

Chapter 2

Evidence-Based Tier 1, Tier 2, and Tier 3 Mental Health Interventions in Schools

Providers of mental health services to students in schools are now mandated to provide evidence-based interventions when servicing children and adolescents. This mandate is particularly strong when servicing identified students. However, the process of locating and providing services is more challenging than may be initially realized. Currently, school services tend to be fragmented and practitioners have not been in the habit of researching the adequacy of the attractive packages of materials found in catalogues before selecting a program or intervention. Researching the plethora of packaged programs and curricula on the market, many of which unfortunately have inadequate effectiveness support, can be daunting. When consulting various registries, practitioners must determine how each registry evaluated the various programs they may include, in order to determine the degree of evidence available for the prevention and intervention activities under consideration. Using a three-tiered approach, several programs appropriate for the several tiers, which also address emotion literacy and/or emotion regulation, are reviewed.

There are a number of terms that can be confusing when schools are involved in planning to meet students' mental health needs. We see terms such as empirically supported, research-based, evidence-based, proven, well-established, promising, efficacious, and probably efficacious (Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001; Lembke & Stormont, 2005). These terms are not equivalent and it is important to distinguish between them. An understanding of the term evidence-based is particularly important as it can be misunderstood and misused.

The Division of Clinical Psychology of the American Psychological Association (APA) established a task force, to set standards for considering a treatment as an empirically supported treatment (EST) (Albano & Kendall, 2002). A treatment deserving of the EST label must be compared to a no-treatment or alternative treatment control group, already established treatment, or placebo condition in a randomized controlled trial and shown to be statistically superior. It must have a manual and appropriate statistical data analysis. The efficacious designation requires two independent research settings. The probably efficacious term is reserved for one study or research from one center with no conflicting data. Hoagwood et al. (2001) further described the operational criteria for well-established treatments to involve two or more studies showing the interventions to be superior to medication, placebo, or alternative treatment, or that the interventions is equivalent to an already established treatment or nine single-case case studies showing equivalence of superiority.

The advantages and disadvantages of evidence-based programs have been discussed in the literature (Cooney, Huser, Small, & O'Connor, 2007). The odds of a program working are better with an evidence-based program and resources are less likely to be wasted if strong programs are adopted. Evidence-based programs tend to include materials, staff training, and other technical assistance. Stakeholders are more likely to listen when evidence-based programs are proposed, as there is supportive data to present for their consideration including cost–benefit information. The disadvantages of ESTs include cost, the fact that these programs must be implemented with strong fidelity, and the fact that the program may not fit the particular school site.

This APA group is not the only group that has provided terminology or descriptive information that can be used to judge effectiveness of programs. The Society for Prevention Research established a committee to write standards for effective prevention programs (Flay et al., 2005). This group defines an efficacious intervention as one that has been tested in at least two rigorous trials involving specific populations with sound data collection procedures and controls, meticulously analyzed, showing consistent positive effects, and including at least one long-term follow-up study. An efficacious intervention will have a manual, provide training, be evaluated in the real world with attention to implementation, a discussion of the practical importance and for whom generalization would be appropriate. Those programs ready for dissemination would provide evidence of readiness, cost information, and tools so that implementation and outcomes can be measured.

Division 16 of APA and the Society for the Study of School Psychology established a task force on evidence-based interventions in school psychology. The task force developed a Procedural and Coding Manual for Review of Evidence-Based Interventions “to identify, review, and code studies of psychological and educational interventions for behavioral, emotional, and academic problems and disorders for school-aged children and their families” (Stoiber & Kratochwill, 2001, p. 6). The goal was to help people make decisions about the quality of research evidence for various programs and interventions. The identification of evidence-based interventions for school implementation is considered to be a long-term effort and will be of considerable assistance to schools in matching programs to needs as more data accumulates.

A very clear description of what variables constitute an evidence-based program is provided by Cooney et al. (2007). An evidence-based program is one which has been evaluated and research produces the expected results which are attributed to the program rather than other factors. Additionally, an evidence-based program has been evaluated by experts in the field other than the creators of the program, and it has been declared as evidence-based by a federal agency or a respected research group or registry. A distinction is made between evidence-based and research-based programs. Evidence-based programs contain components that are empirically supported and thus are research-based. However, not all research-based programs are evidence-based because they have not been demonstrated to be effective. The term evidence-based has also been used to refer to treatment studies as well as programs. However, the criterion used to call a given treatment evidence-based has

Table 2.1 Practical definition

A practical definition

An evidence-based program is one that has been evaluated by experts in the field other than the creators of the program, outcomes are attributable to the program itself, and it has been declared evidence-based by a federal agency or a respected research group or registry

not been as rigorous. Metaanalytic reviews of treatments have been cited as a demonstration of the strength of evidence for interventions (Hoagwood et al., 2001). A metaanalysis is a study involving the statistical aggregation of the results of many studies. Whether or not the effects of a treatment are significant depends on the number of individuals in the research study. Metaanalysis allows researchers to determine the direction of effects that do not depend on the number of participants (McCarthy & Weisz, 2007). Although we do not have a pure measure of treatment effectiveness, effect size is a useful tool for comparing studies. A practical definition of an evidence-based program can be found in Table 2.1.

When we consider child and adolescent mental health, evidence-based practices differ from those for adults. In the former, the family is often involved and there are developmental issues to consider. Although issues of child development and context are very important, they are not routinely addressed in research on the interventions for children that are to be implemented in schools. Although treatments have been identified for different disorders of childhood, the studies to support them have most often been connected with university driven, tightly controlled studies. Treatments with solid efficacy cannot assume to be effective in other settings. Complications in school settings include monitoring to make sure that treatments are implemented with fidelity, involvement of heterogeneous populations, high caseloads, the types of services beyond the immediate interventions, the organization of the setting, the culture and climate of the setting, and the motivation of those who will implement programs. These and other factors make implementing a program or an intervention in a school quite different from the controlled situation in which the program was determined to be effective (Hoagwood et al., 2001).

Unfortunately, most school-based programs currently in place to provide mental health services have no evidence to support their effectiveness (Rones & Hoagwood, 2000). Randomized controlled conditions measure efficacy but do not address effectiveness which is critically important when considering programs to implement in schools. We need to know what actually works in schools. When we consider research in schools, it is extremely challenging to conduct research in schools with randomized controlled trials, which is the so-called “gold standard” (Christenson, Carlson, & Valdez, 2002). Control is difficult in applied research, as the realities of school-life do not fit tightly-controlled research designs. Schools are complex contexts. Given that randomization is not always possible, researchers have used quasiexperimental designs. Rather than randomly assigning students to either a treatment group or a control group and comparing outcomes, students are compared to similar students; however, participating in each group is predetermined, most likely because students are already placed in a given class and are not randomly assigned to classes. Quasiexperimental designs are more realistic and

much easier to implement in schools. Quasiexperimentally designed practices often have been evaluated only once or twice rather than multiple times. Some have been evaluated in a particular state or area of the country rather than in many different settings and may not work as well when implemented elsewhere. Programs and treatments been shown to prevent particular behaviors to different degrees.

Programs that are designated evidence-based are not all equally effective. They are not equally likely to be implemented successfully in a given school. It is important to look at these differences in programs when considering them for implementation (Cooney et al., 2007). Tanenbaum (2005) argues that practical clinical trials are needed for schools. These studies compare clinically relevant interventions with diverse populations in real-life settings and evaluate a variety of outcomes. All of these considerations leave school practitioners with the problem of matching their students and community, along with their district's model, to the programs that are available (Kutach, Duchnowski, & Lynn, 2006). Registries with lists of evidence-based programs that have met the particular organization's criteria for effectiveness are available to assist in selecting potential programs and treatments. Sample agencies are listed in Table 2.2.

Various registries are sponsored by federal agencies or research organizations. Of course each registry has its own standards and terminology to determine if a given program should be listed or endorsed. Most lists are problem oriented. Some programs are listed by more than one registry but some caution needs to be used in that programs that might be equally effective and could be listed by one agency and not another given the differences in the criteria for inclusion.

Table 2.2 Examples of frequently referenced program agencies

Frequently referenced program agencies

SAMSA: National Registry of Evidence-based Programs and Practices.

<http://www.nrepp.samhsa.gov/>

Promising Practices Network. <http://www.promisingpractices.net/programs.asp>

CASEL: Collaborative for Academic, Social and Emotional Learning (SEL programs).

<http://www.casel.org/programs/index.php>

CSPV: Prevention Research Center for the Promotion of Human Development at Penn State, the Center for the Study and Prevention of Violence. <http://prevention.psu.edu/>

USDOE: The United States Department of Education's Exemplary and Promising Safe, Disciplined, and Drug-Free Schools Programs 2001 (USDOE) (US).

<http://www.ed.gov/admins/lead/safety/exemplary01/exemplary01.pdf>

CSMHA: Center for School Mental Health at the University of Maryland School of Medicine (Recognized Evidence-based Programs Implemented by Expanded. School Mental Health Programs). <http://www.schoolmentalhealth.org/Resources/Clin/QAIRsrc/Summary%20of%20Recognized%20Evidence%20Based%20Programs6.14.08.doc>

Blueprints for Violence Prevention: Center for the Study and Prevention of Violence, University of Colorado at Boulder. <http://www.colorado.edu/cspv/blueprints/matrix.html>

OJJDP: Office of Juvenile Justice and Delinquency Prevention, US Department of Justice.

<http://ojjdp.ncjrs.gov/programs/mpg.html>

Find Youth Info: Evidence-based Program Directory.

<http://www.FindYouthInfo.gov/ProgramSearch.aspx>

The California Evidence-based Clearinghouse. <http://www.cebc4cw.org/search/select>

Kutach et al. (2006) developed a guide for decision-makers addressing school-based mental health. Their interest was primarily prevention programs. In reviewing the literature they emphasized the fact that schools typically implement multiple programs as problems arise, but most of the programs implemented are not empirically based. In addition, most studies involved young children with only a handful addressing middle or high school students. Programs are available to prevent the development of emotional disorders or to improve student functioning. The guide lists 92 programs ranked by each of five sources as the most effective, or are ready for dissemination. Two-thirds of these address emotional regulation at least to some extent or address social competency. The majority of the programs listed are currently implemented in schools. Indicated programs listed contain a specific and limited number of skills to be taught and also include specific therapeutic approaches targeting students with internalizing disorders, or behavior management strategies to target externalizing disorders. This group points out that there are notable differences in the amount of time involved, in the specific activities included, and in the role of teachers and parents in the various programs. Social skills curricula per se, so commonly implemented in schools are not listed as evidence-based. Social skills training is still considered experimental with more data needed. As of 2006, the well-known Systems of Care (<http://systemsofcare.samhsa.gov/>) and Positive Behavior Supports (<http://www.pbis.org/>) were not listed as evidence-based. These interventions target outcomes for systems vs. outcomes for individual students. They did not provide packaged materials that could be easily implemented in schools as of the time of completion of the guide.

The Three Tiers of Intervention

Social skills training programs are an extremely popular school based intervention. However, Elias and Weissberg (2000) point out that short-term social skills programs, by themselves, do not result in sustained learning. Emotional and social skills need to be practiced and reinforced continuously. Only in this way will skills generalize. Skills and strategies need to be integrated into the regular curriculum, into the life of the school as a whole, in students' families, and in the broader community. This requires very comprehensive programming involving both prevention and intervention. The well known three tiers of intervention model fits this conceptualization. In its 1994 report, *Reducing Risks for Mental Disorders: Frontiers for Prevention Intervention Research*, the Institute of Medicine (IOM) proposed a set of definitions related to behavioral health, and correlated with levels of health risk (Mrazek & Haggerty, 1994). These definitions are based upon a "continuum of care" spectrum that encompasses three categories of prevention: universal (Tier 1), selective (Tier 2), and indicated (Tier 3) (Gordon, 1983).

In tiered models, differentiation in treatment is based on evidence-based components, which progressively increase in intensity. This increases the likelihood of positive outcomes for all students. The time that a student is exposed to the

treatment may increase as a student progresses through the tiers. Tier 2 interventions do not replace Tier 1 interventions, but rather are supplemental to Tier 1 interventions. Some students need not only more time but also more intensity. Delivery of service changes from large group to small group and for some students to individualized interventions as well. Training becomes more explicit as students with the most need progress through the tiers. Examples of programs and interventions at each level can be described. The programs described in the following sections represent a variety of developmental levels that are targeted at various school levels, and demonstrate differences in their respective evidence-bases to support the programs. The programs described address emotion regulation to some degree or address emotion literacy. They are simply a few of many programs and interventions available.

Tier 1: Universal Programs

Universal programs are provided to all students in individual classrooms. They are presented to every student in the class simply because the child is in the class (Wilson & Lipsey, 2007). Programs delivered to all students are proactive, preventive, and reduce the risk of stigma for students who are served (Domitrovich et al., 2010). Much of the available research has centered on universal programs; and in particular, programs for students during elementary school who have externalizing disorders. There has been significantly less research on interventions for middle and secondary students and for students with internalizing symptoms or disorders. There has been surprisingly little integration of programming addressing mental health needs across the school levels or between prevention and treatment, although researchers are moving in this direction. This is a significant need as single interventions or programs may not adequately address the complexity of problems leading to mental health problems. Integrated models use similar language and a basic framework that involves the same processes in different contexts and at different levels. In integrative models, students who do not respond to Tier 1 interventions get a second hit at Tier 2, and again at Tier 3 if they do not make progress. So, the students with the most significant needs are well served along with all other students. There may be an added effect for students serviced at all three or at least two levels. Integrated whole school programming may also be more stable and less likely to be diluted or dropped over time as the administration and teachers in the school system change.

There are many programs and treatments for various problems that students may exhibit. Of these, many include or address issues of emotion regulation to some degree, although they do not typically focus on emotion regulation as the primary organizing construct. In addition, many do not take students' developmental levels into consideration (Kovacs et al., 2006). Students acquire regulation skills differently and can exhibit a variety of diverse coping strategies. A major report of social and emotional learning (SEL) school-based programs by the Collaborative for Academic,

Social, and Emotional Learning (CASEL Update, 2007; Payton et al., 2008) compared 324,303 students who participated in SEL programming during the school day to students who did not. SEL programs are typically universal or Tier 1 programs. This study reviewed more than 700 programs, selecting out 317 designed to teach students skills “to recognize and manage emotions, set and achieve positive goals, appreciate the perspective of others, establish and maintain positive relationships, make responsible decisions, and handle interpersonal situations effectively” (Payton et al., 2008, p. 1). Across studies, students scored 11–17 percentile points higher on standardized achievement tests, but only when the programs were implemented by school staff rather than researchers. Classroom programs were effective in multiple areas. Programs needed to be well executed in order to demonstrate this degree of success and needed to be supported by policy, leadership, and professional development. In addition, programs developed skills in students sequentially, used active forms of learning, provided sufficient time on task, and targeted specific skills explicitly.

At Tier 1, a universal intervention that has a strong focus on emotional literacy and at the same time has a strong research base is the *Incredible Years* (IY) program, which includes three different curricula for parents, teachers, and children (Webster-Stratton & Herman, 2010). The program is an early intervention model targeting risk factors across settings. The IY program has two goals, to enhance both social-emotional and academic competence, which includes understanding of feelings and decrease of negative attributions, with a second goal to reduce conduct problems. The program involves teacher-training, parent training for caretakers of children 2–7 years of age, and two child-training components. The child-training components include one for students in kindergarten through grade 2 (Tier 1), and one for small groups of children aged 4–8 years of age who have already been exhibiting behavior problems (Tier 2) (Webster-Stratton & Reid, 2008). The Tier 1 program consists of the parent and teacher components as well as the *Dina Dinosaur* curriculum with 60 lessons implemented two to three times a week by classroom teachers with whole group discussion, practice activities, and home activities to generalize learning. The *Dina Dinosaur* program trains children in emotion literacy, empathy, friendship and communication skills, anger-management, interpersonal problem-solving, and how to be successful at school (Webster-Stratton & Reid, 2002, 2003).

The IY program has been adapted for use by preschool and elementary level staff as a prevention program. This adaptation is designed to increase social, emotional, and academic competence and to decrease problem behaviors, which interfere with success in the classroom. In addition, the program has been piloted with groups of children with special needs including autism. Outcomes have included increased feeling words vocabulary and increased appropriate responses to problematic social situations. Children who participated demonstrated increased engagement in classroom activities (Joseph, Webster-Stratton, & Reid, 2006). Some consider the IY program “the most-researched, most-supported early intervention for young children exhibiting signs of conduct problems” (Reinke, Herman, Stormont, Brooks, & Darney, 2010, p. 105).

The Tier 2, selective aspect of the program with 60 lessons and small group activities is implemented with groups of five or six children. Although the model suggests weekly 2-h “pull-out” sessions for 20–22 weeks, school psychologists could implement the Tier 2 interventions as a pullout program for children already demonstrating defiance, opposition, impulsivity, and or aggression for shorter periods over a longer time span during a semester. This aspect of the program focuses more intensively on understanding and communicating feelings, friendship development, anger management, social problem-solving, and following school rules (Webster-Stratton & Herman, 2008, 2010).

There are multiple studies demonstrating the efficacy of the IY parent programs including randomized controlled group studies by independent investigators and studies involving low-income mothers with diverse backgrounds. Studies of the child training aspect of the program involving intervention and wait-list groups have demonstrated posttreatment decreases in externalizing behaviors with increases in prosocial behavior (Webster-Stratton, Reid, & Hammond, 2001). Children who participated in the IY *Dinosaur* program (supported by teacher training around classroom management) demonstrated improvements in concentration, emotional regulation, and social skills compared with control group students. Program impact for high-risk children was greatest (Webster-Stratton, Reid, & Stoolmiller, 2006). Implementing the program in early childhood settings had an important effect on teachers. Teachers who participated in training and in implementing lessons were significantly more nurturing, were less critical, were more consistent in management, and focused more on promoting social and emotional behaviors (Joseph et al., 2006). To increase comprehensiveness, the IY program can be integrated with school-wide Positive Behavior Supports (PBS) for example, as the IY program adds support for parents and families. Both interventions promote positive school climates (Webster-Stratton & Herman, 2010). The US Office of Juvenile Justice and Delinquency Prevention chose the IY programs as an exemplary best practice model. IY has been identified as a model program by Center for the Study and Prevention of Violence (Reinke et al., 2010).

The *PATHS* (Promoting Alternative Thinking Strategies) program is a universal and comprehensive SEL intervention for students in kindergarten through fifth grade. The program content includes emotional understanding, self-control, social skills, and social-problem-solving skills. The *PATHS* curriculum was designed by Kusché and Greenberg in 1994 to facilitate social and emotional competence. The specific skill areas addressed include emotional literacy, positive peer relations, problem solving, and self-control (Webster-Stratton & Reid, 2008). Classroom teachers implement the program. Kam, Greenberg, and Walls (2003) explored implementation quality and found that significant effects of implementation the *PATHS* curriculum in a large cohort of first grade students was found *only* when teachers implemented the program correctly, and when the program had strong principal support. The Substance Abuse and Mental Health Services Administration (SAMHSA) of the National Dropout Prevention Center/Network rated the *PATHS* program as a model program. It received the highest rating from the Blueprints Project of the Center for the Study and Prevention of Violence at the University of

Colorado. It received a select rating from CASEL, and was rated a promising program by the Centers for Disease Control and Prevention, and the US Department of Education, Safe and Drug-Free Schools Program's Expert panel.

A randomized control study of the *PATHS* program found greater improvements in emotional understanding and social problem solving in the intervention group along with lower rates of externalizing behavior problems 2 years after the intervention (Greenberg & Kusché, 2002). An outcome study involving both typical and special needs students with diverse backgrounds showed that students participating in the intervention learned significantly greater emotion vocabulary than controls as well as demonstrated significant increases in emotion knowledge, although the second finding was not evident in special needs students. Improvements were identified in reasoning about how others feel, in understanding that others could hide feelings, and in understanding how feelings could change. The *PATHS* curriculum influences children's ability and comfort level in both talking about feelings and managing feelings, but not in how emotions work (Greenberg, Kusché, Cook, & Quamma, 1995). In a more recent study of *PATHS*, researchers identified decreases in depression, increases in knowledge of feelings, and increased ability to recognize feelings of others. A 2-year follow-up of this group demonstrated continued reduced internalizing and externalizing problems (Kam, Greenberg, & Kusché, 2004).

The lesson format of *PATHS* is easy for teachers to master and use. The supplemental activities take more time and effort for teachers and are less comfortable for teachers to use. The supplemental activities involve interactive problem solving, class meetings, or the integration of the curriculum with the schools' Language Arts curriculum (Greenberg et al., 1995). Outcomes measured using the *PATHS* curriculum include feelings vocabulary, questions about feelings, emotional experiences, cues to recognizing emotions, understanding simultaneous feelings, display rules for emotions, and changing feelings (reported in Wells, Barlow, & Stewart-Brown, 2003). School psychologists specializing in early childhood will be interested in the preschool version of *PATHS*. Domitrovich, Cortes, and Greenberg (2007) conducted a randomized clinical trial evaluating an adaption of the *PATHS* curriculum. They found that Head Start children who participated in the program had higher emotion knowledge, were less socially withdrawn, and were rated as more socially competent according to both teachers and parents as compared to the control group.

Domitrovich et al. (2010) describe an integrated model using *PATHS*, which involves the addition of classroom management with the *Good Behavior Game*. The Good Behavior Game is a simple behavioral strategy used for groups, which has been studied and independently replicated in over 20 studies across grade levels and is the only documented practice by teachers that has effects over time (Embry, 2002). The integration of the social-emotional skills intervention with the *Good Behavior Game* has been designated with a new title, *PATHS to PAX*. Pax is Latin for peace, productivity, and harmony (Weist, Steigler, Stephan, Cox, & Vaughan, 2010). Implementing the combined program resulted in significant reductions in both internalizing and externalizing symptoms and this has been shown to hold

1 year after intervention implementation. A randomized controlled trial of *PATHS to PAX* is ongoing. In Baltimore, The “Excellence in Mental Health Initiative” explored an even more comprehensive model in which they are implementing *PATHS to PAX* at the universal level along with the *Coping Power* program at Tier 2 (see below) (Weist et al., 2010).

Carol Allred designed the *Positive Action* program in 1982 (<http://www.positive-action.net/>). This program teaches SEL skills and character development to students from age 3 to 18 years of age. The components of the program include a curriculum, interventions to improve school-wide climate, parenting classes, and a variety of kits for various school staff, parents, and the community. The elementary level program consists of 140 fifteen to twenty minute scripted daily lessons in six units. The affective education components include: the relationship of thoughts, feelings, and actions; knowledge about feelings and self-control; and empathy and positive actions for being honest with oneself and others and for getting along with others. Using a matched-control design and school-level achievement and disciplinary data, the program improved student achievement, and reduced disciplinary referrals (Flay, Allred, & Ordway, 2001). A replication study was able to find similar results and in addition found that effects endured through middle and high school with positive effects for behavior. Effects were as large or larger in high-risk schools (Flay & Allred, 2003). Although most prevention programs focus on behavior to prevent behaviors, the *Positive Action* program focuses on positive actions, behaviors, thoughts, feelings, and values. It has been considered to be an effective program by the Office of Juvenile Justice and Delinquency Prevention, a model program by SAMHSA, and a promising program by the US Department’s Safe, Disciplined, and Drug Free Schools (Stiegler & Lever, 2008).

The Oregon Resiliency Project was launched in 2001 with an emphasis on prevention and mental health promotion and has developed five programs: *Strong Start for Pre-K*, *Strong Start for Grades K-2*, *Strong Kids for Grades 3-5*, *Strong Kids for Grades 6-8*, and *Strong Teens for Grades 9-12*. Each curriculum has elements in common as well as elements that fit the particular age group. The two *Strong Start* curricula focus on understanding and managing six universal emotions. The two *Strong Kids* curricula emphasize understanding and managing one’s own feelings and other feelings, as well as including one unit on solving people problems. *Strong Teens* utilizes more sophisticated language and problem scenarios appropriate for this age group. Lessons are taught once per week for 35-50 min depending on grade level. More specific components that nicely fit emotion education include cognitive restructuring, empathy training, and stress reduction such as relaxation (Merrell, 2010).

It is important to indicate at the outset that this program has quasiexperimental research support and there have been no published studies as yet using randomized clinical trials or replication studies (Merrell, 2010). However, the programs deal directly with emotions and are worth consideration. Additionally, there have been quite a number of dissertation studies looking closely at the program. A number of studies exploring the effects of these programs have provided some evidence of significant outcomes. Gains in social-emotional knowledge have

been demonstrated: among sixth graders (Fuerborn, 2004); among upper elementary and middle school students along with reductions in internalizing symptoms (Gueldner, 2006); among at-risk students in grades 3–5 using a Tier 2 intervention (Brown, 2006); among fifth graders (Faust, 2006); among fourth and fifth graders with concomitant decreases in internalizing symptoms although the effect size for symptom reduction were small (Tran, 2007); and among first graders who showed increased knowledge and significant decreases in symptoms (Whitcomb, 2009). Dissertation research has also demonstrated that *Strong Start* can be implemented with integrity (Whitcomb, 2009) and that positive gains could be maintained 2 months postintervention (Harlacher, 2008; Merrell, Juskelis, Tran, & Buchanan, 2008). A booster session, praise, and precorrection were helpful generalization activities. The curricula have social validity and can be implemented inexpensively and with fidelity (Merrell, 2010).

There have been some additional studies beyond the dissertation studies. Published pilot studies involving general education middle school students and with high school students identified as having significant emotional difficulties have demonstrated significant and meaningful changes in social-emotional knowledge and negative symptoms (Merrell et al., 2008). Kindergarten students participating in *Strong Start* demonstrated gains in prosocial behaviors and decreases in internalizing behaviors as reported by both teachers and parents (Kramer, Caldarella, Christensen, & Shatze, 2010). Similar gains were demonstrated for second grade students using *Strong Start* with improvements in internalizing behaviors and prosocial behaviors particularly for children at-risk when the intervention group was compared to a nonequivalent control group (Caldarella, Christensen, Kramer, & Kronmiller, 2009). Important for school psychologists, the program developers and overseers are working on an assessment tool to measure student assets and resiliency. Of the number of studies reported regarding the Oregon Resiliency Project, the majority used the curricula at a Tier 1 level. One study was included using the curricula at the Tier 2 level, which suggests that school-based mental health practitioners have the option of using the curricula for either a Tier 1 or Tier 2 intervention should they feel that this program best meets the needs of their school.

The *Penn Resiliency Program* (PRP) teaches cognitive behavioral and social problem solving in a manualized curriculum designed for both elementary and middle school levels and is designed to be taught by trained school personnel. The program is the most widely evaluated depression prevention program for youth (Gladstone & Beardslee, 2009). This universal prevention program uses Albert Ellis' ABC model. The model stresses activating events (A), beliefs about activating events (B), and consequences that are both emotional and behavioral (C), interact with one another, influence each other, and include one another (Ellis, 1991). In the PRP students learn that beliefs affect both emotions and behavior.

There have been a number of controlled studies completed utilizing the PRP, most of which have utilized randomized controlled research designs. These studies measured the effect of participating in the program on depressive symptoms. Generally, they show that the program prevents symptoms or reduces symptom

levels in many children and results can last up to 2 years postintervention (<http://www.ppc.sas.upenn.edu/prpsum.htm>). One study of particular interest was an effort to prevent cooccurring depression with behavior problems. Using the PRP, middle school students exhibiting elevated levels of conduct problems were prevented from developing elevated depressive symptoms compared to a group receiving no intervention (Cutuli, Chaplin, Gillham, Reivich, & Seligman, 2006).

Researchers also explored whether the PRP program might be more effective if it were delivered in all-girl groups vs. coed groups. Girls who participated in all-girl groups were less hopeless and attended sessions regularly, but both coed and all-girl groups were effective in reducing symptoms of depression (Chaplin et al., 2006). One school-based pilot program added a parent component. Because students demonstrated significantly reduced symptoms when the parent program was added and were also less likely to report high levels of anxiety, practitioners may consider adding a parent component if they feel this program meets the identified needs at their school (Gillham et al., 2006).

The PRP has been evaluated empirically over several years with children and teens from various ethnic and cultural backgrounds in universal studies and in targeted studies (Gladstone & Beardslee, 2009). For students at high risk for depression, the program appears to have meaningful preventive effects although practitioners need to be careful when considering this program depending on their population. An important study utilizing PRP involved low-income Latino and African-American students at the middle school level. Investigators found beneficial effects for Latino students 6 months postintervention and also at 2 years postintervention. There was no beneficial effect for African-American students at either of the postintervention mark (Cardemil, Reivich, & Seligman, 2002). A follow-up study confirmed the group's original findings at 24 months postintervention, i.e., beneficial effects for Latino children but not for the African-American children (Cardemil, Reivich, Beevers, Seligman, & James, 2007).

The *FRIENDS* Program is a group-based intervention. It is targeted for both children and adolescents at-risk for anxiety and depression and has also been implemented as a prevention program. Therefore, it has been used at both Tier 1 and Tier 2 levels. The *FRIENDS* acronym stands for *Feeling worried, Relax and feel good, Inner thoughts, Explore plans of actions, Nice work, Reward yourself, Don't forget to practice, and Stay cool*. When used as a Tier 1, universal, skills-based program for schools, a number of tightly controlled studies have supported the efficacy of the program. It has been successful with children who speak English, and those who do not, in reducing symptoms of anxiety. When utilized in a community setting, 73% of children with an identified anxiety disorder improved, reducing both anxiety and depressive symptoms (Farrell & Barrett, 2005). The *FRIENDS* program includes: psychoeducation, relaxation strategies, cognitive restructuring with positive self-talk, problem solving with exposure, self-rewards, goal setting, and relapse prevention. Parent training and booster sessions are an integral part of the program and there are separate workbooks for children (6–11 years) and adolescents (12–16 years). The program was designed so that it would be implemented for 10 weeks, with two booster sessions, and a 6-h parent component

delivered in four sessions. Parents are urged to practice strategies with their children daily. Children are urged to make friends and to learn from one another. Children are also given attention training and are encouraged to evaluate their successes positively (Shortt, Barrett, & Fox, 2001).

Lowry-Webster, Barrett, and Lock (2003) evaluated the success of the *FRIENDS* program implemented by trained teachers in seven schools involving children from 10 to 13 years of age. Children who participated in the program reported fewer symptoms after the intervention with the high-anxiety students reporting significantly reduced symptoms of depression. Results were maintained 1 year later. Eighty-five percent of children scoring above the cut-off scores for anxiety and depressions were without diagnosis at follow-up whereas, 31.2% of students in the control group received diagnoses. Lock and Barrett (2003) delivered the *FRIENDS* program to students in grades 6 and 9. They found that primary aged students reported the greatest improvements in symptoms of anxiety. This suggests that early intervention is important. Researchers demonstrated that the universal intervention showed great promise in reducing symptoms of anxiety as well as improving children's ability to cope with symptoms. Ollendick, Barrett, Dadds, and Farrell (2006) evaluated the universal *FRIENDS* Program used with sixth and ninth graders, in comparison to control groups receiving no treatment. They found fewer high-risk children 36 months postintervention.

The *FRIENDS* Program has been implemented in British Columbia schools. A review of literature by Vancouver scientists prepared for the British Columbia Ministry of Children and Family Development determined that the *FRIENDS* program appeared to be efficacious across the entire spectrum as a universal prevention program, as a targeted prevention program, and as a treatment intervention (Waddell, Godderis, Hua, McEwan, & Wong, 2004). In 2004, the British Columbia Ministry of Children and Family Development decided to implement the *FRIENDS* program as a risk reduction strategy for anxiety. It was delivered in cooperation with the Ministry of Education. School professionals delivered *FRIENDS* as a classroom-based universal prevention program or as an early intervention to children who were thought to be at higher risk for anxiety disorders. More than 77,000 children in grades 4 and 5 participated in the program in British Columbia between 2004 and 2007, where it is called *Friends for Life*. *Friends for Life* is the only childhood anxiety prevention program acknowledged by the World Health Organization. There are now 8 years of comprehensive validation studies across several countries involving different languages and using rigorous randomized control studies. Materials for school-based mental health workers interested in this program are available online (<http://www.crownpub.bc.ca/hitlist.aspx>).

Symptoms of posttraumatic stress disorder (PTSD) can interfere with adjustment and academic success. The *Cognitive Behavioral Intervention for Trauma in Schools* (CBITS) is a standardized brief CBT intervention originally designed for an inner-city mental health clinic (Stein et al., 2003). Currently, the program is intended for students aged 10–14 years of age and is implemented by school-based mental health professionals. One to three individual sessions, two parent training sessions, a teacher meeting, and ten group sessions are typical. Students are taught

a new set of skills at each session and homework is collaboratively developed to address symptoms of PTSD, depression, and anxiety as a result of witnessing or experiencing violence. In 2001–2002 school mental health practitioners implemented CBITS with middle school students who had been exposed to violence and evidenced symptoms of PTSD. The intervention group was compared to a wait-list group. Students who participated in the intervention had significantly lower scores on a tool measuring symptoms of PTSD. In addition, they had lower scores on depression and evidenced less dysfunction. CBITS has been designated a promising or proven school-based intervention (Cohen et al., 2009).

During 2004–2006, the Task Force on Community Preventive Services, an independent group appointed by the Center for Disease Control and Prevention, published a review of interventions for treating trauma in children (Centers for Disease Control, 2007). This independent group of scientists evaluated art therapy, play therapy, drug therapy, and the debriefing technique to indicate whether or not that these interventions might have enough evidence to indicate that they were sufficiently effective. Researchers found they did not. What they did find effective was group and individual CBT. CBT has sufficient evidence to say that it reduces symptoms of depression, anxiety, and posttraumatic stress in both children and teens. The task force reported that mental health organizations believe more than 75% of professionals working with children and adolescents with PTSD currently use treatment that is not effective (Wethington et al., 2008).

Tier 2: Selected or Targeted Programs

Selected or targeted (Tier 2) programs are delivered to students who are carefully selected because they show some risk factors. Students can be identified by universal screening or by teachers who identify social, emotional, or behavioral difficulties in their students (Wilson & Lipsey, 2007). The subgroups of students identified for selected interventions are at a higher risk of developing disorders than their peers (Domitrovich et al., 2010). Strategic targeted interventions are designed to intervene with children at-risk around a particular issue. These interventions use a group format. The interventions should be highly structured and use a manual. The advantages of manual-based interventions include the fact that the specific content has already been identified and is described in detail, the procedures are clearly defined and outlined in detail, activities are included, and outcome research is available to support them. The complications are that the manualized interventions may not match particular student needs, the timing of the sessions may not match the context, and the intervention may provide materials to teach skills but may not address the complications of implementing the program (Christner & Forrest, 2008).

It is very helpful when identifying students for additional services to compile as much information as possible about the child's knowledge and use of emotion regulation strategies. We know that the use of emotion regulation strategies vary according to age, gender, and culture (Haga, Kraft, & Corby, 2009). Also important

is to be aware of age-associated differences and gender differences in emotion regulation. This data will be enormously helpful in matching needs to interventions; in setting priorities and goal setting; and in designing, monitoring, and determining outcome measures (Kovacs et al., 2006). There are a number of Tier 2 interventions to consider when planning school interventions.

Trauma-focused Cognitive Behavioral Therapy (TF-CBT) has the most research support for school-aged children. This model has been tested and found efficacious by several independent research teams and has been adapted and evaluated for Latino children (Foa, 2009). Cohen, Deblinger, Mannarino, and Steer (2004b) found that 8–14-year-old sexually abused children experienced significantly greater reductions in PTSD and depressive symptoms, as well as reductions in negative behavior, shame, and negative attributions when treated with TF-CBT as compared to those treated with child-centered therapy. A metaanalytic study of treatments utilizing TF-CBT met the criteria for a well-established program (Burns et al., 2008).

The *Primary Project* is a selected school-based mental health prevention program for children at-risk (Cowen, Hightower, Pedro-Carroll, Work, & Wyman, 1999). Children that are targeted are from 4 to 9 years of age, or preschool through grade 3. Trained paraprofessionals work with identified children one-to-one using child-directed play for 10–14 weeks, in 30-min sessions per week. Outcomes that are addressed include increased task orientation, behavior control, and social skills. Data indicates that children show improvement in task orientation postintervention. Compared to a control group, children participating in the Primary Project improved on five to seven indicators of school adjustment including anxiousness and assertiveness (Nafpaktitis & Perlmutter, 1998). Ratings by SAMSA's National Registry of Evidence-based Programs and Practices indicated that multiple studies provide ongoing documentation and the intervention is effective in promoting outcomes. A step-by-step manual is provided to implement the project and tools for training are available. Recommended outcome and screening protocols are available.

The *Anger Coping Program* is a cognitive-behavioral intervention for a group of 4–6 aggressive children at the elementary or middle school level. This program has an 18-session group format which runs 45–60 min in schools (Lochman, Nelson, & Sims, 1981; Smith, Lochman, & Daunic, 2005). The groups are structured, have goals and objectives, and involve specific activities or exercises. Anger management is central. There have been a number of evaluations of this program, although the evaluations have primarily been conducted by the designer of the program. One study involved boys from 9 to 12 years randomly assigned to four groups. Two groups were taught anger coping and boys in these groups reduced aggressive and disruptive behaviors (Lochman, Burch, Curry, & Lampron, 1984). In a quasiexperimental study with boys in the same age range, researchers found that longer sessions produced greater improvement in off-task behaviors (Lochman, 1985). Using control groups, boys in the anger-coping group exhibited effects that lasted longer, had higher self-esteem, and lower rates of irrelevant solutions to social problems, although delinquent behaviors did not improve (Lochman, 1992). In a fourth study using a control group, Lochman, Coie, Underwood, and Terry (1993) found effects for only a subgroup of aggressive and rejected students.

Tier 3: Indicated Programs and Interventions

Indicated programs and interventions target students who are identified as having symptoms related to mental disorders (Domitrovich et al., 2010). In schools these students may have Individualized Educational Plans and may or may not be diagnosed with a disorder. School-based practitioners who service larger populations of students and who have identified specific groups of students with similar status so that they can put together somewhat homogenous groups will want to explore many of the well-supported manualized programs in order to determine if one or more of these programs might be suited to their population. Evidence-based manualized programs are available for addressing anxiety, depression, anger, and posttraumatic stress.

The *Coping Cat* Program, developed by Philip C. Kendall, Ph.D., is a CBT manualized and comprehensive treatment program for children who exhibit anxiety disorders (Kendall, Kane, Howard, & Siqueland, 1990). The *Coping Cat* program is the most widely used program for decreasing anxiety, specifically targeting students with separation anxiety disorder, generalized anxiety disorder, and/or social phobia. The *Coping Cat* program is multifaceted as it involves the parent/family as well as the child. Parents are taught to be coaches, to arrange play dates, and to hold small group gatherings of children in their homes. The program uses modeling, exposure, and relaxation training to help students develop realistic expectations. In addition, modeling, imaginal and in vivo exposure, role-play, relaxation, and reinforcement contingent on performance constitute the behavioral aspects of the program. Students develop coping statements and self evaluate their performance. They learn an acronym “*FEAR*” for *Feelings, Expectations, Actions, and Reward* (Gillham, Reivich, Jaycox, & Seligman, 1995). The main principles of the program are:

- Recognizing feelings and bodily reactions to indicate anxiety
- Identifying situations that provoke anxiety or negative expectations
- Changing self-talk from anxious to coping self-talk, and determining coping actions
- Exposure
- Self-evaluation and reinforcement (Albano & Kendall, 2002)

There are actually three programs: the *Coping Cat* program for children aged 8–13 years with a parent component and available in several languages; the group *Coping Cat* program designed for four to five students; and the *C.A.T. Project* for older students aged 14–17 years. All three programs have manuals. The manuals and training materials can be obtained online (http://www.workbookpublishing.com/cat_prod.php?cPath=21_26). Comprehensive materials are available to practitioners. There are two workbooks, one for children 8–13 years and one for students 14–17 years. In addition, training DVDs, offers to assess treatment integrity, and a computer-assisted intervention called *Camp Cope-a-Lot* are available. Sessions can be implemented individually or in groups.

The *Coping Cat* program is considered the best researched protocol for students aged 7–16 years who are demonstrating anxiety. Children of various races and ethnicities were included in studies. Several randomized clinical trials have evaluated the *Coping Cat* program. Two different research teams have been involved.

Kendall (1994) compared outcomes of children with a variety of anxiety disorders participating in the program with outcomes to those of wait-list children. Sixty-four percent of children 9–13 years old who participated were diagnosis-free after treatment compared to 5% of wait-listed children. Gains were maintained 1 year later. A follow-up study showed gains lasted from 2 to 5 years (Kendall & Southam-Gerow, 1996). A second randomized clinical trial with 9–13 year olds (Kendall et al., 1997) showed that 50% of participants were diagnosis-free after the intervention and the remaining youth had a significantly fewer symptoms. Gains were present 1 year later. Another follow-up study this time 7 years later, determined that 90% of children treated in the earlier study maintained gains and did not meet criteria for an anxiety disorder. However, at this time it is difficult to identify which ingredients are primary in determining outcomes (Kendall, Aschenbrand, & Hudson, 2003).

According to SAMHSA's National Registry of Evidence-based Programs and Practice (http://nrepp.samhsa.gov/programfulldetails.asp?PROGRAM_ID=82), there have been at least 16 published outcome studies of the *Coping Cat* treatment along with replication studies. The intervention has been implemented in Australia, Canada, the Netherlands, and the United States and has been translated into six languages. SAMHSA's outcomes ratings are strong, whereas, readiness for dissemination ratings has not been as strong. The Promising Practices Network lists the *Coping Cat* program as promising, a lower rating possibly because the developer participated in the evaluation studies (<http://www.promisingpractices.net/program.asp?programid=153>). It has been given a “well-supported” by research evidence rating by the California Evidence-Based Clearinghouse for Child Welfare (<http://www.cachildwelfareclearinghouse.org/program/125>).

The program has been used and adapted in Canada where it is called the *Coping Bear* program (Connolly et al., 2007). In 1996, Barrett adapted the program for Australia children and renamed it the *Coping Koala* program. When the *Coping Koala* program was implemented either alone or with an additional family component and compared to wait-listed children receiving no treatment, 69.8% of participants were diagnosis-free of anxiety disorders, whereas, only 26% of wait-listed children were without diagnoses. Family problem solving and parent training provided added benefits. Long-term follow-up of a subset of participants showed that benefits were maintained (Farrell & Barrett, 2005). This study and subsequent research confirming benefits, led to the development of a group intervention. Shortt et al. (2001) conducted an evaluation study involving children from 6 to 10 years of age with anxiety disorders, and followed the children for 1 year postintervention. At 12 months, 68% of children were free of diagnostic criteria for anxiety disorder. The *Coping Koala* program was renamed the *FRIENDS* program in 1999.

Two CBT approaches that have received particular attention in research for treating adolescent depression are the Beck, Rush, Shaw, and Emery (1979) approach and the Lewinsohn, Clarke, Hops, and Andrews (1990) approach. The Lewinsohn approach is called the *Coping with Depression* course. Lewinsohn felt that both behavior and thoughts sustained depression, and if one made changes in either, symptoms would improve. Beck considered cognitive processes alone the major underlying variable in maintaining depression.

Researchers have compared Beck's CBT with supportive and family therapy (Brent et al., 1997). All participants in both interventions had moderate to severe depression. The principle driven CBT treatment begins with psychoeducation, followed by quite flexible, less structured individual treatment. Cognitive restructuring is emphasized with use of behavioral activation and problem solving, as needed. The positive response rate has been 60%. A study, known as "The Pittsburgh Program," demonstrated that there were large, reliable effects when the CBT program was compared with alternative psychosocial treatments for adolescents.

In contrast, Lewinsohn's *Coping with Depression for Adolescents* program is a highly structured group course with a workbook and homework including all of the core CBT techniques plus social skills and relaxation training. The program is designed to help at-risk adolescents gain control when feeling negative by changing maladaptive thinking, and resolving conflicts (Gladstone & Beardslee, 2009). Outcomes for this intervention were tested in two trials. Results were very positive with a response rate of 65% in one trial, and 47% in the other, especially with less severe depression (Weersing, Rozenman, & Gonzalez, 2009). The program also appears to have a significant preventive effect.

Research determined that both models could be effective under controlled conditions although there was always a small group who did not improve. Key questions in depression prevention and treatment involve how to increase the percentage of adolescents who improve, how to reduce relapse, and can CBT work outside of tightly controlled laboratory conditions (Curry & Becker, 2008)? Efficacy has been established but questions remain about effectiveness. Materials for the *Adolescent Coping with Depression* and *The Coping with Stress Course*, a more universal program, along with additional materials can be found online (<http://www.kpchr.org/public/acwd/acwd.html>).

Horowitz and Garber (2006) examined interventions for depression and found that both selective and indicated prevention programs were more effective than universal programs at follow-up although some of the universal programs they looked at were indeed effective. However, interventions using teachers were not as effective as those involving mental health staff. Effect sizes were small to moderate right after completing the interventions and 6 months later. The more effective interventions were more treatment than prevention. More recently, researchers have found that prevention programs produced significant reductions in symptoms with larger effects for high-risk students, for girls, and for older adolescents (Stice, Shaw, Bohon, Marti, & Rhode, 2009). In addition, programs with shorter duration and homework were more successful than others.

The *Coping Power Program* is a longer version of the *Anger Coping Program*. The program has multicomponents and was designed for use as students' transition from elementary to middle school, or as students' transition to adolescence (Lochman & Wells, 2002). The *Coping Power* program is implemented in schools over 2 years. There are 8 sessions in the first year and 25 in the second year with sessions lasting 40–60 min. Components of the program consist of goal setting, awareness of feelings, awareness of physiological cues, use of

coping self-statements, distraction strategies, relaxation skills when provoked or angered, organizational and study skills, perspective taking, attribution training, social problem-solving, dealing with peer pressure, and refusal skills associated with neighborhood pressure (Lochman & Wells, 2004, p. 573). There is an important parent component consisting of 16 sessions over a 2-year period, with parents meeting at school. To encourage parent attendance, babysitting and a stipend have been provided. Outcomes at 1 year postintervention in a small sample of boys indicated lower rates of self-reported covert but not overt delinquency, and only in the *Coping Power* groups with a parent component. There were significant effects on teacher ratings of improvements in school misbehavior the year after the program in both cases. This was attributed to the child-component of the program alone. The program did not have equivalent effects for both White and African-American boys. When a teacher directed component was added to the parent and child components, preventive effects were noted in regard to delinquency and substance abuse use for older students at moderate risk (Lochman & Wells, 2003).

Olatunji and Lohr (2004) analyzed the efficacy of treatments for anger, looking at factors that may account for changes other than the treatment itself. Their analyses suggested that unknown nonspecific factors clearly contributed to improvement and they concluded that the evidence for the efficacy of anger reduction programs is limited. These researchers, however, do not feel that interventions should be discontinued because they are definitely necessary, and are better than no treatment at all. On the other hand, a different metaanalysis looked at school-based interventions for aggressive students and concluded that although school-based programs generally are developed and implemented by researchers rather than school staff, they have “generally positive effects” (Wilson & Lipsey, 2007, p. S141). Universal and targeted interventions were most common with somewhat larger effects when programs included a behavioral component. Larger treatment effects were found in students at highest risk. In the case of universal programs, the students who benefit most were from disadvantaged backgrounds. In the case of selected/indicated programs, the students demonstrating negative behavior benefited most. This is logical given one cannot see improvements unless there is a problem in the first place. Interestingly, most of the studies involved demonstration programs and there is actually surprisingly little data available to tell us about the effectiveness of programs in every-day real-world practice.

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