vocal in prompting all students once the warning bell had rung (“keep moving, only 30 seconds!”). Table 4 shows the full set of agreements for rules, routines, and arrangements developed by Brant HS in response to the identified predictors.

Consistency Across the System

Consistency and coherence are key features of successful schools (see Hagermoser Sanetti, Dobey, & Gritter, 2012). Consistent implementation is dependent upon adults in the school being able to agree on both the

Table 4. All Rules, Routines, and Arrangements as Agreed Upon by Brant HS.

Problem	Rules	Routines	Arrangements
-Tardy	Walk one way	Tokens for on time	Adults in hallway
-All	Move in direction of next	Praise for on time	All stand in doorway
-All day	class	Stagger bells (by class)	Look for repeat
	Must be in room when	30 second warning bell	offenders and verbally
	final bell rings	Verbal prompts	prompt
	No talking	Traffic patterns on	Walk with repeat
	Must be moving after	floor	offenders
	warning bell		

Note: Items denoted by ~~strikethrough~~ were part of initial brainstorming, but were not agreed upon by all faculty and staff.

expectations and the critical behavioral discriminations that distinguish each. When schools cannot come to consensus on these issues, inconsistencies in rule instruction and enforcement will inhibit student success and result in maintenance of problem behaviors (Walker, Colvin, & Ramsey, 1995; Walker & Shinn, 2002). Program coherence is both “the extent to which the school’s programs for student and staff learning are coordinated, focused on clear learning goals, and sustained over a period of time” (Fullan, 2001, p. 146), and how schools arrange personnel behaviors, schedules, and physical environments to maximize student learning. The extent to which schools create this coherence largely determines the success of school-wide programs.

The process of including all faculty and staff in discussions is a strategy that facilitates full participation and consistency. That is, when individuals are engaged in the decision-making process, they are more likely to buy in and commit to decisions (e.g., Fullan, 2001). However, not everyone can be expected to agree on any particular issue. In Table 4, note that brainstorming resulted in a number of suggestions, not all of which were ultimately agreed upon by the faculty and staff at Brant HS. Also recall that the school spent over an hour arguing about the appropriate definition of a tardy behavior. Although they eventually settled on and agreed to teach and enforce the rule that the student had to be over the threshold of the door at the bell in order to be considered on time, not all thought that this was the best definition. Rather, enough consensus emerged to allow all faculty to agree that they could live with this definition.

Effective instruction requires consistency both in what is taught and the feedback that students receive across adults. Suppose a school identified a priority of having students answer “4” to the query, “what’s $2 + 2$?” Clearly, if some teachers were not in agreement and taught students either that $2 + 2$ was 5, or that the answer to $2 + 2$ was not important, we would expect that there would be a number of students who would not be able to demonstrate proficiency when assessed at the end of the year. By that same token, if adults across the school do not agree on what the rules are, or what specific behaviors are to be taught, encouraged, and enforced as school rules, it can be predicted that more students will fail. The key is agreement and consistency. Student success in exhibiting the desired behavior is dependent on not just the selection of an appropriate replacement behavior for a given problem behavior, but also on the consistency with which faculty and staff approach the problem. Regardless of what rules are established, how consistently they are taught and enforced will affect the degree to which students are successful.

At Greer Elementary, the staff simply set a criteria of 80% consensus for every rule (see [Scott & Hunter, 2001](#)). After brainstorming a set of potential rules, routines, and arrangements, each was revisited and discussed. All decisions were submitted to a vote and any decision not receiving at least an 80% vote from the group was sent back for further discussion, revision, and compromise. Through this process, the faculty and staff were sure to include all in each decision and increase the probability of consistent application. While this process is often slow and involves tedious discussion of the minutia surrounding every decision, it is necessary to ensure faculty buy in and consistency in the initial stages of universal systems of prevention.

As the universal process is implemented, it will not be realistic to continue dedicating blocks of time to school-wide discussion of universal issues. Instead, schools will develop representative teams whose job will be to meet on a monthly basis, look at available data, make decisions based on those data, and report back to the full faculty and staff. As a general rule, schools should begin with at least one and no more than three specific goals to be monitored throughout the year and the data should be evaluated at least once per month ([Scott, 2004](#)). At Brant HS, a team of persons representing the Math/Science, Language Arts, and Social Sciences departments joined with others representing Specialists, Teacher Assistants, and the Principal and Assistant Principal. Recall that Brant HS had only one goal when beginning the universal process, to decrease the number of tardy behaviors. They set one quarter (90 days) as their target date and, on a monthly basis, they met to assess their progress.

Monitoring Data-Based Decision Making

The fourth step of the multitiered process involves monitoring outcomes to evaluate the effectiveness of the systems that have been developed and implemented. If data were initially available and used to identify problems, then a baseline for comparison already exists. In such cases the school can simply set a goal and formatively assess progress. However, as has been noted, most schools do not have good data coming into the process and instead rely on reporting and analysis of collective experiences as a means of identifying predictable problems. While this is an effective strategy to begin the universal process, a more valid and comprehensive data collection system must be developed for use across adults, students, and locations. Further, effective data systems must easily lend themselves to analysis for efficient decision making ([Tobin, Sugai, & Colvin, 2000](#)).

Developing Effective Monitoring Systems

Monitoring of behavior requires the school to use some sort of standardized collection format (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004). Generally, schools develop a paper form that is used to document all behavior problems. Often, these forms serve as both an official office referral and as a simple report of misbehavior. A referral is used for more serious behaviors that require administrator involvement, while reports are used to note misbehaviors that are smaller in scale and handled by the faculty or staff who observed it. In either case, three keys to effective school-wide monitoring are accurate definition of behavior, reliable reporting, and regular analysis of outcomes for responsive decision making (Colvin, Kameenui, & Sugai, 1993; Sugai, Sprague et al., 2000).

The reason for collecting data on more minor infractions is that these smaller problems are predictive of larger problems (Metzler, Biglan, Rusby, & Sprague, 2001). Monitoring minor incidents provides an excellent mechanism to help teachers better understand how to prevent major incidents. For example, if a student had a single minor problem with each of 10 different teachers, we would consider that student at risk and in need of some intervention. But if only major infractions are monitored, no one would be aware that such a student had more than one problem and no action would be taken. Similarly, if 10 different teachers all handle minor problems in the hallway, yet no major problems are reported in that location, an examination of the data will suggest that the hallway is problem-free, when in fact it is a big predictor of problems. Each school must determine how they will monitor and report student misbehavior across the school. Collection of a range of data allows for precise predictions including such specific information as the time of day that a fight is most likely to occur, the location in which problems are most probable, and the grade level of students most likely to have misbehavior in particular spots (cafeteria, bus, gymnasium). The more precision with which data are collected, the more precise will be the predictions made.

Inherent in the process of developing a monitoring system are considerations of accuracy (i.e., definitions), contextual fit (extent to which system monitors issues important to the school), and simplicity. Monitoring processes that are either too onerous in terms of staff time and effort, or that yield inaccurate or irrelevant data are processes that will not sustain – and rightly so. The purpose of monitoring is to get an accurate picture of student success rates across the school, which is then used to drive decisions for future practice. If the process is unwieldy, inaccurate, or irrelevant, it is of no practical use.

As with all universal decisions, there is no guide that can tell all schools to implement the same rules, routines, and arrangements. These decisions must be developed in accordance with each individual school's unique predictors and in consideration of what the faculty and staff believe to be both logical and realistic. The same issues apply to monitoring as each individual school must determine what problems, locations, times, and other dimensions of behavior are most relevant. The range of potential problem behaviors at the elementary level are likely much different than what is of concern at the high school level. For example, many high schools have concern with public displays of affection in the hallway, while elementary schools are more likely to be concerned with running. Similarly, whereas elementary schools are concerned with playground locations, high schools are more likely concerned with locker or common areas. As for time, middle and high schools generally break the day up by periods, while elementary schools typically use clock hours. Thus, each school must determine the nature of their monitoring system. In addition to specific problem behaviors, locations, and times, schools may wish to collect information on other issues that might help to better predict failures in the future. For example, some schools choose to monitor gender, grade level, or even how they respond to referrals as a way of assessing how future interventions may be better tailored to facilitate success. In schools where disproportional discipline practices are an issue, data forms designate offenders as minority or nonminority – allowing for analysis of where, when, and under what conditions disproportional outcomes are most likely to occur. The bottom line is that each school must develop its own monitoring system to fit the questions that it finds important and relevant.

Fig. 2 presents the data collection form used in Greer Elementary. This form is approximately 4" × 3", printed front and back, in tablet form so that reports can be completed and torn off individually with ease. Faculty members carry the forms in a pocket so that they can be used anywhere or at any time during the day. Note that the form is titled with both Report and Referral. When an adult observes a problem behavior, he or she first determines whether the behavior meets the threshold for completing the form. Guidelines for making these decisions are developed by the full faculty and staff in advance, as not all behaviors will warrant a report or referral. If the behavior does warrant noting in some form, the adult determines whether it meets the criteria for a referral versus a report, circles the correct option on the form, and then completes all the required information.

A monitoring system is accurate to the extent that all agree as to the definitions of the variables being collected (Scott, 2004). For example,

Report/Referral Form	
Time _____ Date _____ Grade _____	
Student(s) Involved _____	
Reporting Staff Person _____	
Incident	
<input type="checkbox"/> homework (repeatedly)	<input type="checkbox"/> offensive language/gesture
<input type="checkbox"/> tardy	<input type="checkbox"/> intimidation
<input type="checkbox"/> defiance	<input type="checkbox"/> physical aggression/fighting
<input type="checkbox"/> disruptive behavior	<input type="checkbox"/> insubordination
<input type="checkbox"/> other _____	<input type="checkbox"/> property damage
Location	
<input type="checkbox"/> hallway	<input type="checkbox"/> outside dismissal/arrival
<input type="checkbox"/> playground	<input type="checkbox"/> restroom (caf., add., 6 th , 2 nd)
<input type="checkbox"/> room # _____	<input type="checkbox"/> cafeteria
<div><div><input type="checkbox"/> redirection <input type="checkbox"/> physical proximity <input type="checkbox"/> warning <input type="checkbox"/> time-out in class <input type="checkbox"/> detention <input type="checkbox"/> community service <input type="checkbox"/> private conference <input type="checkbox"/> other _____</div><div><input type="checkbox"/> loss of privilege <input type="checkbox"/> parent contact <input type="checkbox"/> date _____ <input type="checkbox"/> buddy room <input type="checkbox"/> parent conference <input type="checkbox"/> date _____</div></div>	
Administrative Response	
<input type="checkbox"/> private conference	<input type="checkbox"/> alternative placement
<input type="checkbox"/> time-out	<input type="checkbox"/> detention
<input type="checkbox"/> loss of privilege	<input type="checkbox"/> parent conference
<input type="checkbox"/> suspension	<input type="checkbox"/> community service
Comments	
Administrative Signature _____	

Fig. 2. Behavior Monitoring Form for Greer Elementary (Front and Back of Form).

consider that one faculty member defines a fight as being a physical altercation wherein blood is drawn, another believes that a fight is defined as any disagreement (including verbal disagreements), and others have their own definitions varying throughout this range. If we know only that the school reported 20 fights in a month, what do we really know? All we can say for sure is that there were 20 instances of behavior that met *someone's* definition of fighting, and we would have no true understanding of what is happening in this school relative to "fighting." Clear, concise, and observable definitions of behavior require all the adults in the school to discuss each item that is to be placed on the monitoring form. It is recommended that schools use fewer categories of behavior and strive to lump similar behaviors together. For example, Greer Elementary has both "defiance" and "insubordination" on their form's incident list. Without knowing how they define these two behaviors, it would be difficult to know how they differ. In fact, the faculty and staff agreed that there were two distinct types of noncompliant behavior and they defined defiance as a more passive aggressive behavior in which the student skirted or avoided following directions – perhaps pretending to comply or subtly wandering off task. In contrast, insubordination was defined as a much more overt refusal to comply with a direction. It may involve the student saying "no" or staring at the teacher and simply refusing to comply. While there certainly is some fuzzy middle ground here, the important point is that the staff at this school

created definitions and examples that they believed were sufficiently clear, and which they ultimately found useful.

Accuracy is important with regard to predictors as well as behaviors. The faculty and staff of a school must clearly define what constitutes a hallway versus a common area or an entry area. Similarly, it will be important to accurately define how time of day is to be recorded, and to make certain that all other variables are distinct by agreed-upon definition. In most cases, accuracy can be enhanced by presenting clear options requiring only a checkmark rather than asking those completing a behavioral reporting form to write out their own descriptor. In [Fig. 2](#), note that the restroom location has additional information to designate the specific restroom in which the problem occurred. All a staff member needs to do is check the restroom blank and circle the correct location. It is recommended that schools determine the full range of options for behaviors and locations to keep the definitions as tight as possible, essentially forcing accuracy. Sometimes, however, presenting all the possible options may make forms too long or complicated, and a diminishing returns effect may be observed in terms of consistent and accurate use of the system. The essential element is that faculty and staff understand and agree upon the definitions to be used, as well as how to complete the forms. For example, at Greer Elementary, faculty determined that in reporting when behavior problems occurred, they would round times to the nearest hour. Thus, any infractions observed between 8:00 AM and 8:59 AM would be recorded as 8. In contrast, Brant HS faculty and staff agreed that all incidents occurring before 7:45 AM would receive a "0" to designate that it occurred before school. All other incidents were recorded as occurring during one of the 7 daily periods (1–7), with "8" indicating that it occurred after school.

Creating options to be simply checked by respondents also simplifies the data collection and aggregation process. Schools would do well to consider how the monitoring form can be developed in a manner that is easily transportable (small, compact), simple to complete (checkmarks, clear options, and definitions), and part of a consistent routine. As data collection becomes more complex, faculty and staff will be less likely to report incidents due to the time and effort required, and the data will be incomplete and therefore inaccurate. But simplicity is not the only factor affecting consistent use of the monitoring system. Even simple systems will eventually be abandoned if they are not seen as useful. It is imperative that all monitoring data be shared back with the entire school. Seeing the data not only reinforces the monitoring process by showing people the fruits of their reporting labor; it also shows them the effects of their rules, routines, and

arrangements and allows them to understand when and why decisions need to be made with regard to whether those agreements should remain or be changed.

Data-Based Decision Making

The purpose of collecting data on behavior infractions is to use it both to continue predicting where failures are most likely in the future and to evaluate the effect of current policies (Todd, Sampson, & Horner, 2005). When teams meet to look at data, there are typically three important tasks. First, the team looks at the data as an evaluation of their goals. If a goal is to decrease referrals from the cafeteria during lunch, then data must be analyzed and summarized in a way that provides an index of this outcome – which is then compared to outcomes observed from previous months to determine whether trends are apparent and whether changes in the intervention plan are warranted. Second, the team looks at the overall data in search of new predictors. That is, as the school year goes by new problem behaviors will surely become apparent, novel locations may become hot spots for failure, and certain times of the day will become more or less problematic. The team looks at the entire school, using the same logic that they used during initial brainstorming of predictors: considering predictors by location first and then by the behaviors, times, and contexts within each location. As new predictors are found, the team brainstorms how rules, routines, and arrangements might most simply be altered to prevent failures. Third, the team has the task of looking for individual students whose failures (as indicated by the data) identify them as at risk of future problems. Every school will need to determine their own criteria for making these identifications. However, a good rule of thumb is to set the criterion number of discipline issues at a point that would typically identify about 20% of the school (Scott, 2004). Students identified by these data are then referred on to a secondary tier team to make decisions regarding individualized group interventions.

It is important to note that although personal perceptions were used to make initial predictions and develop universal strategies, moving forward the data will be the sole source of information for decision making. That is, teams should not make decisions based on individual faculty or staff perceptions or complaints about problem areas or team impressions of change in progress toward a goal. Rather, teams should focus as objectively as possible on their data when determining what has occurred, and what impact their changes in rules, routines, or arrangements have produced (Scott, 2004). Universal teams will do well to remind faculty and staff that it

is their use of the monitoring forms that provides the information necessary for universal decisions. Thus, adults can affect the system best by providing consistently accurate data as part of the process.

In the beginning of the universal process, staff at Brant HS knew little from their data except that there had been 1,600 office discipline referrals for tardy delivered in the previous 90 days. Information as to who, when, where, or any other contextual factors was either not collected or not summarized in a manner that allowed for the information to be useful. As part of the universal implementation process, the Universal Team drafted a new referral form that not just monitored name, date, and incident but also included areas for respondents to provide information as to location, time of day, and grade level. A procedure was set for moving these data from the monitoring forms into a simple spreadsheet on a weekly basis. Then, when Brant HS looked at their data each month, they were able to see the full range of potential predictors for tardy (their goal) and also the full range of problem behaviors and their predictors.

Fig. 3 presents the data on tardy behavior collected by Brant HS, from the quarter prior to their implementation of PBIS (baseline) and the three subsequent quarters. Note that in the quarter following implementation of the universal system, the school observed about a 50% decrease in total incidents of tardy. Because a new and more comprehensive data system had been implemented, the school was also able to conduct a more in-depth analysis of their problems. In looking at the full data set the team found that they could best predict a tardy by three contextual factors: junior- and

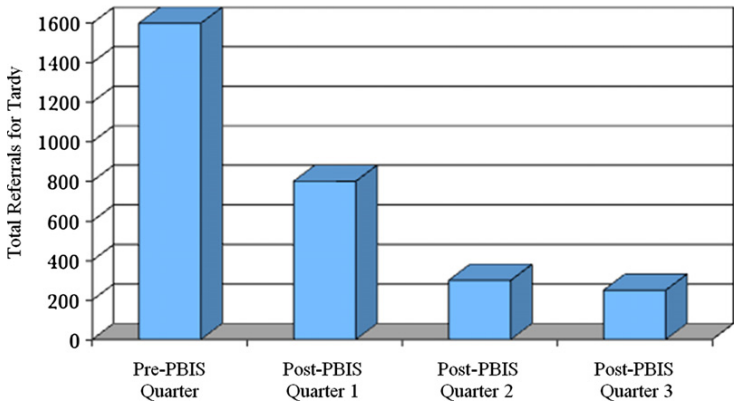


Fig. 3. Data on Tardy Behavior for Brant HS.

senior-level student, afternoon, changing classes between A-Wing and B-Wing in the school. After some consideration the team achieved consensus on the hypothesis that juniors and seniors were more likely to drive cars and that the parking lot where their cars were parked was directly between A-Wing and B-Wing. While it was not clear why more tardies occurred in the afternoon, it was determined that the routines and arrangements were insufficient to predict success with these students in these particular contexts. The team's response was very simple. They developed a new adult routine in which one faculty member stood outside of the A-Wing door and one stood outside of the B-Wing door. This occurred only during the two 5-minute transition times between classes each afternoon. These adults provided a simple prompt to each student coming out the door, "Please stay on the sidewalk and do not go into the parking lot." After implementing these new strategies, data for the next quarter show a further decrease of approximately 75% from the previous quarter. Further analysis of the data indicated that 80% of the remaining 200 referrals could be accounted for by 10 students. Those 10 students out of the entire student body of 700 represent the students who will require the most intense and individualized interventions. Said differently, these students are those who did not respond to universal or secondary tier intervention. Finding these students began with effective prevention at the universal level.

SUMMARY

The examples of Greer Elementary and Brant HS presented here are descriptions of actual school processes, practices, and outcomes. The names and some of the circumstances have been changed to maintain anonymity for the schools, but they generally represent what is typical of the universal process steps. Bringing the school together and having a discussion to implement a universal system for prevention of behavior problems is easy. Actually guiding that discussion to produce a set of decisions that will be simple, effective, and sustainable requires attention to the key features of an effective process and persons dedicated to facilitating the process with fidelity (Simonsen, 2010).

Although the process detailed herein is fairly straightforward and might even be described as simplistic, there are areas where research needs to guide the process toward ultimately more effective and efficient processes and practice. While we know that a number of teacher practices have been

empirically associated with increased student engagement and achievement (see [Hattie, 2009](#), for a review of effective practices), we have precious little knowledge regarding the degree to which varying rates of these practices have predictable effects on specific students or problems, under specific circumstances or contexts, or with different school levels. Research has not demonstrated empirical connections between the instructional practices associated with student achievement in the classroom and those same practices at the school level. That is, while we know that effective instructional practices during academic content instruction are strongly associated with student achievement and we continue to advocate for these practices across the school, research has not persuasively demonstrated the relative benefits of this focus.

For example, feedback has been well established as an effective practice for instruction of both academic and social behavior. But at present all we can honestly tell schools is to do “more” of such practices. Research needs to focus on the use of such practices under a variety of circumstances in an effort to create more prescriptive goals for teachers. It seems reasonable to assume that even a doubling of extremely low rates of feedback (e.g., 1 per week) would still be too low to demonstrate any practical benefit. In such cases asking the teacher to do more is not specific enough to predict success. By that same logic, it seems reasonable to assume that there are rates of effective practice that become so high as to lose effectiveness or even become counterproductive. For instance, the teacher who provides feedback 75 times per minute is not likely to see benefits over rates of 65 times per minute and may in fact find that such high rates are distracting to students. In order for us to effectively guide schools in practice we require a research base to prescribe effective rates under a variety of conditions.

Effective universal systems involve all adults in the school in a discussion of the contexts in which students will be most likely to have failures. These schools develop not just a set of rules but also a full complement of routines and physical arrangements that are really agreements among adults regarding a commitment to effective instructional practices to increase the likelihood of student success – especially in contexts where failure has been most predictable. Further, these schools are able to sustain the process through the development of a designated team that is charged with analyzing data and reporting back. Finally, what is effective in one school will not necessarily be effective in any other school, and thus, all decisions must be based on the data collected in that location. Universal behavior systems are focused on all students in the school and have as their goal the overall reduction of student behavior problems. However, without universal

systems in place, students with the most intensive problem behaviors will exhibit more failures, and have an even greater chance of overall school and life failure.

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PREVENTING AND RESPONDING TO BULLYING AND HARASSMENT IN SCHOOLS: WHAT WE KNOW AND WHAT CAN BE DONE

Jeffrey Sprague and Vicki Nishioka

ABSTRACT

Of the many serious challenges confronting schools today, bullying and harassment perhaps pose the most deleterious and persistent long-term outcomes for students. The effects of bullying are not limited to the students targeted by these behaviors, but also negatively affect the bullies and bystanders who witness the events. An array of factors influence, or even perpetuate, school bullying. The factors are related to individual characteristics of the students, social relationships in school, family support, neighborhood influences, and community systems. In this chapter, we describe the effects of bullying and harassment and, provide a current perspective of the magnitude of the problem. We also discuss effective responses to bullying and harassment in schools and approaches for prevention. School-wide implementation of programs is highlighted.

Bullying and harassment represent perhaps the most serious challenges confronting our schools today. It harms the students who bully, those who

Classroom Behavior, Contexts, and Interventions

Advances in Learning and Behavioral Disabilities, Volume 25, 217–245

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ISSN: 0735-004X/doi:10.1108/S0735-004X(2012)0000025012

are targets of bullying behaviors, and student bystanders who witness the bullying incidents (Arseneault et al., 2006; Gini & Pozzoli, 2009). Nationally, more than three quarters of middle school students are exposed to bullying and about a third of students in grades 6–10 are involved directly as the target, aggressor, or both (Dinkes, Kemp, & Baum, 2009; Nansel et al., 2001). School administrators, particularly in middle school, identify bullying as the most frequently reported discipline problem in their school (Nolle, Guerino, & Dinkes, 2007). Over half of our nation's teachers and school staff members report they need more training in how to prevent and respond effectively to bullying situations (Bradshaw, Waasdorp, O'Brennan, & Gulemetova, 2011). Students who are involved in bullying – as the target or aggressor – often do poorly in school, have more social problems with peers, and are more likely to suffer from depression, substance abuse, and behavioral difficulties (Arseneault et al., 2006; DeVoe & Kaffenberger, 2005; Nansel et al., 2004). Bullying has also been a significant factor in tragic events involving school violence, weapon carrying, and student suicides (Kim & Leventhal, 2008; Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007; Vossekuil, Fein, Borum, & Modzeleski, 2002).

Our objectives with this chapter are twofold. First, we describe the background of school bullying and harassment in order to provide a current view of the scope of the problems. Second, we review the components of an effective response to bullying and harassment in schools.

BACKGROUND ON BULLYING

No matter what their experiences or backgrounds in growing up, most adults can remember at least one or two occasions during childhood where they were picked on, made fun of in front of peers, humiliated in some way, threatened, intimidated, or perhaps even beaten up (Knoff, 2007; Nishioka, Coe, Burke, Hanita, & Sprague, 2011; Swearer & Cary, 2007). Most can clearly recall the student(s) who did these things, as well as details and circumstances surrounding the bullying incidents, even though they may not be able to remember much else from this period in their lives. Not surprisingly, such unpleasant situations are often initiated and sustained by the same student or students who are commonly identified as school bullies.

Nearly everyone who has attended school has had some experience with the school yard bully. In the vast majority of cases, such experience tends to be negative and emotionally intense, whether it plays out directly or indirectly. Perhaps the student picked on them or others, called them

names, teased them, or somehow embarrassed them in public. Maybe the bully took something from them or deliberately broke a prized possession just to be mean – or simply because the bully knew he or she could do it.

What is Bullying?

The generally accepted definition of bullying, and the one used for this chapter, defines bullying as a set of aggressive behaviors that meets three conditions. First, bullying is aggressive behaviors that are intentional and meant to cause harm. Second, the bullying behaviors occur repeatedly over time. Studies indicate that we should be concerned about students who are involved in bullying incidents – as the aggressors or targets – *two or more times per month* because they are more likely to suffer from social, behavioral, and emotional problems than those not involved in bullying (Nansel et al., 2004; Solberg & Olweus, 2003). The third condition is an imbalance of power or strength exists between bullies and the students they target. This power imbalance may involve physical strength, social status, intellect, or psychological factors that make it difficult for the student target to feel safe or stand up to the student aggressor (Nansel et al., 2001; Olweus, 1994; Ross, 2003).

Bullying situations can involve boys or girls, one student bullying another, or a group of students ganging up on someone (Olweus, 1994). The behaviors that students use to bully others fall into four forms of aggression: verbal, physical, relational, and cyber or electronic aggression. Direct aggression refers to verbal and physical forms of aggression such as name calling, threats, hitting, kicking, and shoving. It may also include ganging up on a student, playing mean tricks, touching or grabbing someone in a hurtful way, damaging or stealing another's property, or chasing students to scare them (Vernberg, Jacobs, & Hershberger, 1999; Wang, Iannotti, & Nansel, 2009). Overt, painful, and intimidating events of this nature are more characteristic of boys than girls and they tend to occur in school settings where there is limited adult supervision and monitoring to prevent them (Peplar, Craig, Yuile, & Connolly, 2004). Younger students tend to engage in higher levels of physical aggression, but as students transition to middle school, they begin to engage in more verbal and relational forms of aggression (Kim, Kamphaus, Orpinas, & Kelder, 2010; Wang et al., 2009).

A third form of bullying is called indirect, social, or relational aggression and involves behaviors intended to deliberately harm someone's friendships and social relationships with others. Those engaged in relational aggression

tend to exclude others from activities, intentionally ignore someone, damage reputations through backbiting, lies, and rumors, try to ruin existing friendships through alienation, and engage in social manipulation and discrimination of others for indefensible reasons (Crick, 1996; Merrell, Buchanan, & Tran, 2006). Typically, girls do not display as much of the kind of overt, “in your face” physical aggression or verbal threats that is commonly identified as characteristic of boys. However, it should be noted and stressed that both genders engage in both direct (overt verbal or physical) and indirect (social or relational) bullying behavior (Nishioka et al., 2011; Wang et al., 2009). Although some research suggests that boys tend to use physical and verbal aggression to bully and girls who bully tend to use relational forms of aggression, this division along gender lines seems to be blurring in society, and especially in schools. It is obvious from media accounts, school reports, and legal actions that girls are engaging in more aggression and violence. Likewise, any boy in school will tell you that boys regularly engage in relational aggression (Nishioka et al., 2011). The upshot is that both genders may engage in the different forms of bullying and their involvement is extremely damaging to both the victim and, since long-term social and academic outcomes for bullies are so negative, the aggressors.

Cyber bullying or electronic aggression has emerged as another form of aggression as students have increased access to computers, cell phones, and other electronic devices (David-Ferdon & Hertz, 2009). This form of bullying refers to aggression that is executed through personal computers or cell phones to send e-mail, instant messaging, text messaging, or posting messages on social networks (Hertz & David-Ferdon, 2008; Wang et al., 2009). Although research is limited about this new form of bullying, 9–35 percent of students report being the target of cyber bullying and 4–21 percent report being the aggressor (David-Ferdon & Hertz, 2009; Wang et al., 2009; Ybarra, Diener-West, & Leaf, 2007). The differences across these studies are likely due to variations in how the survey questions are written, the characteristics of the students surveyed, and how cyber bullying was defined. For example, questions that asked about the students’ involvement in cyber bullying or electronic aggression during the past month may elicit different answers than questions that ask about their experiences during the past year.

The majority of students (67 percent) report receiving electronic aggression via instant messaging and about a quarter report being bullied by email messages, in chat rooms, or through posts on websites. Fifth-grade students report less problems with this type of bullying and eighth-grade students report the highest involvement (Williams & Guerra, 2007). These electronic

communications can include unkind teasing, threats, playing mean tricks, and spreading rumors that are intended to harm the emotional well-being, social status, and peer relationships of another student (Agatston, Kowalski, & Limber, 2007; Ybarra, Mitchell, Wolak, & Finkelhor, 2006).

Cyber bullying presents unique challenges for students as well as school administrators. Among these is the ability of the aggressor to remain anonymous – a situation that many believe increases the level of cruelty, mean tricks, and power of the student bullies. Another challenge is the capacity of the bully to engage in the aggressive behavior at any time of day and to broadcast hurtful messages to a wide audience that extends beyond the classroom or school. Students receive the majority of hurtful cyber bullying messages when they are at home or away from school (Agatston et al., 2007; David-Ferdon & Hertz, 2009).

Bullying is Harmful

Community and legislative demands to stop school bullying have escalated in response to public awareness of its detrimental effects on everyone involved and in reaction to heartbreaking stories of suicide and school shootings (Gini & Pozzoli, 2009; Nansel et al., 2004). Yet, beyond the headlines, elementary school students who bully or are targets of bullying have more social problems with their peers, participate less in classroom activities, are more likely to dislike school, have difficulty learning, and suffer from anxiety and somatic complaints such as stomachaches, headaches, or problems sleeping (Arseneault et al., 2006; Buhs, Ladd, & Herald, 2006; Crick & Grotpeter, 1995; Due et al., 2005). Students of all ages who are chronically bullied avoid restrooms, hallways, and the school cafeteria, or are truant from school to avoid being subjected to bullying behaviors (DeVoe & Kaffenberger, 2005; Dinkes et al., 2009). Middle and high school students who are bullied are also rejected by peers, fail academically, have more physical complaints and are more likely to suffer from depression, thoughts of suicide, and substance abuse (Dill, Vernberg, Fonagy, Twemlow, & Gamm., 2004; Liu & Mustanski, 2012; Nansel et al., 2004; Skara et al., 2008). For many, the effects of these problems are long-term and persist throughout their adult lives.

Bullying also harms student bystanders who witness the bullying. Some bystanders fear retaliation if they associate with or stand up for the victim (Espelage, 2002). Many also feel guilty for watching the bullying without trying to help, or joining their peers in the bullying behaviors (O'Connell, Pepler, & Craig, 1999; Salmivalli, 1999). Student bystanders report feelings

of helplessness when witnessing bullying episodes caused by their inaction or participation in the aggressive behaviors (O'Connell et al., 1999). Concern about these negative effects on bystanders becomes more alarming given that 75 percent of middle school students and even more elementary school students report witnessing or exposure to bullying in their school, classroom, or neighborhood (Atlas & Pepler, 1998; Bradshaw, Sawyer, & O'Brennan, 2007).

When Bullying Becomes Harassment

Bullying touches nearly every student – either through direct experience or as a bystander. Because youth are bullied about external attributions related to how they “look, talk, or dress” (Bradshaw et al., 2007, p. 370), racial and ethnic minorities; lesbian, gay, bisexual, or transgender (LGBT) youth; and youth with disabilities are especially vulnerable and frequent targets of bullying behaviors (Harris Interactive & GLSEN, 2005; Kosciw, Greytak, Diaz, & Bartkiewicz, 2010; Pearce, Boergers, & Prinstein, 2002; Rivers, 2001). National surveys indicate 9 out of 10 LGBT middle and high school students experience harassment at school because of their sexual orientation, are subjected to homophobic comments such as “faggot” or “dyke,” and fear for their personal safety (Kosciw et al., 2010). Because of this, the majority of students believe “coming out” was a mixed blessing in that it increased their psychological well-being but also exposed them to high levels of harassment. In these instances, bullying incidents may violate federal anti-discrimination laws that protect the right of each student to a safe learning environment and strictly prohibits peer harassment based on race, color, national origin, sex, or disability (Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and Title II of the Americans with Disabilities Act of 1990).

Of equal concern is the high prevalence of sexual harassment in schools. Hill & Kearl (2011) surveyed a nationally representative sample of students in grades 7–12 about their experiences with sexual harassment as the aggressor, target, or bystander. More girls (56 percent) were subjected to sexual harassment than boys (40 percent), but all students, regardless of gender, reported feeling unsafe, problems sleeping, truancy, and problems concentrating on their studies. The sexual harassment included unwelcome sexual comments, jokes, and gestures; unwanted physical touching; and electronic forms of harassment.

Culture of Bullying

An array of factors influence and many perpetuate school bullying including the individual characteristics of the students, social relationships in school, family support, neighborhood influences, and community systems (Bronfenbrenner, 1979; Espelage & Swearer, 2011; Lee, 2011). Leading experts point out that the challenge of reducing school bullying goes well beyond resolving interpersonal problems between two students. It requires a cultural shift in the school from the social norms and behaviors that maintain bullying to ones that prevent or oppose its occurrence (Bradshaw & Wassdorp, 2009; Swearer, Espelage, Vaillancourt, & Hymel, 2010). For example, the beliefs that teachers or students have about bullying, the quality of adult supervision, classroom and school social norms about aggression, and bystander responses to bullying may contribute to a school culture that promotes bullying (Gini, Pozzoli, Borghi, & Franzoni, 2008; Kochenderfer-Ladd & Pelletier, 2008; Lee, 2011; Nickerson, Mele & Princiotta, 2008; Oh & Hazler, 2009; Reis, Trockel, & Mulhall, 2007). Factors that may be important influences for students who have serious problems with bullying include individual characteristics (e.g., social competence, mental health, physical characteristics), peer relationships, family support, and the safety of their neighborhood (Bowes et al., 2009; Crick et al., 2006; Dill et al., 2004; Kuppens, Grietens, Onghena, Michiels, & Subramanian, 2008).

Seriousness of Bullying Is Misunderstood

A lack of awareness about the seriousness of bullying may lead to ineffective responses by both adults and students that, in turn, contribute to an increased tolerance of bullying (Kochenderfer-Ladd & Pelletier, 2008) and reduced empathy for students who are victims of bullying (Bradshaw et al., 2011; Vernberg et al., 1999). Adults and students both associate bullying with physical forms of aggression (Bauman & Del Rio, 2006; Leff, Kupersmidt, Patterson, & Power, 1999; Prinstein, Boergers, & Vernberg, 2001) but many fail to recognize that relational forms of aggression are equally harmful (Buhs et al., 2006; Merrell et al., 2006). Beliefs about aggression tend to predict our behavior and influence our motivation to change (Huesmann & Guerra, 1997; Swearer & Cary, 2007). Some teachers and students believe that verbal aggression, interpersonal conflicts, and social exclusion are normal, a part of “growing up,” and that students should learn to cope with this on their own (Bauman & Del Rio, 2006). In a large study conducted in the western United States, students in grades 3–8

were asked an extensive set of questions about their beliefs and experiences regarding bullying and harassment in school (Nishioka et al., 2011). In general, most students reported that they believe it is wrong to hit others, say mean things, push or shove others, get into physical fights, or insult others.

On the other hand, students, especially those in middle school, reported that retaliation is okay as long as someone else “starts it” and that students should be ready to fight for themselves (Nishioka et al., 2011; Vernberg, Jacobs, & Hershberger, 1999). Many students also believed that the student being targeted did something wrong and is at least somewhat to blame for being bullied. Perhaps most disheartening, students reported that bullying does work – bullies get what they want and are respected by other students. Unfortunately, these beliefs result in a higher tolerance for bullying and, in some cases, a sense of inevitability about bullying that empowers the aggressor and reduces support for students targeted by bullying (Dijkstra, Lindenberg, & Vennstra, 2008; Espelage, Holt, & Henkel, 2003; Oliver, Hoover, & Hazler, 1994; Pelligrini & Bartini, 2000; Rigby & Slee, 1999). We have summarized the results of these studies related to students’ and school staff members’ beliefs about aggression in Table 1.

Students Don’t Report Bullying

More than two thirds of bullying incidents go unreported because students believe teachers will ignore the report or intervene in ways that will make

Table 1. Beliefs About Aggression Among Students and School Staff Members.

Beliefs About Aggression	Students	School Staff Members
Relational aggression is not serious and is not harmful	×	×
Bullying behaviors are part of school – they are “normal”	×	×
Sometimes a student deserves to be bullied	×	×
Assertive students are not bullied	×	×
If someone provokes you, it is okay to yell or hit them back	×	
Student who bully get what they want	×	

Note: ×, indicates the beliefs about aggression that are common among Students or School Staff Members.

the situation worse (Bradshaw et al., 2011; Petrosino, Guckenburg, DeVoe, & Hanson., 2010; Rigby & Barnes, 2002). Students state that adults who tell them to ignore the situation, to be more assertive, or to avoid being around students who bully are making them responsible for the bullying problem (Bradshaw et al., 2007). Conversely, students view teachers who listen to them, give them advice, check in to see if they are okay, increase adult supervision, and intervene with the bully as helpful responses (Bradshaw et al., 2007; Newman & Murray, 2005; Unnever & Cornell, 2004). Overall, however, students are more likely to report bullying to peers rather than school personnel (Craig, Henderson, & Murphy, 2000; Rigby & Barnes, 2002; Unnever & Cornell, 2004).

Student and Staff Perceptions of Bullying Differ

The difference in teacher and student perceptions of bullying goes beyond their perceptions of effective reactions to bullying. Often, school staff underestimate the number of students involved in bullying (Bradshaw et al., 2007; Hill & Kearl, 2011; Kosciw et al., 2010) and tend to associate bullying with physical acts of aggression causing them to overlook the more subtle but, equally harmful, forms of relational aggression (Leff et al., 1999). Pepler and colleagues (1994) found that 84 percent of teachers report they intervene in bullying often, – more than double the percentage of students (35 percent) who report their teachers intervene in bullying.

Teachers and School Staff Members Require Professional Development

Nationally, school personnel (teachers, cafeteria workers, bus drivers, office personnel, classroom assistants) believe it is their job to intervene in bullying, but less than half report being involved in their school's bullying prevention efforts (Bradshaw et al., 2011). School personnel also report a lack of training in how to intervene in bullying situations, particularly in situations involving sexual orientation, gender, and disability (Bradshaw et al., 2011). Teachers report that they lack training and, in turn, confidence in their ability to manage bullying situations. This finding is concerning given the federal laws that prohibit discrimination in public schools on the basis of race, color, sex, national origin, and disability (Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972).

Parent Involvement Is Important

Most parents, especially those with children transitioning from elementary to middle school, recognize that bullying is harmful to their children and

expect schools to do more to address this problem (Holt, Kantor, & Finkelhor, 2009). Surprisingly, over a third of parents believe their child's school should deal with bullying without parental involvement (Holt et al., 2009). Lack of parental awareness and misconceptions about the seriousness and range of bullying behaviors also contribute to ineffective parental reactions that increase tolerance of bullying behaviors and reduced empathy for youth who are victims of bullying (Sawyer, Mishna, Pepler, & Wiener, 2011; Wassdorp, Bradshaw, & Duong, 2011). For example, common advice given by parents include telling the child being victimized to ignore the situation, to retaliate or fight to avoid being picked on, or to be more assertive – reactions that increase the victim's discomfort and empower the bully (Mishna, Pepler, & Weiner, 2006; Mishna, Saini, & Solomon, 2009; Wassdorp, Pas, O'Brennan, & Bradshaw, 2011).

Whole School Approaches Have Proven Effectiveness

Whole school (also referred to as school-wide) approaches comprise comprehensive interventions that are based on an ecological theory of social change that recognizes social phenomena like bullying result from an interaction between the individuals in the social setting and institutional factors that influence the quality of these interactions (Swearer et al., 2010). An ecological approach to bullying prevention responds to the following factors that contribute to and sustain bullying in middle schools:

- If the school has bullying prevention systems such as a comprehensive anti-bullying policy, school-wide and classroom management systems that teach and reward pro-social behaviors such as positive behavior interventions and supports (PBIS), then the school has management systems that will promote a school culture that prevents bullying.
- If the adults in the school learn to prevent, respond, and intervene effectively to bullying behaviors and adopt attitudes that support reduction of bullying, then the school will adopt a culture that does not tolerate bullying, most students will decrease perpetrating these behaviors.
- If students recognize/observe that the adults in the school are intervening consistently and effectively in bullying behaviors, then they will be less likely to support or join in bullying as bystanders.
- If student bystanders learn and use strategies to prevent, respond to, and report bullying situations and extend empathetic support to victims, then the adults and school will be able to devote more resources to supporting students who are bullies or chronic victims of bullies.

- If the school has school safety assessments and progress monitoring systems that gather information from adults and students, then school staff members can monitor progress and make data-informed decisions to improve the school-wide, classroom, and individual student interventions.

Prevention Approaches: What Can be Done to Address the Problem?

In this section, we outline a comprehensive, whole school approach to bullying prevention that is congruent with the scientific research reviewed earlier in this chapter, along with recommendations from the authors' practical experiences in working with schools. We will suggest that a combination of a whole school, system-based approach that includes adoption of an evidence-based bullying prevention curriculum is an effective and feasible approach.

School districts and school staff members face complex, and often emotionally difficult challenges, when attempting to effectively intervene with bullying and harassment. The frequently covert expression of these behaviors makes them very difficult to observe and document. This often limited capacity of most schools to observe and analyze bullying and harassment, when they do occur, makes the design and implementation of effective responses and supports problematic, at best.

There are multiple social constraints and considerations that can limit screening, identification, and intervention in bullying. For instance, many students are reluctant to speak out or seek adult help. Similarly, teachers, other school staff members, and parents may be reluctant, unwilling, or unable to initiate and pursue the steps necessary to address and intervene. School personnel may find that parents are defensive, and reluctant or unwilling, to address their child's aggressive behavior if he or she is a bully, or their child's experiences of victimization. Parents often find that school personnel are subject to similar psychological barriers.

The current social climate within schools places considerable stigma on youth who are accused of engaging in bullying or harassment (Swearer & Cary, 2007). Further, the determination of our society to view harassment (including harassment associated with bullying) as a criminal and civil offense, with the attendant legal ramifications, attaches a substantial accountability factor to the actions taken by those school officials responsible for today's students (Sprague & Walker, 2005). The district, school, and/or individual staff member most directly associated with the harassment situation may incur substantial legal liability and financial risk, if found

negligent in cases involving harassment of any type. Interventions for bullying and harassment can also be quite difficult, complex, and costly depending on the nature and severity of the problem. Many educators do not view bullying and harassment interventions as cost effective and worth the effort since peer harassment and bullying have traditionally been regarded as peer-owned problems to be worked out within the peer group in the absence of adult involvement (Bradshaw et al., 2011). However, there is now broad concern over this issue because of recent court decisions, the complaints and actions of parents of victimized children, and the distinct possibility that bullying and peer harassment have become more invasive, widespread, and public. The risks of not doing something about serious bullying and peer harassment currently outweigh the risks involved in formally addressing these problems.

Addressing the perpetrator's behavior, however, is only half of the task. Ongoing victim intervention and support must be part of any effective and lasting solution (Brown, Low, Smith, & Haggerty, 2011; Ross, Horner, & Stiller, 2011). In fact, effective intervention should address the specific needs of a variety of impacted individuals including the victim, the perpetrator, parents, school staff, and others negatively affected by the problem behavior (Olweus, 1994; Waasdorp et al., 2011).

Reactionary (after the fact) interventions that have a crisis ambience to them are potentially the most costly. Reactionary interventions are the least likely to be effective and are difficult to successfully implement as they usually involve making changes in an established and long-held set of practices. These interventions typically are punishment based and focus on one or two individuals: the perpetrator(s), perhaps the victim(s), and occasionally selected bystanders.

"Prevention" interventions aimed at addressing bullying through education (social skills training) and providing positive behavioral interventions and supports are typically less expensive to implement, are generally acceptable to most school personnel (particularly if they are universal in nature), and are less socially stigmatizing (Swearer & Cary, 2007). Educational prevention intervention programs can be used to address a wide range of problem behavior in addition to bullying and harassment, are usually focused on *all* students in the school, and are based on proven principles of teaching, reinforcing, and recognizing positive, expected forms of behavior including empathy, respect, positive regard for others, and responsibility (Brown et al., 2011; Knoff, 2007; Olweus, 1993).

A consensus of research (Swearer et al., 2010; Tofti & Farrington, 2011) suggests that interventions aimed at bully/victim problems should be a

coordinated and cooperative effort involving all concerned parties in every target environment and at every level (i.e., playground, school-wide, family, individual) in order to be effective. We recognize, however, that while professional interventions and supports at the family level are difficult to implement consistently, every effort should be made to involve parents as intervention participants to the extent they are willing and capable to be involved in them (Sawyer et al., 2011).

In the authors' view, the school environment provides the only relatively accessible setting for the consistent implementation of interventions and services targeting bully/victim behaviors. Olweus (1994) recommends the creation of a caring, positive school environment as a primary, first step for intervening in the bully/victim cycle. The creation and maintenance of such an environment is well within the capacity of most schools. There is some indication that consistent and universal (e.g., all students and staff) training in appropriate responses to bully/victim situations can help eliminate a great deal of this problem behavior (Waasdorp et al., 2011). Whole school interventions of this sort can target early problem behaviors such as teasing before they accelerate and lead to more extreme problems involving bullying and serious harassment.

Table 2 presents prompts that school teams could use to reflect on the current state of aggressive behavior and bullying prevention and intervention efforts in their school.

Transforming the destructive peer culture of bullying and harassment is perhaps our most formidable task in the area of school safety and discipline. The origins of bullying are diverse and complex, and may result in stigma for the student who bullies and the student victim. Although this situation is not of the schools' making, schools are perhaps the only social institution, excluding the family, capable of addressing it effectively. Addressing this problem is critically important, and complex. In the next section, we outline a series of practical steps that can be undertaken by schools to assess, prevent, and respond to bullying and harassment in schools.

Recommended Steps for Use by Schools in Addressing Socially Aggressive Behavior and Bullying and Developing a Culture of Respect

Effective interventions should consist of two research-based components:

- Curricular or instructional programs centered around social skills training and adult response protocols (Frey, Hirschstein, Edstrom, & Snell, 2009; Knoff, 2007; Olweus, 1993), and

Table 2. Reflection on Socially Aggressive Behavior and Bullying in Schools.

<ul style="list-style-type: none">• Does your school have a school-wide program that teaches pro-social skills to all students, creating a respectful social climate such as PBIS?• To what extent is socially aggressive behavior, bullying, and harassment a problem in our school?• Does our school or school district have a specific policy about socially aggressive behavior/ bullying?<ul style="list-style-type: none">◦ If so, what does the policy require us to do?• What is the proper response if a student reports a socially aggressive behavior or bullying incident to you?<ul style="list-style-type: none">◦ What should you say to the student?◦ What information do you need to collect?◦ Who do you report the socially aggressive behavior or bullying to?• Does our school have a specific plan or program to prevent and respond to socially aggressive behavior and bullying?<ul style="list-style-type: none">◦ Do students know how to report socially aggressive behavior or bullying properly?◦ Do students know how to respond to a socially aggressive behavior or bullying incident?<ul style="list-style-type: none">■ When they are the victim?■ When they are “standing by” and watching it happen?◦ How do we respond when the socially aggressive person/bully won’t stop?• Does our school have a specific plan and strategy for involving and informing parents about bullying and harassment?• Does our school have a policy and protocol regarding cyber bullying?
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- School wide PBIS programs designed to teach and reinforce positive behavior for the majority of the students and the school community (Brown et al., 2011; Ross et al., 2011).

These programs provide for the consistent and comprehensive teaching, practice, and re-teaching of social emotional skills such as:

- Empathy,
- Friendship building and maintenance,
- How to recognize and respond to socially aggressive behavior or bullying and harassment, and
- How to report socially aggressive behavior or bullying and harassment to adults.

Overall, schools seeking to reduce or eliminate socially aggressive behavior/bullying and harassment problems should follow a series of steps designed to introduce, teach, embed, and infuse a systems-wide intervention program that is ongoing, supported at district and school administrative

levels, is research-based, financially feasible, and acceptable to the various stakeholders involved.

These steps should include the following:

- Formulation and implementation of a bullying and harassment policy at the campus-specific or district-based levels (Knoff, 2007);
- Assessment of the nature and extent of the problem through surveys and observations (Nishioka et al., 2011);
- Selection of an appropriate school-wide response (Ross et al., 2011), with attention to the host environment and a specific bullying prevention program;
- Training of all staff, students, and families (Ross et al., 2011);
- Solicitation of family support and collaboration (Sawyer et al., 2011);
- Promoting active supervision of students in common areas (Sprague & Golly, 2005);
- Specific instruction on the role of bystanders in preventing socially aggressive behavior or bullying (Ross et al., 2011);
- Responding to chronic socially aggressive behavior/bullies with increasing supports, sanctions, and proven interventions (Knoff, 2007);
- Assisting chronic victims to be more assertive, gain friendship skills, and avoid dangerous situations (Vernberg et al., 1999); and
- Recording all instances of socially aggressive behavior/bullying behavior and watching for patterns that will help in planning effective intervention strategies (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004).

The following section adds detail to each implementation step.

Formulate and Implement a Bullying and Harassment Policy at the Campus-Specific or District-Based Levels

Increasingly, we see local school districts and states developing and requiring implementation of anti-bullying and harassment laws and policies – a practice we strongly recommend (Stuart-Cassel, Bell, & Springer, 2011). Here are some questions to ask:

- Does your state, district, or schools have a specific policy against social aggression, bullying, and harassment and a written code of conduct that publicizes it?
 - Does the policy address all forms of social aggression and bullying (sexual, racial/ethnic, sexual orientation, and differently abled harassment)?

- Does the policy contain the elements of a definition, procedures, sanctions, and prescribed method for notifying people?
- Is there a procedure to inform new employees and students of the policy?
- Are there references to social aggression, bullying in the student, staff, and parent handbooks?
- Are there references to social aggression, bullying in the school discipline code?
- Are student extracurricular activities, school-associated events, and job training work sites notified of the social aggression, bullying policy?
- Are vendors and salespersons visiting the district informed of the social aggression, bullying policy?

*Assess the Nature and Extent of the Problem through
Surveys and Observations*

There are a number of options to assist schools to conduct needs assessments regarding school-level prevention and response systems (Sprague & Walker, 2005), procedures and policy (Tofti & Farrington, 2011), and reporting protocols. Schools should use student- and adult-level surveys (Bradshaw et al., 2011; Nishioka et al., 2011) and archival data collection systems such as those designed to track and summarize patterns of office referrals or suspensions (Spaulding et al., 2010) to identify effective interventions for chronic problems and look at student reports of bullying and harassment from multiple perspectives.

Developing and disseminating anti-bullying, anti-harassment, and anti-intimidation policies, and the collection of school-based needs assessment data are considered “best practice” in effectively addressing the problem in schools (Olweus, 1994). The importance of gathering information directly from students as one source of data for monitoring bullying in schools is underscored by the discrepancies between student and teacher reports of bullying; adults are often unaware of bullying and harassment behaviors that students witness or experience in school (Bradshaw et al., 2007).

The ability to gather needs assessment data and track progress toward reducing bullying across schools within the same district or state is hampered by variation in measurement, including the definition of bullying. For example, educators and researchers use student self-report surveys to assess and monitor bullying and victimization in schools, but there is considerable variation in the format of bullying survey questions at local and national levels. Sawyer, Bradshaw, and Brennan (2008) compared the

differences in the self-reported victimization of 24,345 students in grades 4–12 between definition-based and behavior-based surveys. The definition-based survey provided a definition of bullying and asked students to respond to general questions such as, “How often have you been bullied during the last month?” (p. 108). The behavior-based survey consisted of items that required students to specify their experience with particular behaviors such as threatening, teasing, pushing/shoving, or spreading rumors/lies. Examples of behavior-based items were “Within the last month, has someone repeatedly tried to hurt you or make you feel bad by threatening you?” (p. 9). Overall, the study found behavior-based surveys may provide more reliable results by reducing the influence of differences in how students (e.g., boys and girls, or students from different racial or ethnic groups) perceive aggression when presented with a definition-based survey.

Select Appropriate School-Wide Response to Establish a Social Culture

Our key recommendation is that multiple approaches to prevention be integrated in an effective and efficient manner (Domitrovich et al., 2010). The integration of multiple approaches is the most appropriate response to designing and implementing a comprehensive approach to preventing and responding to antisocial behavior, including bullying and harassment. Building this “host environment” (Zins & Ponte, 1990) will provide the basis for all intervention efforts to have a greater likelihood of adoption, implementation, and maintenance (Glasgow, Vogt, & Boles, 1999). It is likely that simply adopting a bullying prevention curriculum will not achieve desired outcomes, or be sustained in a typical school setting (Gottfredson & Gottfredson, 2002). As such, a system that pays attention to both systems of implementation as well as specific curricular and intervention approaches has the biggest chance of success.

SWPBIS

To prevent mild to serious forms of antisocial behavior, educators around the world are turning to a comprehensive and positive approach to behavior management commonly referred to as school-wide positive behavior interventions and supports (SWPBIS; See Scott, this volume, for a discussion on universal systems such as SWPBIS). SWPBIS is based on the assumption that actively teaching and acknowledging expected behavior can change the extent to which students expect appropriate behavior from themselves and each other. When consistent expectations are established by

all adults, the proportion of students with serious behavior problems will be reduced and the school's overall social climate will improve (Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008; Bradshaw, Koth, Thorton, & Leaf, 2009; Colvin, Kaménui, & Sugai, 1993).

Bullying Prevention Curriculum

Given the complexity of an appropriate response to bullying prevention and response, we recommend that schools adopt one of the excellent and scientifically supported curriculum programs available. These include the Olweus Bullying Prevention Program (Olweus, 1994), Steps to Respect (Brown et al., 2011), and a recently developed intervention designed to be consistent with SWPBIS called "Bullyproofing PBIS" (Ross et al., 2011). Each of these programs includes features that are common to, or can be integrated into an SWPBIS host environment. To begin each of these programs, we recommend the establishment of a school-wide committee to oversee interventions to address antisocial behavior and bullying. In the authors' view, the committee can be formed to address all prevention activities in the school, thus integrating SWPBIS and bullying and prevention and response. The following paragraphs outline the details of this integration.

Train and Inform All Staff Members, Students, and Families

As with any new program, there will be a need for systematic and ongoing staff development and marketing (Bauer, Lozano, & Rivara, 2007; Mihalic & Irwin, 2003; Ross et al., 2011) to inform, influence, and garner support or "buy in" from stakeholders (school personnel, parents, students, community members). These activities can include the following:

- Conducting committee and staff member training events
- Holding staff discussion groups
- Introducing the school rules that encourage pro-social behavior and discourage socially aggressive behavior or bullying
- Holding a school kick-off event to launch the program
- Teaching the definition of bullying and harassment behavior
 - If someone directs problem behavior toward you
 - If you see others receive problem behavior
 - If someone tells you to "stop"
- Teaching a school-wide "stop" signal to all students and adults
 - Teaching how to use the "Stop Signal"

- Teaching “walk away”
 - Build social reward for victim for “walking away”
- Teach “getting help” from adults
 - Report problems to adults
- Teach how to reply (What to do when *you* are asked to “stop”)

Solicit Family Support and Collaboration

Soliciting active family support and collaboration is an active feature of all evidence-based bullying prevention programs (Tofti & Farrington, 2011). Parents and family members need to be actively and regularly informed of the school bullying policy, and their responsibilities for supporting their child, either as a victim, bystander, or perpetrator (Sprague & Walker, 2005).

Promote Active Supervision of Students in Common Areas

Active supervision is a method of student behavior support and management that is designed to maintain a safe and positive school setting for students (Smith & Sprague, 2004). The approach involves adults, who are responsible for supervising students, to move and scan the area strategically in order to promote positive social interactions among students and, if problems do arise, to intervene early and effectively. The authors recommend that all schools, regardless of grade level, should systematically adopt and implement an active supervision system as common areas comprise a very high risk setting for bullying and harassment. Active supervision methods work well in the following school areas or situations: (a) large areas such as play grounds or bus loading zones, (b) cafeterias or other places that have a high-census (many students), (c) lightly staffed areas, and (d) unstructured activities (student-directed) such as playgrounds, cafeterias, and hallways. Active supervision techniques also work very well in classrooms and other medium- to small-group activities or areas (Colvin, Sugai, Good, & Lee, 1997; De Pry & Sugai, 2002).

It is important to emphasize that simply maintaining an adult presence in common areas and merely attending to inappropriate behaviors is an insufficient and ineffective behavior support practice. Common area supervisors also need training required to perform the following skills: (a) develop and state the rules about expected behavior, (b) effectively and efficiently teach the rules, (c) effectively and efficiently enforce the rules, and (d) provide frequent monitoring and positive feedback to students.

*Instruct Bystanders on Their Role in Preventing
and Responding to Bullying*

All of the most commonly cited and used bully prevention programs focus on the role of the “bystander.” Each of the major bullying prevention programs include a bystander component (Merrell, Gueldner, Ross, & Isava, 2008). Perhaps the most important role of the bystander is to provide empathetic support for the student who is targeted by bullying and to ensure that they do not reward the bully’s behavior. Bystanders can get adult help to stop a bullying incident as it occurs and, if it is safe, they can tell the bully to stop and offer empathetic support to the student who is being harmed. Bystanders can also play an important role by reporting bullying problems so that the school authorities can intervene appropriately. Finally, students can be proactive in reaching out to peers who are left out or treated unkindly by others.

*Respond to Chronic Socially Aggressive Behavior/Bullies with Increasing
Supports, Sanctions, and Proven Interventions*

When any bullying or harassment situation persists or results in significant harm to a child, there will be a need for more complex, individualized responses to the problem (Knoff, 2007; Nation, 2007). The following list illustrates the range and type of responses needed:

- Conduct individualized assessment of the victim and bully behavior patterns (Ross et al., 2011).
- Involve parents of the perpetrator and victim (Brown et al., 2011; Sawyer et al., 2011).
- Teach and re-teach appropriate social skills and bully response skills in a more intensive manner (Ross et al., 2011).
- Conduct individual conferences with the person displaying socially aggressive behavior/bully and victim (Bauer et al., 2007).

*Assist Chronic Victims to be More Assertive, Gain Friendship Skills,
and Avoid Dangerous Situations*

Perhaps one of the most difficult aspects of intervention involves supporting students who are chronic victims of bullying and harassment. School staff

members have a responsibility for ensuring that students who are targets of bullying are safe. In developing a safety plan or individualized behavior support plan, the school should ensure that the strategies selected do not inconvenience or “penalize” the student who is the target of the bullying behavior. In other words, strategies such as increases in supervision, rearranging student schedules, or restricted use of certain areas of the school should be imposed on the student bully – not the student victim. Interventions and supports for chronic victims may also require teaching assertiveness, and building friendship skills (Merrell, 2010; Smith, Schneider, Smith, & Ananiadou, 2004; Tofti & Farrington, 2011). Skilled behavior consultants or the school counselor should teach the student what he or she should do in response to the bully, such as how to tell the bully to stop, walk away, and, if the bullying continues, report it to the teacher. The student who is targeted by bullies may also benefit from learning how to join in and socialize with peer groups. Students who bully may also benefit from learning social skills, such as how to deal with conflicts, impulse control, negotiating, taking turns, or how to gain peer attention in socially appropriate ways.

Schools should notify and involve parents if their child has chronic problems with bullying as the aggressor or the student targeted by the bullying behaviors. Parents can be helpful in developing individualized safety plans or behavior support plans to increase supervision and support for their child at home and in the community. If their child is the bully, they can establish firm limits and clear expectations for how their child should treat others. Conversely, if their child is being targeted by bullying, the parent can provide important emotional support that can help protect their child from the harmful effects of bullying (Connors-Burrow, Johnson, Whiteside-Mansell, McKelvey, & Gargus, 2009). Finally, the school and parents should work together to ensure that the student receives the support he or she needs to be safe and successful in school including mentoring, mental health, and other community services.

*Record All Instances of Socially Aggressive Behavior/Bullying
Behavior and Watch for Patterns*

Data-based decision-making is a theme that is interwoven throughout SWPBIS, and builds on the assumption that staff members, family, and students will be most effective in the design of preventive and reactive supports if they have access to regular, accurate information about the behavior of students, including patterns of bullying and harassment. It is

equally important to regularly assess adherence or fidelity to support plans, and to share those data with implementers. The value of data for decision-making is emphasized for both the design of initial support systems and the ongoing assessment and adaptation of support strategies. The SWPBIS approach includes adoption of practical strategies for collecting, summarizing, reporting and using behavioral and fidelity data on regular cycles, and this technology can greatly benefit responses to the problem of bullying and harassment in schools.

RECOMMENDATIONS AND CONCLUSIONS

Although there is a great deal of current emphasis on bullying and harassment in schools, these problems have been a major issue in schools and communities for a very long time. Public concern is beginning to catch up with reality. We as educators, parents, or community members should recognize that the antisocial behavioral characteristics commonly associated with bullying and harassment are part of a widespread behavior pattern among some of today's children and youth.

Outcomes for both boys and girls engaging in bullying and harassment tend to be negative. Severely aggressive behavior has been found to rarely change over time (Patterson, Reid, & Dishion, 1992; Reid, Patterson, & Snyder, 2002). Males and females engaging in antisocial conduct are likely to continue the cycle of violence and abuse inherent in bullying and harassment by exposing their own children to the attitudes, beliefs, values, and actions that cause it to replicate across generations (Loeber & Burke, 2011; Wahler, 1986). Unless children who chronically bully and harass others are exposed to early and continuing interventions and are supported by parents or caregivers, it becomes extremely difficult to turn this behavior pattern around.

Currently, there is a need for further research and development in the area of bullying and harassment prevention technologies to build upon the solid work that has been contributed in this area to date (Bradshaw et al., 2011). Teachers, school staff, and especially parents have a high stake in (and a legal responsibility for) alleviation of the negative effects of bullying and harassment in today's schools. The scope of the problem is staggering and continues to worsen. The need for access to effective, research-based interventions for these problems is critical for educational professionals as well as parents and community members.

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PREPARING TEACHERS TO EFFECTIVELY DELIVER READING INSTRUCTION AND BEHAVIORAL SUPPORTS IN RESPONSE TO INTERVENTION FRAMEWORKS

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ABSTRACT

Successful implementation of Response to Intervention frameworks in schools requires general and special education teachers to have well-integrated knowledge bases for providing instruction and intervention in reading and behavior. Implementation-focused approaches to changing teacher behavior, favored traditionally in special education, however, are unlikely to help teachers acquire such knowledge. In this chapter, we discuss the knowledge and practice that defines expert teachers in reading and behavior and how such expertise might be achieved through practice-focused approaches to initial teacher education and professional development.

Classroom Behavior, Contexts, and Interventions
Advances in Learning and Behavioral Disabilities, Volume 25, 247–277
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ISSN: 0735-004X/doi:10.1108/S0735-004X(2012)0000025013

Successful Response to Intervention (RtI) implementation is predicated on identifying and applying the right prevention and intervention strategies in schools so that students can access the general education curriculum and meet rigorous content standards. Decades of research on interventions for students with challenging behaviors and early reading problems, fortunately, has yielded many appropriate strategies that can be applied within an RtI Framework to ensure student success; however, many scholars question whether general education teachers are prepared to implement the sort of prevention and intervention strategies that instruction in tiers I and II would require and if special education teachers have been prepared sufficiently in reading and behavior to implement the sorts of strategies required by tier III.

Many scholars assume that special and general education teachers need better initial preparation or more professional development (PD) to implement these strategies. The logic is that if teachers understand evidence-based strategies, know how to use them, and have proper support for implementation, then they will use them in their classroom. This implementation view of teacher learning is founded on implicit assumptions about teacher expertise and learning that are not supported in the research on expertise more generally, and effective teachers more specifically. Implementation views of teacher learning often focus on long lists of knowledge or skill sets, commonly referred to as competencies, that teachers must acquire if they are to assist students with learning and behavior challenges in their classrooms. For instance, teachers need to know what a functional behavioral assessment is and how to conduct one in their classrooms; teachers need to know what phonological awareness is and some key strategies for developing it. Teachers do not become experts, however, just by simply learning to implement multiple strategies in a particular area. If findings from studies of expertise in other professions hold true, then expert teachers are likely to have well-integrated knowledge bases that they can apply fluently to many situations in the classroom, leaving cognitive space for them for problem-solving around more complex situations, such as those that would characterize tier III interventions.

In this chapter, we assert that if general and special education teachers are to operate successfully within RtI frameworks, then teacher education (both at the preservice and inservice levels) needs to approach teacher learning in coordinated ways, such that general and special education teachers can acquire the integrated knowledge necessary to be responsive to students' learning and behavior challenges. Such an approach should be founded in research on the knowledge and skills that effective special and general education teachers have been shown to demonstrate in managing behavior

problems and providing reading instruction. Additionally, teacher education should occur over time and adopt a practice-focused approach to developing teachers' skills and knowledge in ways that are aligned with findings from research on initial preparation and PD. To support these ideas, we explore what we currently know about effective teachers, particularly in the areas of behavior, reading, and collaboration, as these areas will be foundational to successful RtI efforts. We also explore what we know about research-based approaches to preparation and PD for the purpose of advocating for a practice-based approach to developing effective teachers for RtI. Finally, we make recommendations for how we might adopt a practice-based approach to teacher education in college and schools.

WHAT DEFINES TEACHER EXPERTISE FOR STUDENTS WITH CHALLENGING BEHAVIORAL AND LEARNING NEEDS?

Teachers' abilities to create classrooms that are emotionally supportive and well managed have been documented as important in preventing problem behaviors and promoting academic achievement. Large-scale studies involving observations of classroom performance have demonstrated that teachers who provide a positive classroom climate and demonstrate sensitivity and regard for students' perspectives are more likely to promote academic achievement, language competence, social competence, and on-task behavior (Connor, Son, Hindman, & Morrison, 2005; Hamre & Pianta, 2005; Howes et al., 2008; Mashburn et al., 2008; Pianta, La Paro, Payne, Cox, & Bradley, 2002; Ponitz, Rimm-Kaufman, Grimm, & Curby, 2009; Rimm-Kaufman, La Paro, Downer, & Pianta, 2005). In Hamre and Pianta's (2005) national study including 910 first-grade students, results indicated that when children displaying early signs of behavioral, social, and/or academic issues are placed with a teacher characterized as providing a high level of emotional support in her classroom, they had comparable scores on the first-grade Woodcock-Johnson Tests of Achievement as low-risk peers. Conversely, students displaying these issues and placed in classrooms offering lower levels of emotional support had poorer results than their lower-risk peers. Additionally, the teachers providing higher levels of emotional support in their classrooms had better relationships and less conflict with their students by the end of the school year. Yet, what is it that these more emotionally supportive teachers do to promote engagement in classrooms?

Effective Classroom and Behavioral Management Practices

Effective instruction characterized by direct and focused teacher instruction that is infused with time for student performance and specific feedback from teachers about their progress can lead to improved focus on academic tasks in addition to increased positive interactions between students and teachers (Pianta et al., 2002). Furthermore, Sutherland, Alder, and Gunter (2003) demonstrated that increasing students' opportunities to respond to academic requests reduces disruptive behavior. Seo, Brownell, Bishop, and Dingle (2008) observed that beginning special education teachers whose classroom instruction was characterized by more overt and direct content instruction and classroom management instructions had students who were more likely to be engaged in academic tasks. As in the aforementioned studies, these teacher-led instructional sessions included many opportunities for student performance and feedback interaction with the teacher.

Well-managed classrooms characterized by effective instruction should provide a foundation for promoting positive behaviors in general education, and in turn, should support the behavior and learning of most students in the school. Some students, however, will require more substantial behavioral supports to be successful in schools. Students with significant behavioral challenges may require interventions that modify or change their behavior in order to profit from classroom instruction. Numerous intervention studies show that these students often benefit from structured incentive systems, such as token economies, behavioral contracts, and behavior intervention plans that are individually tailored based on functional behavior assessments (McIntosh & Av-Gay, 2007; Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). Cognitive behavioral interventions also hold promise for addressing some of the severe behavioral challenges presented by these students (Mayer, Lochman, & Van Acker, 2005).

Less clear, however, are the ways in which effective special education teachers, providing tiered support to these students, integrate these strategies with academic instruction to support the needs of students with significant emotional and behavioral disorders (EBD). Observational studies have shown that such integration may be difficult to achieve (Carr, Taylor, & Robinson, 1991; Gunter & Coutinho, 1997; Sutherland & Oswald, 2005); several studies demonstrate that teachers and students with severe problem behaviors engage in cycles of negative reinforcement, in which the teacher presents an academic task, the student engages in a problem behavior, and the teacher withdraws the task (by, e.g., sending the student to the office). The student is reinforced by the withdrawal of aversive task

demands, while the teacher is reinforced by the absence of an aversive behavior (Carr et al., 1991; Gunter & Coutinho, 1997). This pattern is hypothesized to be one reason why students with problem behaviors receive lower rates of academic instruction than their peers (Sutherland & Oswald, 2005).

Teacher Knowledge for Managing Classrooms

The knowledge underlying teachers' abilities to employ evidence-based behavioral and cognitive strategies for managing or changing students' challenging behaviors has not been acknowledged in the research. Thus, we have major questions about what constitutes the knowledge needed for effective classroom and behavior management. Do effective teachers simply need to understand what interventions are available and how they can be used in a classroom? Or, do they have integrated knowledge that includes knowledge of interventions, the conditions under which they might be used in classrooms, the role classroom ecology plays in individual student behavior, and the ways in which behavioral interventions (and all instruction, for that matter) might be tailored to meet the developmental needs of both nondisabled students and those with EBD?

Scholars in special education argue that skilled classroom managers have coherent theoretical knowledge of classroom management principles, as well as practical knowledge of how to implement both preventive and reactive strategies (Conroy, Alter, Boyd, & Bettini, in press; Emmer & Stough, 2001; Oliver & Reschly, 2010). Further, this knowledge becomes integrated as a result of opportunities to practice. Sawka, Mccurdy, and Mannella (2002) examined the relationship between EBD teachers' knowledge and practices, both before and after a PD on classroom management. They found that the PD increased teachers' knowledge, but that their practices did not change until they participated in consultative sessions with feedback on their implementation of the practices. Once new knowledge was situated within their actual classrooms, teachers were able to accurately employ the strategies they had learned, which resulted in improvements in students' on-task and disruptive behaviors. Teachers with more developed social-emotional competence also seem more able to produce stronger social, emotional, and behavioral outcomes for students (Jennings & Greenberg, 2009). Social-emotional competence requires knowledge of self, of social and cultural dynamics, and of children's social-emotional development. Additionally, general and special education teachers need to know how

typical and atypical development influences behavior and how they can draw on those understandings during instruction and other periods of time. For instance, expecting students in the early grades to sit still for long periods of time or to line up in complete silence is probably not realistic. Finally, because well-designed academic instruction that engages students seems to play a strong role in managing student behavior, both special and general education teachers likely need considerable knowledge about how to teach academic subjects effectively, particularly if they are fully responsible for instruction in that area.

WHAT DEFINES TEACHER EXPERTISE FOR PROVIDING SUCCESSFUL CORE AND TIERED READING INSTRUCTION?

General education teachers providing core reading instruction to all students have the challenging task of organizing and providing instruction that is differentiated to meet a wide range of students' needs. Not only must these teachers provide core instruction, they are often responsible for providing tier II instruction. Special education teachers should be working with their general education colleagues to plan this differentiated instruction, while also providing intensive, remedial tier III instruction to those students who need it.

Effective Instructional Practices in Reading

Providing carefully crafted core and tiered reading instruction requires both content and strategies that are appropriate to the needs of individual students. Carol Connor and her colleagues (Connor, Morrison, & Petrella, 2004; Connor, Morrison, & Underwood, 2007; Connor et al., 2009) have shown that students with strong reading skills profit from more child-managed instruction that has a stronger comprehension focus, whereas students who struggle require more teacher-directed instruction, initially in decoding and then later in comprehension. To provide such diverse instruction, general education teachers will need rather deep knowledge of classroom management and methods for differentiating instruction; research in the past has demonstrated that general education teachers often struggle to effectively engage whole classrooms of students in instruction

that is both differentiated according to their abilities and engaging. Yet, being able to engage students in content that meets their needs is one critical element of effective instruction.

Both general and special education teachers working with students who struggle will also need to understand how to provide whole-class and small-group instruction that is focused on the right content and instructional strategies, cognitively rigorous, highly engaging, teacher-directed, explicit, and supportive of students' needs (Carlisle, Kelcey, Berebitsky, & Phelps, 2011; Connor et al., 2005, 2009; Taylor, Pearson, Peterson, & Rodriguez, 2001; Taylor, Peterson, Pearson, & Rodriguez, 2002). Small-group instruction might increase the intensity of the intervention for at-risk learners. Although not definitive in their conclusions, Wanzek and Vaughn (2010) noted that effect sizes for interventions delivered in groups of six to eight students seem to be smaller than those delivered in groups of two to three students. Brownell et al. (2007), in a study of special educators' reading practice, found that instructional group size moderated the relationship between effective reading instruction and student achievement, such that smaller groups enhanced the impact of effective reading instruction on students' oral reading fluency rates by 9%.

Moreover, helping students have access to the right content and instructional strategies during small-group and large-group instruction matters. Carol Connor and her colleagues have provided compelling evidence for the need to match the content and type of instruction to struggling students' needs, in order to move the "needle" on their achievement meter. Specifically, Connor found that teacher-managed instruction in code and comprehension have a greater impact on students whose initial letter word recognition, vocabulary, and comprehension skills are weaker than typical. Younger students also profit more from teacher-managed vocabulary instruction than older students; child-managed comprehension strategies were better for students entering third grade at the 90th percentile or higher. Additionally, Connor et al. found that when first- and third-grade teachers participated in a PD that provided them with feedback on type and quantity of instruction, based on students' ability, they provided more effective instruction (2007).

While studying how teachers provided effective instruction to classrooms that included 80 and 81 percent English Language Learners (ELLs), Gersten, Baker, Haager, and Graves (2005) found that explicit and interactive instruction in both phonemic awareness and decoding and vocabulary promoted achievement for the most struggling learners. Similarly, Coyne, McCoach, and Kapp (2007) found that explicit vocabulary instruction

facilitated high achievement in the most struggling students, particularly when the instruction focused on small groups of students and students were taught strategies learned in core instruction. Reviews of the instructional strategy literature have also identified numerous strategies that support the learning of struggling readers and students with disabilities, including using encoding instruction (e.g., letter tiles, plastic letters) to promote decoding and spelling skills (Weiser & Mathes, 2011) and repeated readings (Therrien, 2004). Other interventions demonstrated to have powerful effect sizes include systematic explicit instruction; mnemonic strategies; and learning strategies (e.g., study skill instruction, self-questioning strategies; Scruggs, Mastropieri, Berkeley, & Graetz, 2009).

When general and special education teachers use practices that promote instructional rigor and student engagement, students also achieve stronger reading outcomes. Taylor, Pearson, Peterson, and Rodriguez (2005) and Taylor et al. (2002) found that the use of higher-level questioning, coaching, modeling, and other forms of scaffolding, paired with higher levels of student on-task behavior, seems promising in promoting positive student reading achievement. Specifically, classroom teachers who prompted students to apply their word-level knowledge to decoding novel words and used higher-level questioning strategies to promote comprehension had students with higher reading achievement. The application of these strategies increased the cognitive level at which the students were engaged.

Instruction that is explicit and provides multiple opportunities to practice is also critical to improving the achievement of students who struggle, including those with disabilities. Baker, Gersten, Haager, and Dingle (2006) found that explicit instruction predicted the reading achievement of both English speaking and Spanish speaking first-grade students. Carlisle et al. (2011) also found that teacher-directed instruction and support for students' learning were predictive of students' reading achievement gains; moreover, teacher-directed instruction and support for students' learning had a stronger impact on the reading comprehension scores of students on free and reduced lunch than those who were not. Additionally, Brownell et al. (2007) showed that instruction that was direct, intensive, engaging, and supported students in making connections and elaborating on their responses promoted the reading achievement of students with disabilities. The use of specific decoding practices and comprehension practices also played a role in student achievement.

Research from both general and special education has helped us to define the features and content of effective reading instruction for struggling readers and students with disabilities in both core and tiered instruction.

Yet, what is the knowledge that general and special education teachers need to have about the content of reading, the reading process, reading pedagogy, and students to provide such effective instruction?

Teacher Knowledge for Reading Instruction

Careful observations of effective teachers providing reading instruction reveal the considerable knowledge such teachers have (Seo et al., 2008); yet, determining the nature of and measuring that knowledge has been challenging. Those studies that do exist provide some evidence that general and special education teachers have knowledge of the English language (e.g., phonology, orthography, morphology) and likely use it while teaching reading (Brady & Moats, 1997; Moats, 1994; Moats & Lyon, 1996). Moats and Foorman (2003) developed a teacher knowledge survey that differentiates teachers by their linguistics knowledge level and has a predictive association with student performance in reading. Other scholars used this survey to establish significant, positive relationships among teacher knowledge, classroom practice, and student reading achievement. Many of these studies included a PD effort designed to deepen teachers' knowledge of the English language and provide strategies for enacting that knowledge in practice (Carlisle, Correnti, Phelps, & Zeng, 2009; McCutchen et al., 2002; McCutchen, Green, Abbott, & Sanders, 2009; Piasta, Connor, Fishman, & Morrison, 2009). One of these studies demonstrated that while teachers' knowledge of linguistics did not predict student achievement, it did play a role in teacher practice. Piasta et al. (2009) showed that teacher knowledge of linguistics moderated the relationship between classroom practice and student achievement. Other researchers have been able to establish a direct relationship between teacher knowledge and student achievement (McCutchen et al., 2002, 2009; Moats & Foorman, 2003).

General education teachers may also require knowledge of pedagogical practices for teaching the content of reading and knowledge of the sorts of difficulties students might encounter in learning to read. Phelps and Schilling (2004) demonstrated that their assessment designed to measure this knowledge effectively differentiated experienced teachers from other professionals. Carlisle, Kelcey, Rowan, and Phelps (2011) found a relationship between first-grade teachers' knowledge and first-grade students' comprehension skills. However, no linkage could be identified between teachers' knowledge and first-grade students' decoding skills, or teachers' knowledge and second- and third-grade students' decoding or comprehension skills. In a

second study investigating the relationship between teachers' pedagogical knowledge and second- and third-grade students' reading-related skills, Carlisle et al. (2011) found that teachers' knowledge modified the relationship between students' free and reduced lunch status and students' academic outcomes. Teachers with higher knowledge were more effective with students who were not on free and reduced lunch.

Special education teachers also likely need both linguistic knowledge and the pedagogical content knowledge, like that measured by Phelps and Schilling (2004), to provide the type of intervention students with disabilities need. Two studies specifically sampled special education teachers' knowledge of linguistics and the relationship of that knowledge to their instruction in a supervised field experience (Spear-Swerling, 2009; Spear-Swerling & Brucker, 2004). Spear-Swerling (2009) and Spear-Swerling and Brucker (2003) investigated special education preservice teachers' knowledge of linguistics during coursework. After participating in initial training or coursework in the word structure of the English language (e.g., grapho-phoneme segmentation of words, classification of pseudo words by syllable type), novice special education teachers demonstrated greater knowledge of the English language than before. However, significant Pearson correlations between knowledge and student achievement were found for only one of the studies. No attempt was made to correlate teacher knowledge and classroom reading practices. Using a modified version of Phelps and Schilling knowledge survey, Brownell et al. (2007) investigated linkages between beginning special education teachers' knowledge for teaching reading, classroom practices, and students' reading gains. Teachers' knowledge for teaching reading did not relate to student academic gains in reading, but knowledge did predict certain aspects of classroom practice. Specifically, content knowledge for teaching word analysis predicted a moderate, but significant portion of the variance in decoding instruction.

WHAT DEFINES EXPERTISE IN COLLABORATION AMONG GENERAL AND SPECIAL EDUCATION TEACHERS?

Coordinating aligned instruction and behavioral approaches across the different tiers of instruction requires active collaboration among general and special education teachers. Although many scholarly writings and research in this area acknowledge the need for the effective collaborative skills, few

explicitly define what expertise in collaboration looks like or how it can be fostered. Similarly, many programs, interventions, and studies include “collaboration” as a goal or intended outcome, but they do not always define the needed underlying skills of collaboration. Less than a handful of studies identify the skills of collaboration and include them in their coursework and field experiences. These skills include (a) problem-solving, (b) active listening, (c) conflict resolution, and (d) teaming with other professionals (Bradley & Monda-Amaya, 2005; Fisher, Frey, & Thousand, 2003; Gerber & Popp, 2000; Van Laarhoven et al., 2006); however, it is unclear how these researchers specifically address these skills. Only Bradley and Monda-Amaya (2005) studied an innovation for improving a specific collaborative skill. They taught conflict negotiation skills to preservice special education teachers by helping them learn to analyze vignettes and provide steps for resolving the conflict present in the vignettes. Bradley and Monda-Amaya showed that preservice special education teachers could learn to analyze conflict situations and provide appropriate steps for resolving the conflict.

Though there is a general consensus that these collaborative skills are necessary to facilitate instruction for students with disabilities, the literature supporting this consensus is not conclusive. Most studies examine school-based professionals’ perspectives on the collaborative skills general and special education teachers need, rather than documenting the skills of those teachers identified as collaborative or describing how collaborative skills might be acquired. For example, Gerber and Popp (2000) conducted interviews and focus groups with administrators, collaborative special and general education teachers, parents of students with and without disabilities, and students with and without disabilities to determine the efficacy of collaborative service delivery in one district. Data analysis revealed that stakeholders felt team building, communication, problem-solving, and conflict resolution skills were important for any teacher involved in collaboration. Additionally, in an evaluation of a preservice experience designed to promote collaboration, Richards, Hunley, Weaver, and Landers (2003) developed a survey of problem-solving, listening skills, time use, and interpersonal skills for participants to rate. The outcomes Richards et al. selected for the survey support consensus within the field that those collaborative skills are important to promote.

The two studies by Gerber and Popp (2000) and Richards et al. (2003) delineate specific skills that are believed to contribute to effective collaboration. In addition to more refined use of the general skills identified in the previous paragraphs (i.e., problem-solving, listening skills, time use, and

interpersonal skills), it is likely that expert special education teachers must possess and use other and more specialized skills as they collaborate, negotiate, and partner with general education teachers (Bradley & Monda-Amaya, 2005; Fisher et al., 2003; Gerber & Popp, 2000; Van Laarhoven et al., 2006). The nature of cross-tier collaboration requires the ability to engage in IEP planning and construction (Arthaud, Aram, Breck, Doelling, & Bushrow, 2007), instructional and intervention planning (Arthaud et al., 2007), peer evaluation (Bradley & Monda-Amaya, 2005), positive behavior supports and educational practices (such as instruction and assessment) appropriate for all students in the classroom, regardless of disability (Fisher et al., 2003). Expert special educators must also collaborate with a variety of other service-related professionals at the building level, such as administrators (Wilcox & Wicle, 2000), coaches, paraprofessionals (Fisher et al., 2003), and medical personnel (Conoley & Conoley, 1991), and they must be able to effectively engage parents (Murray & Curran, 2008) and families (Fisher et al., 2003; Van Laarhoven et al., 2006; Wilcox & Wicle, 2000). There is, however, no research on what further skills such specialized forms of collaboration require, or information about the knowledge that underlies those skills.

Summary

Taken together, the studies reviewed demonstrate that general and special education teachers have specialized skill for teaching reading and managing student behavior. Additionally, effective teachers have knowledge for teaching reading that seems different from the knowledge that other professionals have about the process of reading. Effective teachers seem to have integrated knowledge linguistics, language, and pedagogy for teaching reading to students who struggle with decoding and spelling problems. We know less about what effective reading teachers know, however, about teaching fluency, vocabulary, and comprehension, and we have no understanding of how the knowledge of effective general education teachers might be similar to or different from effective special education teachers. Even less clear is the knowledge behind effective classroom and behavior management as well as effective collaboration. Further, the skills needed for collaboration are not supported through research; there is some professional consensus about the skills that are needed, but research is nonexistent. Although research on effective teachers' knowledge and skill is insufficient, findings from existing studies do provide a direction for teacher education

efforts. As such, we turn our attention to the types of learning experiences that will be needed to further teachers' knowledge and skill in these areas.

DESIGNING A TEACHER EDUCATION SYSTEM TO DEVELOP EFFECTIVE TEACHERS

The knowledge and skills needed to teach effectively in an RtI framework cannot be developed easily over a two-year period (the length of most preparation programs), or in alternative routes to the classroom, particularly those that provide only minimal preparation. So, how can teacher educators help preservice teachers acquire some of the fundamental skills needed to teach students with disabilities and other students who struggle? Furthermore, what sorts of supports do special and general education teachers need after leaving their preparation program in order to become highly effective teachers?

We argue that, for teachers to develop the expertise in reading and behavior that they will need to participate successfully in RtI, they will need repeated and sustained opportunities to learn about how to teach literacy and intervene in student behavior. These opportunities should begin in preservice programs and extend into their teaching careers.

Initial Preparation: The Need for a Practice-Based Approach

Any system of teacher education needs to promote the sorts of knowledge and skills effective general and special education teachers will need to operate in an RtI framework. Currently, however, special education preparation programs are quite heterogeneous, differing widely in the types of courses and experiences they offer to preservice teachers (Goe, 2007). Moreover, many general education programs do not include sufficient coursework or field experiences in working with students with disabilities. Although general education teacher preparation is clearly insufficient in this respect, limited evidence demonstrates that preparation in special education does make a difference in terms of a special education teacher's ability to teach effectively and add value to the reading and mathematics achievement of students with disabilities served in pullout settings (Feng & Sass, 2010; Nourgaret, Scruggs, & Mastropieri, 2005). Exactly why special education preparation contributes to the effectiveness of special education teachers, however, is less well known, and from the research on general

education teacher preparation, we know nothing about how to better prepare these teachers to provide effective instruction in an RtI framework. Clearly as a field, we need to understand the sorts of coursework and field experiences beginning special and general education teachers need to prepare them for effectively teaching students within an RtI framework. A thorough review of the literature in special education (Leko, Brownell, Sindelar, & Murphy, 2012) suggests that a practice-based approach to teacher education that focuses on developing knowledge and skills in reading, classroom and behavior management, and collaboration might be effective.

Opportunities to Apply Knowledge for Teaching and Collaborating

Structured opportunities to acquire pedagogical content knowledge and implement that knowledge in applied settings appears to be helpful in improving preservice teachers' knowledge, practice, and sometimes student achievement. In several studies designed to improve knowledge and skill in teaching reading, preservice special education teachers were provided opportunities to learn about the content of early reading instruction in a language arts course, including the structure of the English language, phonics, and reading assessments (Al Otaiba, Schatschneider, & Silverman, 2005; Spear-Swerling, 2009; Spear-Swerling & Brucker, 2004). In the Spear-Swerling studies, preservice special education teachers were also provided with a lesson planning structure and specific reading strategies for implementing the content. Next, preservice teachers were placed in tutoring situations in which the course instructor closely supervised them. The instructor was available to model strategies, provide instructional suggestions, and provide corrective feedback on their tutoring instruction. In the Al Otaiba et al. (2005) study, preservice teachers were taught to implement a specific tutoring program and were supervised to ensure they were implementing the program with integrity. In all of the studies, preservice teachers made significant gains on knowledge tests that examined their understanding of the English language structure and phonology. Preservice teachers were also able to help students make significant gains on some combination of measures that assessed letter sound knowledge, reading and spelling of irregular words, and phonics concepts. Additionally, in the Al Otaiba et al. (2005) study, preservice teachers demonstrated a stronger capacity for analyzing the needs of individual students, suggesting that they were integrating their knowledge for teaching content with knowledge of their students as a result of the opportunity to engage in guided practice.

In one study by [Gettinger, Stoiber, and Koscik \(2008\)](#), teacher educators aligned opportunities to learn content and strategies with field experiences. Instead of relying on coursework, Gettinger et al. used extended workshops, combined with field experiences, to develop preservice teachers' knowledge about challenging behaviors and strategies for responding to these behaviors. Specifically, preservice teachers were taught information about and strategies for engaging in interdisciplinary teaming for the purpose of conducting and interpreting functional behavior assessments. Readings, hypothetical cases, and guidelines for field-based activities were provided in the workshops. Then, preservice teachers were coached to implement functional behavioral assessments and positive behavioral supports in classroom settings. At the conclusion of the experience, preservice teachers demonstrated gains in knowledge. They also made gains on a consultation simulation task and their target students attained their goals. Findings from this study, and those in reading, show that preservice teachers benefit from opportunities to acquire knowledge and then apply it in natural settings, particularly when those applied opportunities are well structured, focused in terms of skill and knowledge learned, and structured to provide feedback on either preservice teachers' analysis of student data or their implementation of effective practice.

Preservice teachers also profited from opportunities to learn and apply collaboration skills and strategies associated with successful co-teaching. In two different studies, preservice programs that were designed to help general and special education teachers acquire the skills necessary for co-teaching (e.g., how to make accommodations, how to use collaborative problem-solving skills) used a combination of coursework, simulation activities, and field experiences. In the [Richards et al. \(2003\)](#) study, secondary and special education preservice teachers rated their collaborative experiences as beneficial and indicated that they felt better prepared on a variety of collaborative skills. [Van Laarhoven, Munk, Lynch, Bosma, and Rouse \(2007\)](#) found that the collaborative experiences they provided improved general and special education preservice teachers' attitudes about inclusion, their ability to analyze a classroom vignette and produce solutions, and their ability to teach a co-taught lesson.

Strategies for Developing Applied Knowledge in Coursework

The clinical experiences described in the preceding section are expensive in terms of the human resources necessary to support them. Case-based instruction, video instruction, and simulations, including virtual simulations, all have demonstrated some limited potential for supporting preservice

teachers in acquiring the essential knowledge and skills they need. Case-based instruction uses narratives and video to represent authentic problems of practice, where preservice teachers can apply knowledge they are acquiring in coursework to solve problems. Alexander, Lignugaris-Kraft, and Forbush (2007) used cases as part of the coursework and field experiences they designed to assist preservice teachers in developing more effective mathematics instruction. Specifically, preservice teachers were required to develop skill sequences for the National Council of Teachers of Mathematics Standards and apply those sequences to three different hypothetical cases. Additionally, Mitchem et al. (2009) used cases to help preservice teachers learn about planning, instruction, intervention, and assessment of students with social, emotional, and behavioral disorders. Specifically, they used cases combined with activities where preservice teachers had to use knowledge acquired in class to critically analyze the instruction, versus instances where cases were used to contextualize instruction. Concept maps were used as pre- and post-measures of knowledge gains. Comparisons of concept maps showed that preservice special education teachers' knowledge was greater only when they had to use the knowledge they were acquiring to analyze the case. Simply having a case as an example of knowledge taught was not helpful. Findings from both of these studies suggest that opportunities to access knowledge acquired in coursework and apply it to authentic problems are likely beneficial to preservice special education teachers.

Video modeling and simulations also have been shown to help teachers develop applied knowledge. Dieker et al. (2009) used video models of three different content strategies: the Text Talk strategy for teaching vocabulary, dynamic assessment approaches for evaluating students' understanding of mathematics, and the 5-E Learning Cycle, a directed inquiry approach to science instruction. After viewing the videos, preservice teachers were able to describe more of the strategy steps than they were after simply learning about the strategy in coursework. Bradley and Monda-Amaya (2005) used vignettes combined with roleplaying to teach conflict management strategies to special education preservice teachers. Preservice special education teachers who participated in the training were assessed using a multiple baseline design. After treatment, participants were better able to analyze vignettes for determining the basis for the conflict and to provide steps for resolving the conflict than they were during baseline.

Finally, virtual simulations hold great potential for preparing preservice teachers, but their potential has not yet been realized. At the University of Central Florida, researchers have developed TeachLivE. This virtual lab provides simulated learning experiences in classroom management by

incorporating avatars that represent real students. Preservice teachers engage with the avatars manned by TeachLivE interactors. The avatars respond to actions taken by the preservice teachers. The avatar responses are designed to mimic what might happen in a real classroom, but the interaction is controlled by the interactors, so that preservice teachers can practice routines and receive feedback without experiencing negative consequences often accrued from failed attempts in real classrooms (Dieker, Hynes, Hughes, & Smith, 2008; Synthetic Reality Lab, 2012). Although TeachLivE appears to have potential for promoting preservice teacher learning, there are no known studies of its impact. Further, it is the only application of simulation experiences known thus far to assist the learning of preservice teachers.

Beyond Initial Preparation: Practice-Focused PD

To develop the effective teachers we need for RtI frameworks, carefully articulated opportunities to learn, beyond the preservice years, must be available to general and special education teachers. Teacher educators and school-based professionals have long recognized the need for teachers to have ongoing learning opportunities, and therefore have proposed a variety of strategies, including professional learning communities, lesson study, teacher study groups, and the like. The degree to which these opportunities are successful will depend, however, on their capacity for extending knowledge and skill acquired during preservice education and providing the sorts of learning opportunities described in the research on PD.

Extending Learning Opportunities

Research from both general education and special education has demonstrated that short-term PD, also referred to as “sit and get” PD, is relatively ineffective in changing teachers’ classroom practices (Boyle, While, & Boyle, 2004; Butler, Lauscher, Jarvis-Selinger, & Beckingham, 2004; Joyce & Showers, 2002; Lang & Fox, 2003; Little, 1993; McLeskey & Waldron, 2002; Richardson & Placier, 2001; Sprinthall, Reiman, & Thies-Sprinthall, 1996; Waldron & McLeskey, 2009). In a review of research on PD in general education, Joyce and Showers (2002) found that “short-term knowledge dissemination types” of PD resulted in the development of both knowledge and skill for some of the teachers, but this information was rarely used in the classroom. Research findings in special education have been similar (Klingner, 2004; Lang & Fox, 2003). Instead, teachers need more extended opportunities to learn how to use strategies in the classroom, and these

opportunities should be focused on helping teachers develop both content knowledge and the knowledge they need for teaching content. In other words, they should be practice-focused.

Deepening and Integrating Knowledge

As indicated earlier, general and special education teachers need the type of knowledge that informs their teaching. In other words, they need to understand that the vowels /short a/ and /short e/ are difficult for students with learning disabilities to distinguish and what they should do to remediate this difficulty. PD should promote ways of focusing on and acquiring the content and practice-based knowledge teachers need to improve their practice (Desimone, 2009; Mayer, 2009). Zaslow, Tout, Halle, and Starr (2011), in a review of early literacy PD studies, found that PD focused on developing content knowledge as well as practice-based knowledge was effective in improving teachers' reading instruction, whereas PD that incorporated university coursework focused exclusively on content or practice-based knowledge was inadequate in developing more effective reading teachers. For example, Mayer (2009) found that PD with an exclusive focus on implementation of evidence-based practice did not consistently lead to better performance on more complex aspects of teaching. Additionally, two studies in special education demonstrated that when special education teachers had opportunities to acquire both content knowledge and practice-based knowledge they were able to improve their classroom instruction and student achievement. Sawka et al. (2002) examined the relationship between EBD teachers' knowledge and management practices, both before and after a PD on classroom management. They found that the PD increased teachers' knowledge, but that their practices did not change until they participated in consultative sessions with feedback on their implementation of the management practices. Once new knowledge was situated within their actual classrooms, teachers were able to accurately employ the strategies they had learned, which resulted in improvements in students' on-task and disruptive behaviors. Brownell et al. (2011) showed that extended opportunities to learn about the reading process and the structure of language along with evidence-based strategies in decoding and fluency enabled special education teachers to change their classroom instruction in decoding and fluency and improve the decoding skills of their students.

The findings of these studies show that combining knowledge- and practice-based approaches to PD enables the integration of teachers' content and practice-based knowledge. The need for knowledge integration

raises questions about the type of PD typically provided in special education, which tends to emphasize implementation of evidence-based practices and pays less attention to the knowledge teachers need to integrate evidence-based practices into their practice (Boudah, Blair, & Mitchell, 2003; Greenwood, Tapia, Abbott, & Walton, 2003). The flexible thinking necessary to provide tiered instruction likely will not be secured through teacher learning opportunities that focus primarily on implementation.

Providing Carefully Crafted Practice Opportunities with Feedback

Special and general education teachers are unlikely to integrate the content and procedural knowledge they need to provide reading and behavioral interventions in core and tiered interventions if they do not have active opportunities to learn with feedback. Findings from the research on PD and studies examining the development of expertise have affirmed the need for guided practice with feedback. Further, this practice must be deliberate; that is, it must be designed to carefully teach the knowledge and skills underlying expert performance (Boshuizen, 2009; Bransford & Schwartz, 2009; Ericsson, 2009; Fletcher, 2009). In fields such as medicine and engineering, researchers have found that access to deliberate practice with feedback was essential for improving practice (Ericsson, 2009) and that often such practice opportunities could be delivered through virtual environments.

Similar findings have been achieved in general and special education studies of effective PD. In an experimental study of 78 secondary teachers, Allen, Pianta, Gregory, Mikami, and Lun (2011) showed that video-based coaching specifically designed to change teacher–student interactions had a significant effect on year-end student achievement test scores. Specifically, the coaching intervention focused on providing a positive emotional classroom climate, supporting adolescent students’ need for autonomy, fostering an active role in learning, and promoting the relevance of learning content. In a longitudinal randomized field trial of a comprehensive literacy coaching intervention, Matsumura, Garnier, Correni, Junker, and Bickel (2010) demonstrated that ELLs had significantly higher end-of-the-year achievement scores on state standardized reading assessments if their teachers participated in the coaching intervention. In special education, expert coaching, combined with other collaborative opportunities for teachers to discuss implementation issues, has enabled general education teachers to implement various literacy interventions successfully (Abbott, Walton, Tapia, & Greenwood, 1999; Bryant, Linan-Thompson, Ugel, Hamff, & Hougén, 2001; Vaughn, Hughes, Schumm, & Klingner, 1998), and in one case changed student achievement (Baker & Smith, 1999). Finally,

Brownell et al. (2011) demonstrated that a comprehensive approach for improving word study and fluency instruction that included monthly cohort meetings, video self-reflections, and expert coaching with feedback improved special education teacher practice in decoding and fluency and student achievement on various decoding measures.

Differentiating to Meet Teachers' Needs

Even when teachers have access to supportive and sustained PD focused on both content and practice, they differ in how willing they are to change their practice. These differences appear to affect the strategies they choose to use (Brownell et al., 2010; Dingle, Brownell, Leko, Boardman, & Haager, 2011; Hill, 2009). Teachers' continued use of strategies is dependent on the support they receive during PD and the accountability they feel for using new practices (Klingner, Ahwee, Pilonieta, & Menendez, 2003). These differences suggest that peer support and accountability mechanisms must be built into PD efforts so that teachers will have confidence to change and feel some accountability for changing.

Additionally, the format and activities used during the PD should be responsive to the needs of the participants, the context in which the teachers are working, and the amount of previous knowledge and experience the teachers bring with them to the PD innovation. In a qualitative study, Brownell et al. (2010) developed a grounded theory demonstrating how teachers' individual qualities, including their knowledge for teaching reading and special education as well as their motivation, interacted with contextual variables, such as curriculum, and components of the PD effort to influence the ways in which they integrated new strategies into their practice.

Summary

Most of the research we have about preparing effective special education teachers for working with students with disabilities is limited to approximately 10–15 studies, and these studies are scattered across reading, mathematics, behavior, and collaboration. Further, we have no research examining how to prepare general education teachers to work in RtI frameworks. If general and special education teachers are to develop the knowledge and skill they need to design and implement core and tiered evidence-based practices, then they must have access to learning opportunities that help them develop the knowledge and skill that characterizes effective teachers. Findings from current research suggest that these learning opportunities must be

extended over time, carefully crafted to allow the simultaneous development of content and pedagogical knowledge, and designed to meet teachers' individual needs. Furthermore, teachers must receive consistent feedback on their attempts to use knowledge in practice. These focused learning opportunities must begin in initial preparation and be extended well into teachers' careers if they are to develop into effective teachers.

RECOMMENDATIONS FOR THE FUTURE

Developing effective general and special education teachers for RtI frameworks depends on our ability to (a) further define the essential knowledge underlying effective practice and the skills that comprise effective practice, (b) amass a body of research in initial preparation and PD that better supports how to prepare teachers for core instruction and tiered interventions, and (c) determine how schools can support teachers to enact what they have learned.

Improving Our Understanding of Effective General and Special Education Teachers

Although researchers have been able to define some of the essential knowledge underlying effective instructional practice in reading, this research is not sufficiently comprehensive or consistent in its findings to claim that scholars have identified the knowledge effective reading teachers need, either in general or special education. Further, we have little understanding of the knowledge behind effective classroom and behavior management or collaboration. We need more research that focuses on what general and special education teachers must understand about students' emotional and social development, and how development in these two areas affects the selection and use of classroom and behavior management strategies. The same is true for professional collaboration, where research defining the knowledge needed for collaboration is nonexistent. Additionally, we need a much stronger understanding of effective practice for reading instruction, classroom and behavior management, and collaboration. Effective practice is not simply a matter of implementing a string of evidence-based strategies. Effective practice represents the integration of evidence-based strategies into existing classroom routines or ways of interacting with colleagues and parents.

Establishing this knowledge base will be very difficult. In RtI systems, how will researchers attribute teaching practices to the outcomes of students with disabilities when both general and special education teachers are sharing responsibility for the instruction of students with disabilities? Further, how will lesson duration, a particular issue for special education teachers providing intervention instruction for 30 minutes or less a day, influence the types of classroom practices that are exhibited? A similar problem is associated with relating knowledge for teaching to classroom practice. If general or special education teachers do not have the opportunity or responsibility for delivering the full complement of reading instruction, then how can knowledge for teaching reading be used to predict effective instructional practices in reading? Finally, there is the thorny problem of assessing outcomes for students with disabilities and linking performance on these outcomes to teacher knowledge and practice. Currently, states do not maintain a statewide database linking teachers to important student outcomes, including student engagement in class and school, social competence, or other behavioral outcomes, such as discipline referrals; yet, all these outcomes are essential if we are to identify effective practice in classroom and behavior management. Moreover, student achievement is assessed primarily through performance on state assessments. These assessments, however, are notoriously problematic for determining achievement growth among students with disabilities.

Clearly, teams of researchers, composed of experts in reading, behavior, disability, measurement, and research design, will be needed to solve the complex problems associated with assessing the knowledge and practice of effective general and special education teachers working with students with disabilities. We will need both theoretical and measurement models that allow us to define what is different about general and special education teachers' knowledge and practice and how these differences contribute uniquely to the outcomes of students with disabilities. Additionally, we will need better assessments of student outcomes that are calibrated to capture the growth of students with disabilities on important behavioral, social, and academic indicators, and these assessments must be collected at the state level. Collecting individual student assessment data in research studies focused on teachers incurs an expense that is too costly for the budgets of most research projects. Alternatively, funding for special education research needs to be at a level sufficient to support the collection of such data by individual researchers. Regardless of the challenges, we need this research on teacher effectiveness for students with disabilities. If we do not understand the knowledge and skills that underlie effective teaching for

students with disabilities or collaboration with parents and professionals, then how can we argue that teaching has a professional knowledge base? Moreover, if we cannot argue that effective teachers have a knowledge base that is different from other professionals, then how can we assert that teacher education is important?

*Improving Research on Initial Preparation and
Professional Development*

The limited number of studies of teacher preparation and PD, most of which focus on core instruction in general education, are clearly insufficient to build a solid evidence base regarding the types of learning opportunities special and general education teachers will need to teach and collaborate in RtI frameworks. At this point in time, the evidence on teacher preparation and PD only seems to provide us with the most general information about the defining features of effective teacher education. We still do not understand how much and what types of knowledge special and general education teachers will need to represent content effectively for students, and even if we could define the needed knowledge, we still do not have strong understandings of how to help teachers acquire it. For instance, what knowledge would teachers need to help students learn strategies for acquiring morphological awareness versus strategies for summarizing narrative and expository texts? Moreover, what vehicles would be best for making the necessary knowledge accessible to teachers? Then, exactly how do extended learning opportunities help knowledge develop or become more integrated with effective instructional strategies? We know that we can help teachers implement strategies with extended learning opportunities, but how exactly do extended learning opportunities change knowledge and help it become more integrated with practice?

We can raise similar questions about deliberate practice opportunities with feedback and strategies for differentiating PD. What sorts of practice opportunities appear to be the most productive in terms of implementing a strategy and sustaining it (e.g., those provided by an expert coach or those provided through peer observations and coaching)? Further, are strategies that are productive for promoting the ability to implement an evidence-based practice equally effective in building the type of integrated knowledge that enables teachers to apply what they learned to their instruction in other areas? For instance, would a teacher be able to apply what he or she learned about teaching a cognitive strategy for solving word problems to some other

aspect of mathematics instruction? Or, would additional support be necessary to facilitate such transfer, and what would that support look like? Similar questions could be asked about learning collaborative skills. Finally, what sorts of collaborative structures (e.g., lesson study, teacher study groups) would help general and special education teachers plan core and tiered supports and instruction that is aligned and sufficiently differentiated to help meet students' needs?

Determining How to Support Teachers for RtI

For teachers to acquire the knowledge and skills they will need over time, the schools they work in must provide them with opportunities to learn and work together. Three of the biggest barriers that will stand in the way of successful RtI implementation are role diversity and role overload for special education teachers and the struggles general education teachers seem to encounter when providing differentiated instruction. Special education teachers play so many different instructional roles in schools (e.g., teaching reading or mathematics in pullout instruction, co-teaching academic subjects, teaching multiple academic subjects in resource rooms) that it is impossible to design initial preparation and PD programs that can prepare them for the integrated knowledge they will need. To provide effective intervention, special education teachers are going to need time to teach small groups of students. Recent research shows that special education teachers devote a small percentage of their time to direct instruction but are instead inundated with paperwork, meetings, and other duties (Vannest & Hagan-Burke, 2010), and this likely affects their ability to impact academic and social outcomes for students with disabilities. In a study of elementary special education teachers, Brownell et al. (2007) found that time for reading instruction and instructional group size positively moderated the oral reading fluency gains that students with reading disabilities made.

General education teachers are also challenged in roles where they must serve students' diverse academic and behavioral needs. Research shows that general education teachers have a hard time differentiating instruction for students with disabilities and those that struggle, and that targeted efforts to improve their abilities in these areas will be needed. Moreover, even though we have some evidence about how PD efforts might be structured to improve general education teachers' practice for differentiation, the studies are small in number, limited to elementary teachers, and have yielded conflicting findings. We need to examine how schools that are successfully

implementing RtI are designing roles for special and general education teachers that are more focused, and to determine how initial preparation and school-based PD might be structured to help them acquire the knowledge and skills they need to fulfill those roles.

Finally, we need to understand how school environments can be designed to support general and special education teachers working in an RtI framework. Though it is intuitive that special and general education teachers will need to collaborate in order to plan for core and tiered instruction that is effective and well aligned, we have little knowledge about how to promote effective collaboration between general and special education teachers. The research on co-teaching and collaboration is replete with findings about barriers to collaboration, but little is known about how to structure collaboration in order to maximize its effectiveness for improving teacher planning and learning. Additionally, we have little research about how to promote teachers' collaborative skills. For RtI to be effective, we will need more research-based information about how to develop collaborative skill, promote effective collaborative planning, and understand the contribution collaborative learning structures make to the development of the skills and knowledge that special and general education teachers will need to foster teacher learning.

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TEACHERS' CAUSAL ATTRIBUTIONS FOR STUDENT PROBLEM BEHAVIOR: IMPLICATIONS FOR SCHOOL-BASED BEHAVIORAL INTERVENTIONS AND RESEARCH

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ABSTRACT

Although we have improved identification of and access to evidence-based interventions for addressing student problem behavior, teacher use of these practices remains low. In this chapter, we examine teachers' causal attributions for student problem behavior and their implications for use of effective school-based behavioral interventions and supports. Attribution theory and research suggest that causal attributions strongly influence how individuals (e.g., teachers) perceive and respond to the problem behavior of others (e.g., students). Teacher perception regarding problem behavior and appropriate responses to it can be a significant barrier to the

Classroom Behavior, Contexts, and Interventions
Advances in Learning and Behavioral Disabilities, Volume 25, 279–300
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ISSN: 0735-004X/doi:10.1108/S0735-004X(2012)0000025014

adoption and sustained implementation of empirically supported practices. In light of these factors, causal attribution theory and research can be used as a framework for better understanding and even changing teacher beliefs related to acceptance, implementation, and sustained use of effective behavior management practices. In this chapter, we make the case for cultivating an understanding of teachers' causal attributions of student problem behavior and considering implications of causal attributions in future research. We explore how such research endeavors can potentially positively impact teacher implementation of effective school-based behavioral interventions and supports.

Why do students exhibit problem behavior at school? What causes students to display behaviors such as noncompliance, disruption, aggression, or social withdrawal? It is unlikely that a more useful question could be asked in the effort to effectively address students' problem behaviors at school. By carefully and systematically examining factors that are associated with problem behaviors, researchers and educators have developed evidence-based practices that schools can use to prevent and reduce such behavior, while simultaneously promoting positive behavior associated with academic and social success (Epstein, Atkins, Cullinan, Kutash, & Weaver, 2008; Lane, Menzies, Bruhn, & Crnabori, 2011; Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). Accumulated knowledge about the causes and correlates of student problem behavior has been critical to the emergence and evolution of the multi-tiered prevention model that currently guides much research and practice in school-based behavioral interventions and supports (see Scott, 2012, this volume; Horner, Sugai, Todd, & Lewis-Palmer, 2005; Lewis & Sugai, 1999). Through a tiered prevention model, schools are able to implement practices for assessing and modifying variables associated with problem behavior within different systems (e.g., school-wide, class-wide, individual) and for varying levels of risk for negative outcomes (i.e., low risk, moderate risk, high risk; Sugai & Horner, 2009). These and other advances underscore the usefulness of focusing on *why* and under what conditions students are more or less likely to engage in problem behavior.

It is perhaps ironic, then, that the question of *why* students display problem behavior at school may also play a significant role in the persistent research-to-practice gap in school-based behavioral interventions. In schools and classrooms around the country, consistent and sustained

implementation of research-validated behavior management practices remains relatively rare, while less effective and even counterproductive disciplinary approaches continue to be widely embraced (Cook, Landrum, Tankersley, & Kauffman, 2003; Maag, 2001; Ringeisen, Henderson, & Hoagwood, 2003). To understand how *thinking about the causes of problem behavior* could contribute to a gap between research and practice, it is important to recognize that the question of *why* students violate social norms or break classroom rules can take on a qualitatively different meaning in the context of the day-to-day perceptions and experiences of the people who work with these students. “Everyday” thinking about the nature and origins of problem behavior evokes tricky questions (and emotions) that do not necessarily lend themselves to the objective and deliberative procedures of ecological/behavioral analysis and intervention (e.g., O’Neil, Horner, Albin, Storey, & Sprague, 1997). Tricky questions include those such as, do students *choose* to engage in problem behavior? Do students who exhibit problem behavior *deserve* to be helped? Are students who misbehave at school *victims* or *perpetrators*? (Walker, Zeller, Close, Webber, & Gresham, 1999). Can changing behavior management practices make any real difference in student conduct at school? Such questions are tricky because, depending on how they are answered, they may impede implementation of evidence-based practices for preventing problem behavior and promoting social competence in schools.

In this chapter, we examine teachers’ causal attributions for student problem behavior and their implications for effective school-based behavioral interventions and supports. *Causal attributions* are a “basic and pervasive form of social cognition” that involves attributing causes to the actions and experiences of others (Miller, S., 1995, p. 1557). First, we provide a brief overview of attribution theory, including how causal attributions relate to how people perceive, feel about, and respond to the behavior and circumstances of other people. Next, we review research on parents’ and teachers’ causal attributions for problem behavior and the relationship between causal attributions, behavior management practices, and child outcomes. Finally, we explore the potential benefits and pitfalls of directly targeting teachers’ causal attributions within the framework of multi-tiered behavioral intervention. We conclude with suggestions for future research to investigate the impact of causal attributions on the implementation of evidence-based behavioral interventions and student outcomes, as well as the effects of interventions designed to change how teachers think about students who exhibit problem behavior.

ATTRIBUTION THEORY

Attribution theory is a long-standing model of motivation that provides a framework for understanding how people perceive and respond to the behavior and experiences of others and, as appropriate, oneself (Heider, 1958; Schmidt & Weiner, 1988; Weiner, 1980, 1993, 2006). The central idea of attribution theory is that the way we respond to the actions or circumstances of other people is heavily influenced by the *causes* we attribute to those actions or circumstances. The causes we attribute vary along several important dimensions, including *locus* (causes that are internal vs. external to the other person), *controllability* (causes that are more vs. less under personal control), and *stability* (causes that are relatively fixed vs. fluctuating). The theory predicts that when we attribute internal, controllable, stable causes to the negative behavior or problems of another person, we tend to feel anger and/or disgust and we are not motivated to help that person, and/or we are motivated to punish them. Conversely, if we attribute causes that are external, unstable, and not controllable by the other person, we tend to feel sympathy and we are motivated to help if we can (Weiner, 1980, 1993).

For example, consider differences in how people respond to poverty. People who attribute poverty primarily to internal, controllable causes (laziness, financial irresponsibility, substance abuse) are less likely to support programs to help the poor than people who attribute poverty mostly to causes that are not personally controllable (lack of opportunity, low wages, illness, old age). The latter group is more likely to support programs that help the poor than the former group (Weiner, Osborne, & Rudolph, 2011; Zucker & Weiner, 1993). Thus, causal attributions are, to a large extent, judgments about whether someone is personally responsible for her actions or circumstances and, consequently, whether she deserves help. Emotions (anger/disgust vs. sympathy/pity) mediate the relationship between causal attributions and responses (help vs. not help/punish). Causal attributions have been found to be powerful predictors of how people respond to many different types of societal maladies, such as obesity (Crandall, 1994; Crandall & Schiffauer, 1998), homelessness (Pellegrini, Queirolo, Monarezz, & Valenzuela, 1997), and the suffering experienced by the victims of natural disasters (Skitka, 1999). Succinctly said, whether the event is viewed as a “sin” (result of internal, controllable variables) or “sickness” (result of external, noncontrollable variables) determines responses to help or not help (Weiner, 1993).

Wiley and Siperstein (2011) discussed the importance of causal attributions in their study of identification rates of behavioral disorders (BDs) across the U.S. building on research that showed people who identify themselves as conservative or liberal tend to hold divergent views on many societal issues, with conservatives emphasizing internal, controllable causes for certain social problems and liberals emphasizing external and uncontrollable causes. Their findings showed that states identified as conservative (distinguished by multiple sources of information including exit poll and census data) had significantly lower BD rates than states that identified as nonconservative (liberal). Wiley and Siperstein (2011) interpreted these results to show that in relation to BDs, causal attributions might be at play in whether students are identified and receive special education services. “Thus, higher levels of conservatism may be associated with decreased willingness to perceive problem behavior as indicative of a disorder or disability (uncontrollable cause) and the need for special education services (treatment or help)” (p. 202).

Two important observations about causal attributions should be highlighted here. First, although causal attributions *can* emerge from explicit cognitive processes involving conscious (although not necessarily errorless) reasoning and evaluation of evidence, they frequently emerge from implicit cognitive processes that operate more or less automatically, with little deliberate effort or thought (Bargh & Chartrand, 1999; Kahneman, 2012). Thus, researchers have suggested that causal attributions are determined in large part by internal working models (schemas) or by attributional “styles” (Bugental & Johnston, 2000; for a discussion of origins of individual differences in attributional styles, see Dodge, 2006). Second, people are generally more likely to attribute internal/controllable causes to maladies that are presumed to be principally *behavioral* in nature (e.g., drug addiction, obesity, child abuse) than those presumed to be physiologically based (e.g., cancer, Alzheimer’s, blindness; Weiner, 1993). In fact, the tendency to over-attribute dispositional (internal/controllable/stable) versus situational (external/uncontrollable/unstable) causes for the behavior of others has been observed with sufficient consistency in psychological research to be referred to as the *fundamental attribution error* (Ross, 1977; see also Gilbert & Malone, 1995). As we will see, both of these observations – that causal attributions are generally implicit, emotion-mediated judgments that occur almost automatically in our everyday interactions with our social environments, and that we are all more likely to attribute internal/controllable causes to problems that appear to be primarily behavioral vs. physiologically-based – are relevant

to any consideration of the impact of teachers' causal attributions on student behavior and the use of interventions.

PARENTS' AND TEACHERS' CAUSAL ATTRIBUTIONS FOR PROBLEM BEHAVIOR

Causal attributions have received a great deal of attention in research examining parent-child interactions. A robust finding of this research is that parents' causal attributions are strongly related to how parents respond to their children, particularly in the context of addressing child misbehavior (e.g., Bugental & Happaney, 2002; Grace, Kelley, & McCain, 1993; Johnston & Freeman, 1997; Mash & Johnston, 1990; Miller, S., 1995; Smith & O'Leary, 1995). Parents who attribute their children's problem behavior to internal, stable causes (e.g., genetic predispositions, personality traits) exhibit more negative affective and disciplinary responses to their children than do parents who attribute their children's problem behavior to external, unstable causes (e.g., fleeting moodiness or temporary frustration) (e.g., Dix & Reinhold, 1991; Dix, Ruble, & Zambarano, 1989; Geller & Johnston, 1995; Montes, de Paul, & Milner, 2001; Snarr, Slep, & Grande, 2009). Compared to parents of children without significant behavior problems, parents of children with externalizing behavior problems are more likely to attribute their child's negative behavior to internal, stable causes rather than their own parenting practices (Baden & Howe, 1992; Bickett, Milich, & Brown, 1996). Moreover, evidence suggests that parents who do attribute the cause for behavioral problems to traits within the child are unwilling to alter their parenting practices (Miller & Prinz, 2003).

Research focusing on parents at risk for maltreating their children also demonstrates that parent attributions of controllability and intentionality (i.e., deliberately misbehaving, especially in order to upset the parent) are central factors influencing parent anger and the use of harsh or abusive discipline (Ateah & Durrant, 2005; Bauer & Twentyman, 1985; Bradley & Peters, 1991; Bugental, Blue, & Cruzcosa, 1989; Dadds, Mullins, McAllister, & Atkinson, 2003; Larrance & Twentyman, 1983; Leung & Slep, 2006; Slep & O'Leary, 2007). In an experimental study (Slep & O'Leary, 1998), mothers who were led to believe that their child's misbehavior was controllable and intentional experienced higher levels of anger and were more over-reactive in their discipline than mothers who were led to believe their child's misbehavior was unintentional. Longitudinal findings also suggest that mothers' attributions of hostile intent to their children's behavior foster harsh discipline

practices (Nix, Pinderhughes, Dodge, Bates, & Pettit, 1999). Parent perceptions that their child deliberately chooses to misbehave elicits and intensifies parent anger (Pidgeon & Sanders, 2009), and these negative thoughts and emotions appear to contribute to and maintain the use of harsh and overly punitive behavior management strategies (Smith & O'Leary, 1995).

The evidence is clear that parental causal attributions are related to how parents perceive and respond to the problem behavior of their children (Seng & Prinz, 2008). What causes causal attributions? Parents' causal attributions appear to be influenced by a number of factors, including characteristics of the child (e.g., age), types of behavior (positive vs. negative behavior), and contextual cues and other sources of information about the behavior (Bugental & Happaney, 2002; Miller, S., 1995; Milner, 2003). Some findings suggest that negative parental attributions for child problem behavior may be a result, rather than a cause, of having a child who is difficult to manage (Wilson, Gardner, Burton, & Leung, 2006). Because parents' attributions ascribe meaning to their children's behavior, it stands to reason that the attributions then guide parents' responses to their children. For example, research shows that when parents of elementary-school aged children with externalizing behavior problems view their children's misbehavior as more intentional or dispositional, they blame the child for the problem behaviors. These negative or child-blaming cognitions are associated with harsh, less responsive parenting practices. In contrast, parents who assigned positive attributions to their children's behavior (e.g., acknowledging child's effort, linking behavior to an external factor beyond child's control) used more positive parenting practices (e.g., Dix & Lochman, 1990; Johnston & Leung, 2001; Leung & Slep, 2006; Slep & O'Leary, 1998; Wilson et al., 2006). While the exact relationships between causal attributions, parenting practices, and child outcomes are not yet fully known, there is little question that, to understand the dynamics of negative parent-child interactions, it matters what parents think.

Education researchers have also examined the role of causal attributions in how teachers perceive and respond to student problem behavior in the classroom. The majority of this research has focused on the *locus* dimension of teachers' causal attributions for student problem behavior – specifically, whether the student's problems were caused mainly by within-child factors, family factors, or school/classroom factors. The results of most of these studies suggest that teachers largely attribute the causes of student problem behavior to factors internal to the student and/or related to the student's family, and very infrequently attribute them to classroom or instructional factors (e.g., Brophy & Rohrkemper, 1981; Christenson, Ysseldyke,

Wang, & Algozzine, 1983; Guttman, 1982; Medway, 1979; Miller, A., 1995; Soodak & Podell, 1994). This phenomena is not unique to U.S. teachers; cross-cultural studies indicate that teachers from around the globe also attribute student problem behavior mainly to child and family factors (Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2000; Ho, 2004; Mavropoulou & Padelidiadu, 2002; Poulou & Norwich, 2000).

Certainly, the fact that teachers attribute student problem behavior to child and family factors is interesting; however, the implications for such attributions are far-reaching. A major concern that these findings raise is that if teachers attribute student problem behaviors only to child and family factors, they will overlook or undervalue classroom-based solutions to improve student behavior. In fact, some researches supports the prediction that teachers who attribute problem behavior to child and family factors will be less likely to endorse classroom-based strategies and interventions, and are more likely to endorse non-classroom-based programs and/or more punitive approaches to addressing the student's problem behavior (Medway, 1979; Soodak & Podell, 1994).

However, it is important to note that some findings also suggest that teachers may consider the contribution of teacher or classroom factors to student problem behavior, but usually under the circumstances that they are not personally involved in the situation. For example, Hughes, Barker, Kemenoff, and Hart (1993) presented teachers with vignettes (the same vignettes used in Brophy & Rohrkemper, 1981) and found that teachers were willing to consider teacher and classroom factors when the fictional student's problem was not depicted as "their" problem. It may be that teachers feel less defensive and/or angry when they are not directly or personally affected by student problem behavior, and are thus better able to consider causal factors in the instructional environment.

Interestingly, teacher attributions of *controllability* and *intentionality* (i.e., the student is deliberately misbehaving, especially in order to upset the teacher) have received significantly less attention in research about teachers' causal attributions than *locus*, with a few notable exceptions. This paucity of research on teachers' attributes of controllability and intentionality is surprising given the strong associations observed between parent attributions of child control over misbehavior, parent anger, and harsh disciplinary practices (e.g., Pidgeon & Sanders, 2009; Seng & Prinz, 2008). In one of the exceptions, Brophy and Rohrkemper (1981) found that teachers attributed high levels of control and intentionality to student problem behaviors that directly and negatively impacted the teacher (referred to as "teacher-owned" problems). In these situations, teachers also advocated more punitive

responses, rejected more supportive or positive strategies, and had lower expectations for improved student behavior than teachers who attributed low levels of control and intentionality to student problem behaviors. Teachers attributed less control and intentionality to problems that mainly affected only the student, and in these cases teachers also endorsed more positive approaches, expressed more commitment to help, and held more optimistic expectations for improved outcomes than they did for problems that affected themselves and others. Yet, as useful as these findings are, there is still much to learn about teachers' attributions of controllable and intentional causes for student problem behavior and their relationship to the use or disuse of evidence-based behavioral interventions in schools.

Before we move on to explore the potential implications of teachers' causal attributions for research and practice in school-based behavioral interventions, several issues related to existing research on teachers' attributions for student problem behavior merit further discussion. For instance, why is there such a heavy emphasis in this research on the *locus* dimension of causal attributions? Is focusing on the locus of teachers' attributions likely to produce the most helpful findings for improving practice? It is true that concentrating on classroom variables that are within the teacher's control is an important aspect of effective behavior management. However, there is a fine line between this concept and the more uncertain idea that, to be effective, teachers must *accept blame* for their student's problems. To the extent that, in this research, "attributing student problem behavior to teacher or classroom factors" is interpreted by researchers or teachers to mean *accepting blame*, the finding that teachers do not do so is unremarkable. Not only are we *all* biased to make chiefly external attributions for our failures (student problem behavior is likely to be viewed as teacher failure in this context) and internal attributions for our successes (Zuckerman, 1979), this bias is, in most cases, a highly adaptive mechanism that protects us from serious emotional harm and helps us overcome adversity (Bandura, 1989; Schlenker, Pontari, & Christopher, 2001; Seligman, 1991; Snyder & Higgins, 1988). The adaptive bias is one reason why attribution researchers in psychology have cautioned that the locus dimension of causal attributions may have limited explanatory value, especially in isolation from other dimensions, such as controllability and stability (Peterson, 2000). Additionally, we should not forget that even though it is best for teachers to concentrate primarily on classroom variables they can directly control, within-child and family factors actually do, in fact, contribute to the development and maintenance of student problem behavior (Kauffman & Landrum, 2009; Walker, Ramsey, & Gresham, 2004). Finally, it is not

completely unreasonable that teachers do not attribute the problem behavior of one or a few of their students to teacher or classroom factors if most of the other students in that classroom are behaving well.

Another concern related to this research is that if we focus too narrowly on the locus dimension of teachers' causal attributions, or on teacher attributions in general, we might overlook or underestimate other situational factors that impact teacher implementation of effective behavioral interventions and supports. Other critical factors that influence teacher use or disuse of research-validated behavior management practices include the quality of preservice and in-service training, working conditions as they relate to initiating and sustaining such practices, and the technical adequacy of the interventions themselves (Durlak & Dupre, 2008; Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Gersten, Vaughn, Deshler, & Schiller, 1997; Oliver & Reschly, 2010; Pogrow, 1996; Ringeisen et al., 2003). In other words, there is a danger that implementation researchers and practitioners could attribute internal and presumably controllable causes (teacher beliefs) for teacher behavior to the exclusion of other significant situational factors.

Relatedly is the important question of whether and under what conditions it is possible, or even necessary, to change teachers' causal attributions in order to change teachers' behavior management practices. In their review of what research says about technical assistance to teachers, Gersten and Dimino (2001) pointed out that there is little empirical support for the claim that teachers' beliefs about the potential effectiveness of a practice must be changed in order to change their practices, and that the causal chain is usually the other way around – the adoption of effective practices leads to changes in teacher beliefs about the usefulness of that practice. However, Gersten and Dimino did point out that research is clear that “teachers’ understandings of *why* they need to alter and enhance their practices can be a powerful stimulant” (p. 121, emphasis added). We believe these are two separate issues – whether teachers believe a practice will work and whether teachers understand why they need to change a practice – and that understanding causal attributions of students' behavior is most closely aligned with teachers' understanding of why they need to change a practice. Given how these two issues are closely related, it is perhaps not surprising that very little research has been conducted to directly examine or attempt to manipulate the relationship between teacher attributions of student problem behavior and teacher use of behavior management practices (Erbas, Turan, Asian, & Dunlap, 2010). Nonetheless, we believe that there are good reasons to further investigate the relationship between teachers' causal attributions

for student problem behavior, teachers' responses to student problem behavior, and student outcomes. We discuss these reasons next.

PARENTING INTERVENTIONS TARGETING CAUSAL ATTRIBUTIONS

Research on parenting practices and interventions suggests several possible directions for future research on teacher attributions and school-based behavioral interventions. Behavioral parent training (BPT) is a scientifically validated intervention for children and adolescents with problem behavior (Eyberg, Nelson, & Boggs, 2008). BPT is designed to teach and strengthen parenting skills related to promoting positive child behavior, and it can be used to address the needs of families at low, moderate, and high risk for negative outcomes associated with problem behavior (Sanders, 2008). Although there are many different empirically supported BPT programs, they are all primarily behaviorally focused and based on principles of social learning theory (Maughan, Christiansen, Jenson, Olympia, & Clark, 2005). Some BPT programs also include components that directly target cognitive aspects of parenting, including parental attributions for child behavior (e.g., Bugental et al., 2002; Sanders, Markie-Dadds, Tully, & Bor, 2000; Sanders & McFarland, 2000; Sanders et al., 2004). For example, Triple P, Positive Parenting Program, includes both a standard program and an enhanced program (Sanders et al., 2004). Both programs include training in 17 effective behavior management strategies (10 to promote positive competence and development, 7 to address misbehavior). The enhanced program teaches additional skills aiming to challenge parental beliefs about child behavior that may be contributing to negative disciplinary practices. Specifically, the attribution retraining component of enhanced Triple P teaches parents about the harmful effects of harsh discipline; the causes of negative parental feelings and behavior; how to prevent anger escalation and negative parenting practices; how to recognize and dispute unhelpful thoughts that lead to counterproductive responses; and how to use coping strategies in difficult parenting situations (Sanders & Pidgeon, 2005).

Although the purpose of targeting maladaptive parental attributions within BPT programs is to increase the effectiveness of BPT for improving child behavior and meeting treatment goals, the evidence for the incremental benefit of cognitive-behavioral parent training over behavioral training alone is mixed. Bugental et al. (2002) found that training parents to generate constructive (i.e., non-blame-oriented) attributions for caregiving problems

resulted in significant reductions in harsh discipline and abuse compared to both controls (no treatment) and standard BPT. Cognitive components may be useful in special cases or when standard BPT does not lead to changes in either parent or child behavior (Scott & Dadds, 2009). For instance, some research indicates that BPT with attribution retraining can be effective for parents at higher risk for significant parenting problems and/or for parents who do not respond to more standard versions of BPT (e.g., Wiggins, Sofronoff, & Sanders, 2009). Indeed, the importance of the parent skills (developing and using the skills) is consistently found to be the critical intervention in BPTs (Kaminski, Valle, Filene, & Boyle, 2008; Sanders et al., 2000; Sanders & McFarland, 2000). However, when skills are not enough – when parents have a history of difficulty, or when change is not observed through skill training alone – adding attribution retraining can improve outcomes (e.g., Sanders et al., 2004).

What, then, are the implications of causal attributions for research and practice in either BPT or school-based behavioral interventions and supports? Although directly targeting causal attributions does not necessarily increase the effectiveness of behavioral interventions per se, changing causal attributions might play a critical role in increasing the acceptability of and engagement in research-validated behavioral interventions, especially for some teachers who are resistant to try the intervention (Mah & Johnston, 2008). To illustrate how this might be, Mah and Johnston used the analogy of diet and exercise, stating that “although regular exercise and healthy eating are known predictors of weight loss, many individuals struggle to initiate and/or maintain these lifestyle changes” (p. 224). Similarly, while certain behavior management practices are known to be generally effective, many parents and teachers do not use them or sustain them over time. The issue of treatment acceptability is critical – a practice cannot be said to be effective if it is never or rarely used (Cook et al., 2003).

In regard to behavioral interventions for problem behavior, causal attributions can interfere with treatment acceptability, initiation, and engagement in multiple ways. For instance, an emphasis on internal, stable causal attributions, or attributions to causes beyond the teacher’s control, may be associated with feelings of futility and the perception that environmental changes are pointless and that behavioral improvements cannot be achieved. For example, teachers who attribute student problem behavior to his home environment or parent’s actions may be unmotivated to implement a classroom-based behavior intervention program. Moreover, attributions of controllable causes may be associated with feelings of anger and the rejection of research-validated behavioral interventions based on the belief that the

student is being “bad on purpose” and does not deserve help and/or deserves only punishment (Miller & Prinz, 2003; Morrissey-Kane & Prinz, 2000). Such beliefs could also influence a teacher to not waste her time with classroom-based behavioral interventions.

Indeed, a recurrent finding of school-based behavioral intervention research is that the perceptions of teachers and other school personnel regarding problem behavior and appropriate responses to it can be a significant barrier to the adoption and sustained implementation of empirically supported practices. Qualitative research by Lohrman, Forman, Martin, and Palmieri (2008) suggests that staff resistance to universal, school-wide behavioral interventions and supports is at times related to the preference for punitive responses and the belief that the causes of problem behavior are beyond the control of the school. Similarly, Kincaid, Childs, Blase, and Wallace (2007) found that a lack of staff buy-in (i.e., the perception that school-wide interventions were necessary, appropriate, and at least potentially beneficial) was a primary impediment to implementation. Inaccurate or unhelpful beliefs about behavior and discipline also interfere with implementation of more intensive, individualized supports for students exhibiting more severe or chronic problem behavior. Some school staff interviewed by Bambara, Nonnemacher, and Kern (2009) insisted that students with more severe problem behavior did not deserve special treatment and providing students with individualized supports was “often viewed as ‘making excuses for the child’ and ‘spoiling,’ ‘being soft,’ or ‘giving into the child’ by providing the student what he or she wants” (p. 167). Although none of these studies explicitly mentioned teachers’ causal attributions for student problem behavior, it seems clear to us from these findings and others that attribution theory and research could provide a useful framework for understanding and changing teacher beliefs related to accepting, implementing, and sustaining effective behavior management practices.

TEACHERS’ CAUSAL ATTRIBUTIONS AND SCHOOL-BASED BEHAVIORAL INTERVENTIONS AND SUPPORTS: A FEW IDEAS FOR FUTURE RESEARCH

The relationship between teachers’ causal attributions, implementation of evidence-based behavioral interventions, and child outcomes, especially within a tiered model of progressively more intensive supports seems worthy

of exploring further. Along these lines, Myers, Simonsen, and Sugai (2011) applied such a tiered model of supports to teacher in-service training in order to increase teacher use of contingent praise, a research-validated behavior management technique. Standard in-service methods were used school-wide to train all teachers to use contingent praise. Teachers who did not increase their use of contingent praise received more intensive training in the form of additional coaching, performance feedback, and, as necessary, individualized support. In the discussion that follows, we will likewise use a tiered model to explore how targeting teachers' causal attributions could enhance implementation of behavioral interventions. We stress here again that improving implementation of evidence-based behavioral interventions requires far more than changing teachers' causal attributions for student problem behavior; yet at the same time, we think that directly addressing how teachers think and feel about student problem behavior and how to respond to it may also be a necessary aspect of successful reform of school discipline.

At the universal level, all teachers could receive basic training in the causes of negative teacher feelings and negative teacher behavior in the context of classroom management, as well as in the harmful effects of negative disciplinary practices. Teachers should learn about child development in order to understand the social, emotional, and behavioral characteristics that are typical of different ages. Critically, all teachers also need to learn about individual differences in behavioral functioning, including differences related to atypical development (i.e., BDs and other disabilities). To increase implementation of effective school-based behavioral interventions, helping teachers recognize internal, uncontrollable causes of problem behavior (like disability) may be as important as helping teachers recognize teacher or classroom factors. If it becomes more widely understood that some students have a diminished ability to control their behavior, just like some students have a diminished ability to read, walk, or see, teachers and other school personnel may feel less anger and more compassion toward these students and may thus be more willing to embrace intervention and treatment as appropriate responses (Wiley & Siperstein, 2011).

A concern that may continue to arise when addressing problem behavior of students with a disability or at risk of school failure is whether acknowledging disability as an explanation for problem behavior is equivalent to offering an excuse and "being soft" or abandoning any expectation that students will learn to take responsibility for their behavior. Researchers and practitioners must be prepared to deal with this concern, understanding that it is not true that acknowledging BDs has to mean excusing problem behavior

or dropping any expectation that the student will learn more appropriate behavior, just as it is not true that acknowledging learning disabilities has to mean abandoning all attempts to teach academic skills and content. What it does mean is recognizing that punishment-only approaches uniformly applied are neither adequate nor defensible, and recognizing that some students require specialized behavioral interventions that address their unique needs. Coming full circle, all teachers should (a) attain at least a basic understanding of techniques that emphasize identifying and modifying factors in the immediate instructional environment that could prevent problem behavior from occurring and (b) teach and encourage appropriate behavior, including self-control (Erbas et al., 2010).

Causal attributions could also be targeted within selected, more intensive interventions designed to assist teachers and schools that are at-risk for failure to implement evidence-based behavioral interventions. Teachers who struggle to adopt and sustain effective behavior management practices despite good universal training could receive, among other things, attribution retraining similar to what is provided to high-risk or nonresponsive parents in enhanced Triple P, i.e., more intensive training in identifying and challenging unhelpful thoughts, preventing anger escalation and the use of negative behavior management practices, and coping with situations that arouse angry feelings (Sanders & Pidgeon, 2005). Shared causal attributions within an organizational culture present another possible target for selected interventions. Schools that struggle with adopting and sustaining effective behavior management practices could receive organizational interventions aimed at building an organizational culture and climate that supports, rather than impedes, implementation of evidence-based interventions for student problem behavior (Glisson, 2002; Hemmelgarn, Glisson, & James, 2006).

Of course, appropriately designed research must be conducted to determine whether directly targeting causal attributions within universal or selected interventions produces any significant benefits in terms of positive changes in teacher or student behavior. First, additional basic research describing how teachers' causal attributions for student problem behavior influence teachers' emotions and decision-making is needed. In particular, future research should focus on teachers' attributions of controllability and intentionality and whether such attributions relate to teacher anger toward students and the rejection of research-validated interventions and strategies. Moreover, school-based intervention researchers could adapt attribution retraining methods and materials from evidence-based BPT programs and evaluate their effects in educational settings. Research on teachers' causal attributions could contribute substantially to understanding and closing

the research-to-practice gap in school-based behavioral interventions and supports.

CONCLUSION

Great strides have been made in knowing how to effectively address student problem behavior in schools. A major advance in the science of school-based behavioral intervention has been the adoption of a public health perspective that emphasizes “neutralizing or eliminating risk factors and enhancing protective factors to prevent problem behavior [and] reduce its incidence and prevalence” (Sugai & Horner, 2006, pp. 245–246). Unfortunately, less progress has been made in the actual implementation of effective behavioral interventions in schools. This lack of progress may be because of a disconnect between the public health perspective (or “sickness” metaphor) that drives research and the moral perspective (or “sin” metaphor) that drives everyday thinking about problem behavior (Weiner, 1993). Causal attributions are implicit, everyday moral judgments about the degree to which a person is or is not responsible for his or her actions. These judgments of responsibility elicit moral emotions (anger/disgust or sympathy/pity) that, in turn, prompt a response (help or punish). Attribution theory and research suggest that in this way, causal attributions strongly influence how caregivers perceive and respond to problem behavior. Thus, to close the implementation gap in school-based behavioral interventions and supports, it may not be enough to promote a public health perspective, as useful as such a perspective may be. It may also be necessary to understand and address teachers’ causal attributions and the moral perspectives on which they are based.

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TREATMENT INTEGRITY IN INTERVENTION RESEARCH: MODELS, MEASURES, AND FUTURE DIRECTIONS

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ABSTRACT

Treatment integrity (TI; also known as fidelity of implementation, treatment fidelity, and procedural reliability) refers to the degree to which an intervention is implemented as intended. TI data provides evidence of the internal validity of a study; without TI data, one cannot attribute observed effects to an intervention or distinguish whether interventions that fail do so because of problems with the intervention, its delivery, or both. Unfortunately, the field of intervention research has seen limited progress in the assessment and reporting of TI over time. This chapter describes the development of models of TI across fields, options for measuring TI, and important issues yet to be resolved.

Treatment integrity (TI) is one of several terms used to refer to the degree to which an intervention is implemented as intended (cf., Gresham, 1989). Among the other terms used, the most common are “fidelity of implementation” (e.g., Horner et al., 2005), “treatment fidelity” (e.g., Conroy, Dunlap, Clarke, & Alter, 2005), and “procedural reliability” (e.g., Billingsley, White, & Munson, 1980). From a research perspective, the lack of TI data presents a major threat to internal validity. Without TI data, one cannot attribute observed effects to an intervention. From a practical perspective, the lack of TI data makes it impossible to attribute behavioral improvements to an intervention or to distinguish whether interventions that fail do so because of problems with the intervention, its delivery, or both.

The concept of TI was first introduced more than 30 years ago by Billingsley et al. (1980). At that time, behavioral researchers were routinely expected to report reliability (i.e., interobserver agreement (IOA)) data on the dependent variable – students’ responses to intervention. In their seminal piece, Billingsley et al. argued that it was equally important to report reliability data on the extent to which specified procedures were implemented, a process they termed “procedural reliability.” The authors also presented an example of the process in instructional research, along with recommendations that such data should be tailored to the particular study, its purpose, the context, and the nature of the procedures under study.

Soon after, Peterson, Homer, and Wonderlich (1982) specifically tied TI to measurement of the independent variable and presented the first systematic review of the literature indicating that few researchers reported TI data. Their examination of all issues of the *Journal of Applied Behavior Analysis* published from 1968 to 1980 revealed that an average of only 16% of the articles included data on TI. A surprising finding was that approximately 20% of the articles also failed to present operational definitions of the independent variable.

In the ensuing years, a number of similar reviews have appeared in the literature (cf., Sanetti, Dobey, & Gritter, 2012). These have focused on TI in a variety of fields ranging from applied behavior analysis, school-based intervention, and positive behavioral intervention, to learning disabilities, autism and alternative communication, anger management, psychotherapy, and prevention science (Dane & Schneider, 1998; Gansle, 2005; Gresham, Gansle, Noell, & Cohen, 1993; Gresham, MacMillan, Beebe-Frankenberger, & Bocian, 2000; McIntyre, Gresham, DiGennaro, & Reed, 2007; Perepletchikova, Treat, & Kazdin, 2007; Sanetti et al., 2012; Snell, Chen, & Hoover, 2006; Wheeler, Baggett, Fox, & Blevins, 2006). Among

these reviews, the most positive finding (Sanetti et al., 2012) was that nearly half of published reports provided TI data; the most negative finding (Perepletchikova et al., 2007) identified TI data in only 3.5% of published reports. Most reviews identified TI in less than 30% of the reports. When multiyear comparisons were possible, they revealed no trend or only a slightly increasing trend toward reporting TI.

Despite slow, moderate progress in assessing and reporting TI in intervention research, the field has progressed in important ways through the development of different models of TI, different options for measuring TI, and the identification of important issues the field needs to resolve.

CONCEPTUALIZATIONS OF TI

In a broad sense, the definition of TI remains as it was when Billingsley et al. (1980) defined *procedural reliability* as the degree to which the intervention has been implemented as intended. However, in the past 15 years, researchers, mostly outside of the field of special education, have been reconsidering the concept of TI and its application across research and practice. Reconceptualization of TI as a “multidimensional construct” (Schulte, Easton, & Parker, 2009) appears to have been spurred by a number of factors, including reaction to the documented lack of TI data in published research, reconsideration of the consultation process, a focus on bringing research to practice, and the need to disseminate large-scale procedures and processes with fidelity.

Among the social sciences, researchers in the field of psychotherapy are widely credited with initially broadening the conceptualization of TI in the early 1990s, followed by the proposal of alternate TI models in the growing field of *prevention science* (Schulte et al., 2009). In all, researchers across fields have identified at least 20 different “dimensions” of TI (Hagermoser-Sanetti, Gritter, & Dobey, 2009). The field of special education should be aware of these variations in TI across fields, research designs, and the research to practice sequence. This section describes some of the more common dimensions of TI across fields.

Adherence, Competence, Differentiation, and Dosage

Adherence

Adherence typically is defined as the degree to which an intervention is implemented as planned (Gresham, 2009). This is the same concept initially

suggested by Billingsley et al. (1980), Peterson et al. (1982), and others. Some have argued that researchers in the area of behavioral consultation and cognitive behavioral therapy have too long maintained a myopic focus on TI as *adherence* (Gresham 2005; Sanetti & Kratochwill, 2008; Schulte et al., 2009). However, adherence can be considered the most basic and critical of multidimensional conceptualizations of TI (Hagermoser-Sanetti et al., 2009).

Practices in various fields have led to differing conceptualizations of adherence. The term is most closely associated with randomized controlled trial (RCT) research in the field of pharmacology. In this work, adherence refers to the degree to which patients actually follow treatment protocols (Barber, Triffleman, & Marmar, 2007). In fields such as psychotherapy and substance abuse counseling, adherence often refers to the degree to which a service provider conducts treatment in accordance with a therapy manual (Nezu & Nezu, 2005). Examples in the field of counseling offer yet other conceptualizations of adherence. For instance, Toffalo (2000) followed 28 youth receiving wraparound services and measured TI as adherence to the service hours prescribed (i.e., percentage of service hours prescribed versus service hours received).

Competence

Practices that are common in different fields may drive scholars to define new dimensions of TI. It is not surprising, then, that the TI dimension of *competence* was developed in a field in which therapists play a central role – psychotherapy. Waltz, Addis, Koerner, and Jacobsen (1993) were among the earliest psychotherapy researchers to promote the importance of measuring both adherence *and* competence, which has become the most common conceptualization of TI across fields. They defined competence as “the skill level of the therapist in delivering the treatment” (p. 620). Waltz et al. (1993) further clarified that competence should not refer to a static feature or skill set of a therapist, but should be completely context dependent. The authors also described a broad range of contextual variables that might affect the quality with which a therapist delivered treatment, such as the degree of client impairment, stage of therapy, client life stresses, and previous client progress. More recently, Perepletchikova et al. (2007) suggested that the contextual nature of competence should not be assumed based on training or experience and necessitates direct measurement during intervention sessions. As aptly put by Nezu and Nezu (2005), “the intervention does not equal the interventionist” (p. 80).

Differentiation

TI has also been conceptualized as *differentiation*, the degree to which an intervention is distinct from other or ongoing treatments. Differentiation is most commonly a feature of TI in research on psychotherapy and cognitive behavioral therapy (McLeod, Southam-Gerow, & Weisz, 2009). Differentiation has also been suggested as a critical component to measure in RCT research (Perepletchikova, 2009). However, calls for the use of differentiation as a component of TI can also be found in school-based intervention research (Gresham, 1989, 2005; Sanetti & Kratochwill, 2009) and when evaluating two or more programs (Power et al., 2005). Differentiation may be particularly important when evaluating the effects of similar treatments or the addition of specific elements that distinguish one treatment from another. For example, in a literature review of TI in posttraumatic stress disorder research, Barber et al. (2007) defined TI as “the degree to which treatment is implemented in accordance with a treatment manual by trained therapists and how the treatment is differentiated from other treatments” (p. 793). Note that this formulation of TI includes measures of both adherence (i.e., intervention delivery) and differentiation (i.e., evidence that the intervention conditions actually differed from baseline).

In a review of TI in psychotherapy research, Perepletchikova et al. (2007) found that differentiation was not commonly measured, even in studies that compared multiple treatments. The authors warned against assuming that proper measurement of adherence and competence would guarantee that treatments had been differentiated. In fact, in response to the long-standing conclusion that all psychotherapy interventions produce equivocal results, researchers in psychotherapy have recently implicated failures to properly measure differentiation in nearly all previous psychotherapy research as a major confounding factor (Bahr & Beck, 2009).

Dosage and Exposure

The trio of adherence, competence, and differentiation is not only used in various combinations, but is often the basis for models that include yet other dimensions of TI. For example, “dosage” and “exposure” are similar terms that are becoming more common in the literature to describe elements of TI. In the social science intervention literature, dosage typically refers to a measure of the frequency, intensity, or duration of services provided to a client (Irvin, McBee, Boyd, Hume, & Odom, 2012). Jones, Clarke, and Power (2008) used the term dosage in a multidimensional conceptualization of TI that includes, among other elements, adherence, competence, and differentiation. Dane and Schneider (1998) included the term exposure in a

manner analogous to the term dosage in a comprehensive model of TI within the field of psychotherapy. These terms are not only described in conceptual works but can be found in descriptive and experimental studies in the field of learning and behavior problems. For instance, [Hamre et al. \(2011\)](#) used the term dosage to describe how the number of course sections and homework assignments completed by preschool teachers affected their beliefs, knowledge, and practices regarding child–teacher interactions.

TI and Behavioral Consultation

The field of learning and behavior problems shares a good deal of common ground with the field of school psychology. One challenge common across disciplines is the need to change the behavior of the teachers and staff who are ultimately responsible for the outcomes of children and youth. The field of school psychology has embraced this challenge, spawning an important and vital literature on consultative models ([Sanetti & Kratochwill, 2008](#)). The consultative model differs from one-to-one psychotherapy by separating the therapist from direct involvement with the student. In the most basic format, consultative models consist of two phases or processes: first, a consultative or collaborative process; and second, a treatment or intervention process. During the consultation phase, the school psychologist or therapist interacts with a teacher or staff person to develop the knowledge, skills, and/or supports needed to meet the treatment goals of the student. Then, during the implementation or intervention phase, the teacher or staff person uses knowledge, skills, and/or supports developed during this interaction to meet the treatment goals of the child.

For researchers seeking to address TI, the consultative model creates a challenge that has only recently been addressed in the literature. Specifically, each phase of the consultative model can be conceptualized as an experiment with its own set of independent and dependent variables. [Noell \(2008\)](#) described a two-phase model of TI targeted at measuring the independent variables in the consultation and intervention phases. The degree to which the consultant carries out the consultation model is referred to as *consultation procedural integrity*. The degree to which the teacher carries out the treatment plan is referred to as *treatment plan implementation*. [Kelleher, Riley-Tillman, and Power \(2008\)](#) referenced the use of this two-phase model in a study that investigated the effect of two consultation processes (expert-driven consultation and collaborative consultation) on practitioner TI.

TI in Large-Scale Dissemination

The field of special education has always attended to using knowledge gained through research to benefit broader populations of students with disabilities. However, an even greater focus has been brought to bear on the broad dissemination of research-based practices across the last decade. Federal legislative and research funding efforts reflect this emphasis. *Scientifically based research* and *scientifically based academic and behavioral interventions* are terms that have been included in federal laws such as No Child Left Behind (currently ESEA) and the reauthorization of IDEA (2004). In 2002, the Institute of Education Sciences (IES) was established, among other reasons, to promote the systematic progression of educational research from basic translational research to broad dissemination of practice. The major funding source for special education research, IES, now requires researchers to address specific *research goals* when applying for funding. These *research goals* are funding categories that approximate the research to practice spectrum (i.e., Exploration, Development and Innovation, Efficacy and Replication, Scale-Up Evaluation, and Measurement).

However, the field of special education has been as ineffective in providing TI data in dissemination studies as it has been in research. Despite the continuing focus on dissemination of research-based practices, the field has a history of inability to move from research to disseminated practice (Tankersley, Landrum, & Cook, 2004). Various barriers to implementing research-based practices on a large scale and in naturalistic settings have been debated in special education (e.g., Malouf & Schiller, 1995) as well as in other fields such as community health science (e.g., Bauman, Stein, & Ireys, 1991).

To address the lack of TI (called implementation fidelity by these authors) in large-scale projects, Fixsen, Naoom, Blase, Friedman, and Wallace (2005) conducted a comprehensive review of research findings from studies on implementation of practices and programs. The literature for this review came from 743 studies across a broad range of fields, including agriculture, business, child welfare, mental health, juvenile justice, pharmacology, nursing, and social services. Four broad findings emerged from their review. First, information dissemination and training are not effective implementation practices. Second, successful implementation efforts involve a long-term multilevel approach. Third, some evidence points to the importance of organizational and system influences. Fourth, very little is known about interaction effects among various implementation factors.

Based on these and other findings, Fixsen et al. (2005) developed a model for implementing large-scale projects with fidelity. The model defines *stages of implementation* (exploration and adoption, program installation, initial implementation, full operation, innovation, and sustainability), *core implementation components* (training, coaching, and performance measurement), *organizational components* (staff selection, program evaluation, and administrative supports), and *external influences* (social, economic, and political influences). Two large-scale programs familiar to the field of special education, RtI and school-wide PBIS, have both explicitly incorporated elements of this model.

Selection of a TI Model

This brief overview of conceptualizations of TI leads to at least one general conclusion – it is unlikely that a *single* definition of TI will arise from ongoing research. Although the original definition has been characterized as insufficiently narrow by scholars in several fields, it is also unrealistic that one conceptualization of TI could be acceptable across those fields. The various conceptualizations that have emerged over the last two decades appear inextricably tied to a range of specific needs. Although it may be useful to loosely adhere to a specific model of TI, researchers should consider using an eclectic approach when designing TI methods and measures, taking advantage of the range of research that has been conducted. Schulte et al. (2009) arrived at the same conclusion and suggested that the model of TI might be specific to the intervention elements and the stage within the research-to-practice sequence. For instance, in a review of TI in the treatment of posttraumatic stress disorder, Barber et al. (2007) concluded that researchers should consider how their measures of adherence and competence relate to the specific purposes of their study. Similarly, Arkoosh et al. (2007) measured three aspects of TI in a study on the reduction of problem behavior. A broad approach to assessing integrity may also generate a better understanding of the subject being studied. For instance, Toffalo (2000) followed 28 children who received wraparound services and measured TI as service hours received versus service hours prescribed. When outcomes improved, but a regression analysis failed to show a connection between levels of TI and outcomes, the author suggested that treatment hours may not have been the most sensitive measure of TI and that future researchers should consider other metrics for measuring TI for wraparound services.

METHODS OF MEASURING TI

Sanetti and Kratochwill (2008) have provided a useful way of categorizing the different methods that can be used to assess TI. The three broad categories are permanent products, direct observation, and self-report and/or interview.

Permanent Products

When an intervention produces permanent products – written papers, data sheets, portfolios, tokens in a jar, and the like – it may be possible to use these products to at least partially assess TI (Lane, Bocian, MacMillan, & Gresham, 2004). Because they are already available, permanent products require little additional work and involve minimal reactivity. Although they may not be sufficient as the sole measure of TI, both Lane et al. (2004) and Noell (2008) have concluded permanent products have provided useful information in several applied studies and should be considered when their use fits the methods and purposes of a particular study.

Direct Observation

Several different measures may be used when directly observing the delivery of an intervention. The most common among these are checklists with or without embedded ratings, response-by-response recording, and whole-interval measurement.

Checklists

Implementation checklists estimate TI by generating a percentage of an intervention that is delivered. Using this method involves first operationally defining the components of an intervention, recording their occurrence or nonoccurrence (usually immediately after an intervention concludes), and then calculating the percentage of checklist items that were implemented.

Some intervention components may be needed repeatedly, but only implemented occasionally. For instance, a teacher may call on Javier on three of the six times that he raises his hand, instead of *every* time, as the intervention requires. Simply indicating that the intervention component was implemented would be misleading. To handle situations like these, some researchers use a Likert-type scale to indicate the level or quality of

implementation of certain checklist items (Lane et al., 2004). Using this method, researchers operationally define levels of implementation and then assign point values to each level, for example, “rarely or never” (0), “inconsistently” (1), or “consistently” (2). The researcher then scores the appropriate descriptor for each item.

Although checklists involve direct observation of an intervention and are relatively easy to use, they usually are completed *after* the intervention and may incorporate multiple ratings. For this reason, checklists actually provide TI measures *based on* direct observation, but are not direct observations.

Response-by-response recording

Perhaps the purest measure of TI is direct observation and recording of each response made by the interventionist. Using this approach, researchers observe an implementer’s behavior and record its frequency or duration in the same manner they would observe and record the responses of the student who is receiving the intervention. Billingsley et al. (1980) described a direct, response-by-response method of assessing TI in research on instruction. First, the researchers operationally defined the instructional procedures. Then, as instruction was delivered, an independent observer scored each instructional sequence, noting whether the teacher followed the specified procedures for setting up the instructional situation, initiating each trial, and responding to correct or incorrect responses by the student. TI was calculated as the percentage of teacher behaviors that corresponded to the designated procedures. Although labor intensive, response-by-response recording provides precise data on the degree to which the intervention is delivered as intended.

Whole-Interval Measurement

Recently, some researchers have used a whole-interval measure of TI. In this approach, an intervention session is divided into intervals and the delivery of the intervention is then scored interval-by-interval, just as one might score the on-task behavior of a student. At the end of each interval, the observer scores whether *all* of the intervention components required during the interval were correctly implemented throughout the entire interval. TI is then calculated as the percentage of intervals correctly implemented.

Wood, Umbreit, Liaupsin, and Gresham (2007) used this method to assess the TI of a function-based intervention in a classroom setting. Whole-interval data made it possible to monitor TI session-by-session and interval-by-interval. Session-by-session analysis revealed inconsistent delivery by the

teacher with little improvement by the student. However, the interval-by-interval analysis revealed that the student's on-task behavior occurred throughout 91% of the intervals when the intervention was implemented correctly, compared to only 9% when it was implemented incorrectly.

Using the whole-interval method, TI data are collected simultaneously with data on student behavior. Because some procedures may be required during some intervals but not others (e.g., praise only after every 2 minutes on task), use of the method requires thorough knowledge of the intervention procedures and the criteria for their use. Nevertheless, several researchers (e.g., Nahgahgwon, Umbreit, Liaupsin, & Turton, 2010; Turton, Umbreit, & Mathur, 2011; Wood, Ferro, Umbreit, & Liaupsin, 2011; Wood et al., 2007) who have used the whole-interval method to assess TI also reported IOA for their TI data. In all cases, IOA for TI exceeded 90%, indicating that multiple independent observers could use the method reliably.

Self-Reports and Interviews

One popular method for assessing TI is the self-report, in which an interventionist evaluates his or her delivery of an intervention, usually right after the intervention session ends. The method requires operational definitions of each intervention component and criteria for rating each item. Although convenient, self-report TI is vulnerable to inaccuracy and reactivity. For example, a study by Wickstrom, Jones, LaFleur, and Witt (1998) revealed that teachers who self-reported TI at 54% were actually implementing at 4% on objective, response-by-response measures of TI.

Interviews offer another viable method for collecting TI data. Although potentially convenient, interviews can also be labor intensive. Using this method, researchers operationally define the intervention components and then conduct interviews with the interventionist, the intervention recipient, or both. For example, Romer and Umbreit (1998) used interviews to examine the social validity of family-centered service coordination provided to families with young children with disabilities. Each month, a service coordinator was supposed to contact the family, ask certain questions, and provide follow-up with requests for service. At the end of each month, the researchers interviewed each family to gather data on TI (whether the service coordinator followed the required procedures) and their satisfaction with the service coordination provided.

In any study, the methods used to assess TI should be tailored to the particular study, its purpose, the context, and the nature of the procedures

under study. Permanent products, direct observation, self-reports, and interviews offer different options for achieving this goal. However, to date, there is little research that documents the psychometric adequacy of any of these approaches to assessing TI (Sheridan, Swanger-Gagné, Welch, Kwon, & Garbacz, 2009).

PERSISTENT ISSUES IN TI

Issues of Definition

In any discussion of ongoing issues in TI, the first must be the differences in the conceptualizations of its measurable dimensions across disciplines. From its simple beginnings (Billingsley et al., 1980; Peterson et al., 1982), the conceptualization of TI has developed into a complex construct with multiple dimensions that vary depending on the discipline and context in which it is used (Gresham, 1989; McLeod et al., 2009; Sanetti & Kratochwill, 2009).

The question remains, then, what is TI? Research and theoretical conceptualizations have provided us with a variety of identifiers (e.g., TI, procedural reliability, treatment compliance) that may have slightly different meanings. For example, it has been described as a measure of the accurate application of the independent variable (Gresham, 1989, 2009), the extent to which a treatment or intervention is implemented as intended (Sanetti & Kratochwill, 2009), and a measure of patient adherence to a prescribed treatment (Barber et al., 2007).

The dimensions of TI are said to include adherence, effort/dosage, competence, differentiation, and participant responsiveness depending on the discipline, area of research, or evidence-based practice. Schulte et al. (2009) proposed TI measures that exceeded the dimensions of implementation (e.g., adherence) to include intended outcome (e.g., participant's receipt of service and enactment of learned procedures). The additional complexity generated by tiers of services, as described in consultation models (Perepletchikova & Kazdin, 2005; Sheridan et al., 2009), only compounds the question.

Although it seems clear that accuracy of implementation (adherence) should always be measured in research and practice, more complex interventions require additional measures such as competence or differentiation. However, there is a lack of guidelines to identify when an intervention requires additional measures of TI. For example, when a behavioral

intervention is implemented, should researchers be required to assess TI on the baseline condition to ensure that it is really different from the intervention condition? Should the same efforts at differentiation be required in school or clinical practice? In the assessment of an RtI program, is it necessary to measure the competence of each person involved in its implementation? How should TI measurement be matched to the characteristics of a study as suggested by Gersten et al. (2005) or take outcomes into account as suggested by Lane, Kalberg, Bruhn, Mahoney, and Driscoll (2008)? How should TI measurement be adjusted based on the research to practice sequence as suggested by Malouf and Schiller (1995)?

TI practices must be identified and clarified in sufficient detail to allow replication by others (Greenwood, 2009; McKenna, Rosenfield, & Gravois, 2009; Schulte et al., 2009). However, only a few programs have developed and explored the characteristics of standardized measures of TI (e.g., SET (Vincent, Spaulding, & Tobin, 2010), and the Treatment Integrity Program Protocol (Sanetti & Kratochwill, 2009, 2011)). Perepletkhikova, Chereji, Hilt, and Kazdin (2009) have also attempted to provide a more detailed guideline with a summary of a list of available strategies for psychotherapy. Protocols, checklists, and standardized measures provide some guidance but do not account for the many cases in which treatment is so individualized as to preclude a standard measure.

Measurement Issues

Measurement issues include a lack of clear guidance on the most appropriate method for measuring TI (e.g., permanent product, observation, or self-report), the frequency with which data should be collected, the criterion for accuracy that should be used (e.g., percentage of steps correctly implemented), or the reliability of TI data. First, each of the measurement methods has been described in the previous section as having advantages and disadvantages in their cost, accuracy, and thoroughness. Given the current state of the research, their appropriateness can only be assessed by looking at the purpose/use of the TI data (e.g., summative or formative) and the context in which they are collected (e.g., research, program implementation, or therapeutic evaluation).

Second, the frequency and level of accuracy of TI data collection seem to be a matter of convention rather than research. Most studies in which TI is included rely on an accuracy criterion of 80% and collect TI data weekly or monthly, depending on the context of the intervention or program

implementation (Noell, Witt, Gilbertson, Ranier, & Freeland, 1997). Gresham (2009) advises that there is no reliable database to use as a guide in deciding the accuracy criterion needed to ensure that the intervention has been sufficiently well implemented. He further suggests that the level of TI required might vary depending on the question that is being answered. Pereplechikova and Kazdin (2005) note that low levels of TI in the delivery of treatment protocols may still provide good outcomes because they include essential features of an intervention and adjustments that are more effective than the original.

A few studies have directly addressed the question of accuracy and frequency. In a series of experiments, researchers demonstrated that performance feedback improved TI and also resulted in improved student outcomes (DiGennaro, Martens, & Kleinman, 2007; Noell et al., 2005). Sanetti and Kratochwill (2009, 2011) improved teachers' self-report of TI by increasing the frequency with which they reported from weekly to daily and requiring a more specific written report that used the Treatment Integrity Planning Protocol (TIPP) in place of a verbal report that required only a general estimate of implementation. Sanetti and Kratochwill (2009) also suggested flexibility in the level of TI required, so that "high" stake decisions, such as special education placement, should include more frequent and comprehensive TI data than "low" stake decisions.

However, Gresham (2009) proposed four possible explanations of the relationship between TI and outcomes. One was that although low TI reflected poor implementation of the identified intervention, it did not necessarily mean a poorer treatment, only a different treatment. Until guidelines are available, it seems safe to maintain a minimum criterion of 80% accuracy for TI and at least weekly collection of data. More frequent data collection and higher accuracy could be required based on the outcomes.

A third issue is that there has been little discussion of the need for IOA data for TI measures, though we require IOA on the outcome measure to ensure that results are reliable. TI IOA data collection could occur at the same time as outcome data IOA are collected, but would undoubtedly lead to even further cost of time, personnel, and logistical planning.

Barriers to Including TI

Regardless of the definition or the dimensions identified, assessing TI is acknowledged to be a necessary component of intervention research (Gresham, 2009), psychotherapy research and program implementation

(Perepletchikova et al., 2007), school psychology (Noell et al., 2005), and dissemination of evidence-based practice (Greenwood, 2009). However, as noted previously, the most generous review of TI literature in the last five years showed that less than 50% of studies included TI measures, while the more stringent result showed that only 3.5% of studies included TI.

Our limited understanding and knowledge of measurement appears to be one barrier to implementing TI in research and practice. Surveys of school psychologists (Cochrane & Laux, 2007) and psychotherapists (Perepletchikova et al., 2009) indicate that a lack of general knowledge about TI or understanding of how to measure it makes it difficult for researchers and practitioners alike to identify the appropriate procedures to be used in the context of a specific intervention or program implementation. Researchers in both studies pointed out that guidelines *have* been provided in the literature, but fail to mention that they sometimes only partially cover the issues, do not provide practical tips for application, or differ according to the theoretical model.

Other barriers to collecting TI data are not as clear, but seem to include a combination of time, cost, labor considerations, and a general lack of requirement for TI by journal editors. Even in the simplest cases in which TI is collected (e.g., only adherence data), costs may include additional people to collect data, training those people, and coding and analyzing data (Cochrane & Laux, 2007; Perepletchikova et al., 2009). In addition, school psychologists completing the Cochrane and Laux survey indicated that teachers and school administrators did not understand the need to collect TI data and tended to veto their requests.

As measures of TI become more complex, costs increase (Schulte et al., 2009). Additional costs may include expert therapists to assess competence (Barber et al., 2007); the cost of developing appropriate protocols, video-taping treatment sessions, and developing and validating assessment inventories (Perepletchikova et al., 2009).

Although researchers continue to clarify the lack of TI in intervention literature and refine measurement, the barriers must be more clearly addressed so that scholars will be persuaded to include TI in their research and program analysis. Some researchers, professional groups, and organizations have provided guidance to researchers on the appropriate inclusion of TI in research by developing guidelines for research and standards for evidence (e.g., Flay et al., 2005; Kratochwill et al., 2010; Mayo-Wilson, 2007; Mowbray, Holter, Teague, & Bybee, 2003). Further advances might also be made if publication criteria were more direct in requiring the inclusion of TI in submitted manuscripts. Funding sources

might also encourage more appropriate outcomes in research by increasing emphasis on TI in funding applications.

Improving Implementation

Much of our previous discussion has focused on TI as a summative process; information is used to evaluate the extent to which the intervention was implemented. In fact, only a limited focus on TI as a formative process can be found in the literature on research and practice (Sanetti & Kratochwill, 2011). However, any discussion of TI must also address the issue of what to do when there is a failure to accurately and consistently implement an intervention or program protocol.

Some school-based consultation studies used TI data to provide formative feedback and training to improve implementation (Noell et al., 1997; Sanetti, Luiselli, & Handler, 2007; Witt, Noell, LaFleur, & Mortenson, 1997). However, Power et al. (2005) suggested a different approach that was more collaborative in nature, using TI data to identify and address the reasons for poorly implemented interventions and to revise the procedures accordingly.

Another method would be to proactively identify and address factors that have the potential to affect TI. A few researchers have conceptualized these factors to include pragmatic issues such as time required to implement, number of individuals needed, and strain on system-level resources (Chafouleas, Briesch, Riley-Tillman, & McCoach, 2009; Gresham et al., 2000; Perepletchikova & Kazdin, 2005); intervention issues such as theoretical orientation of the intervention (Witt, 1986) and intervention difficulty (Chafouleas et al., 2009; Gresham et al., 2000; Perepletchikova & Kazdin, 2005); and participant-level issues such as treatment acceptability (Chafouleas et al., 2009; Reimers & Wacker, 1988) and perceived severity of problem behavior (Lane & Beebe-Frankenberger, 2004). Assessment of such factors prior to implementation could provide the information needed to address and resolve issues before they affect implementation.

FUTURE RESEARCH

Researchers and practitioners alike would benefit from a clearer understanding of parameters for measuring TI in the most effective and efficient manner possible. Research that provided more specific guidelines or

decision-rules would help identify both the necessary and sufficient dimensions of TI. Although conceptualizations of TI within specific disciplines include suggested guidelines, the survey responses described earlier indicate that school psychologists (Cochrane & Laux, 2007) and psychotherapists (Perepletchikova et al., 2009) do not appear to find the guidelines clear enough to improve their use of TI. In addition, the guidelines do not provide decision-rules that would help users match the TI data they collect to the characteristics of the study (Gersten et al., 2005) or identify the appropriate dimensions of TI based on the category of outcome the study or program will provide (Lane et al., 2008). Standardized measures provide some guidance but address only a small portion of the research and practice that should include TI data.

TI measurement issues would also benefit from additional research. Gresham (2009) suggested research to develop *treatment integrity effect norms*. These, or a similar data-based line of research, would establish the parameters of TI for specific interventions including quantifying the accuracy levels, frequency of data collection, and measurement method that would be most efficacious for specific interventions (Mowbray et al., 2003).

Finally, TI could be improved by research that addressed both the barriers that discourage its use (e.g., cost, personnel) and those factors in organizations that result in poor TI. Although some research has demonstrated that performance feedback and improved treatment acceptability ratings improve accurate implementation, more research should also provide guidelines for practical applications. In addition, few studies have attempted to proactively address issues that lead to poor implementation.

As the use of evidence-based practice expands, more scrutiny will be focused on documentation of the efficacy of these practices and on the schools and other organizations delivering evidence-based services. TI data can provide the necessary information to demonstrate that programs are being implemented effectively and accurately. It behooves those in the field to provide practical and detailed guidance for the measurement and use of this tool.

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