Recent advances in research and practice on the prevention and treatment of youth mental health problems have emphasized the central role of the child's developing cognitions (Boxer & Dubow, 2002; Compton et al., 2004; Guerra, Boxer, & Kim, 2005). Children actively participate in a variety of contexts (e.g., home, neighborhood, school) that provide the settings and experiences that shape their subsequent cognitive, emotional, and behavioral development. Guerra and her colleagues summarized this cognitive-ecological view of child development:

The developing individual is seen as an active participant in a learning process linking individual (e.g., irritability, impulsivity) and environmental (e.g., community violence, poverty) risk factors to social behavior through cognitive structures, such as beliefs, rules, and schemas, and skills, such as attention, attribution, and problem solving. This cognitive-
The Cognitive-Ecological Model: Enhancing Cognitive Research and Practice with Youth

As defined above, the cognitive-ecological view is one of the most promising among current cognitive-behavioral mental health models for advancing the prevention and treatment of child problems. Traditional cognitive-behavioral models emphasize the role of individual functioning apart from traditional intrapsychic models. For example, traditional cognitive-behavioral models begin by assessing the role of individual deficits and distortions in cognition. These models subsequently implement strategies to modify these dysfunctional cognitions to enhance an individual's emotional state and behavioral practices.

For example, a child who is getting into arguments with peers in a classroom may be referred to a traditional cognitive-behavioral treatment program. This traditional program would identify the child's difficulties with cognitive schemas and processes that underlie these peer conflicts. This type of program would subsequently seek to replace these problematic cognitive phenomena with more prosocial ideas that enable adaptive emotions and behaviors with peers. Although acknowledging context, the traditional treatment approach does not place equal emphasis on modifying environmental factors in conjunction with individual factors.

In contrast, the cognitive-ecological model builds on the traditional cognitive-behavioral emphasis on individual functioning by placing these individual attributes in specific social contexts. The cognitive-ecological approach guides modifications of individual cognitions and contextual factors to enable comprehensive assessment and treatment of child behavior problems. Thus, the cognitive-ecological viewpoint permits important distinctions in conceptualizing the fundamental problem and identifying targets for the derived intervention.

The cognitive-ecological approach also assesses and addresses the reciprocal influences on cognitive characteristics in the classroom setting, such as ideas and behaviors of peers who have conflicts with the identified child, and of the classroom teacher, whose messages and behaviors shape the classroom context. Contextual interventions might include combining individual skillbuilding with classwide interventions that reinforce these same skills among all students.

The Cognitive-Ecological Conceptualization of Child Behavior

The cognitive-ecological conceptualization of child behavior uses a multifactor framework that emphasizes the confluence of individual, environmental, and situational factors (Guerra et al., 2005). Individual factors include temperament, arousal, brain structures, and other personal characteristics. Environmental factors include family, neighborhood, and social characteristics. Situational factors include perceptions, mood, stress, and other immediate contextual characteristics. The individual, environmental, and situational factors interact over time to shape and maintain cognitive structures that subsequently influence emotions and guide behaviors. In the cognitive-ecological conceptualization of behavior, social cognition influences both behavior and treatment. Practical experiences, derived knowledge, and memory process derived from children's social contexts and experiences produce distinct cognitive styles that become characteristic of individual children over the course of development. Although these cognitive patterns can shift with temporary personal tendencies and environmental cues, children will ultimately internalize and replicate general orientations toward distinct cognitive
styles across various social situations. Children will attend to pertinent social information, act according to their individual personality temperament and causal attribution, learn from environmental consequences, and reproduce those selected responses that attain or approximate their intended goals. Thus, children develop and internalize scripts (i.e., response patterns for given situations) that facilitate selecting and processing pertinent information and then generating appropriate behaviors in social contexts.

Yet the type of script developed, how it changes over time, and how it is reinforced depends on the context of development. For example, children who are exposed to community violence may form general orientations that are hypersensitive and prone toward peer conflict due to excitable individual temperament, external causal attributions for violent incidents, and consistent “rewards” of peer respect and personal safety for aggressive behavior. Consequently, these youth will most likely internalize aggressive scripts for dealing with perceived and actual hostility from other youth in their schools and neighborhoods. Although individual behaviors and contextual dynamics can vary over time, these child scripts and their situational sources can be valuable targets for intervention given that they represent the intersection of predisposing cognitive style and what is promoted by and reinforced by the contextual influences. Therefore, in designing interventions, the focus is on the child's tendencies but also targeting and changing environmental factors to better promote positive rather than maladaptive behaviors.

The focus on changing child tendencies as well as environmental factors is being increasingly advanced by several theorists, practitioners, and researchers (Crick & Dodge, 1994; Dodge & Pettit, 2003). For example, Dodge and Pettit presented a biopsychosocial model that is congruent with notions of social cognition and scripts. This model argues that (1) biological dispositions, social context, and early and ongoing life experience of developing youth lead to distinct social knowledge comprising related cognitive-emotional phenomena (e.g., relational schema guiding declarative and procedural information processing, and social scripts reflecting beliefs about how social events occur in daily life); (2) this social knowledge about their surrounding world is memorized by children and used as a guide for subsequent behavior; (3) children use this social knowledge to guide information processing and generate related specific cognitive, emotional, and behavioral responses to social stimuli (e.g., peers, parents, teachers); and (4) these social information processing patterns mediate effects of prior experiences on subsequent behaviors and, consequently, offer an important target for prevention and intervention activities. Thus, an increasing number of current cognitive-behavioral models converge in emphasizing a multicontextual intervention framework that enables targeting multiple influences for changing cognitions and behaviors, including entrenched and automatic negative patterns.

Cognitive-Ecological Prevention and Intervention for Children

The multicontextual framework of the cognitive-ecological approach provides multiple opportunities for enhancing prevention and intervention efforts with children. When multiple influences on development can be considered and therefore varied, interventions can be designed to address multiple risk factors, draw from multiple treatment modalities, and overlap with and relate what could be otherwise disparate intervention activities. An integrated model can increase the likelihood of effective intervention. In conceptualizing, designing, and applying interventions from this perspective, both the intervention focus and modalities can help guide the particular approach.

Intervention Focus

Although many potential environmental influences on development might be the target of an intervention, three are most salient for children and, therefore, the most apt targets: family, peer relations, and schools. In addition, across cognitive-ecological interventions, there are variations in the intervention focus. Some interventions focus on individual behavior change, some on affecting families or other influential relationships, and others emphasize changing the contextual norms, structures, and behavioral regulations (Hanish & Tolan, 2001).

Families, communities, peers, and schools all play vital roles in the cognitive-ecological approach to youth intervention. Families are obvious influences owing to their primacy in youths' lives. Although parents and caretakers wield varying influence depending on their role and family structure, they nevertheless continue to influence youth by the ideas, actions, and messages they convey (Gorman-Smith, Tolan, Henry, & Frosheime, 2000; Sheidow, Gorman-Smith, Tolan, & Henry, 2001). The communities in which families reside also provide a context for shaping ideas, emotions, and behaviors via their social, economic, and political characteristics. Moreover, youth increasingly respond to, seek acceptance in, and are influenced by their peer groups as they age (Tolan, Gorman-Smith, & Henry, 2003). These family, community, and peer-focused models primarily aim to (1) change perspectives and build skills in youth and adults; (2) improve interactions between youth and other
members of their social network; and (3) remain relevant for, and con-
gruent with, the daily living context of program participants (Kerns &
Prinz, 2002; Tolan, 2001).

Although families, communities, and peers are important foci for
intervention, schools may be the most important focus for contemporary
youth. Schools are where youth spend much of their time and interact
with a wide variety of children and adults. Schools are primary venues
for promoting positive social behavior and managing antisocial behavior.
In some communities, schools can be the sole stable access to chil-
dren and their families, especially those whose communities have violent
incidents, insufficient resources, and other environmental stressors that
increase risk and impede services. Moreover, schools offer a venue for
guiding interaction, coordination, and consistency of behavioral expec-
tations and consequences across multiple child providers and contexts
that compose the developmental ecology of children. This role of schools
as a service delivery site coincides with an overall shift from predomin-
antly inpatient, residential, and outpatient mental health treatment set-
tings to alternative and accessible community-based settings (Ringeisen,

Although schools offer important access and intervention opportu-
nities for mental health providers, schools also involve several obstacles
to successful service delivery (Gerber & Solari, 2005; Mayer & Van
Acker, Chapter 1, this volume). Key obstacles include (1) continued de-
bates and disagreements about added pressures for providing psycholog-
al as well as academic services that strain schools' limited staffing and
financial resources; (2) recent legislation such as the No Child Left
Behind Act (2002) that have forced schools to often become preoccupied
with standardized test scores rather than nonacademic support services;
(3) ongoing research and practice challenges related to training, imple-
mentation, generalization, sustainability, and cultural context for mental
health interventions; and (4) chronic incongruence and fragmentation of
the youth service delivery system, both within schools (e.g., between
mainstream and special education services) and between institutions
(e.g., between schools and mental health agencies, child protection
workers, juvenile justice staff, primary care providers, crisis intervention
workers). Despite these significant obstacles, schools remain a central
community site for daily interactions and potential mobilizing mecha-
nism for integrated youth services. Consequently, schools remain a valu-
able resource and necessary focus for mental health professionals to
increase access to and implementation of cognitive-behavioral interven-
tions for contemporary youth and their families.

Recent research has substantiated the diligent efforts of mental
health providers to continue striving to overcome obstacles and tap re-
source related to schools as a service delivery site. Schools are one of
the most (if not the most) viable community-based intervention set-
tings for children and adolescents (Ringeisen et al., 2003; Rones &
Hoagwood, 2000). Of children who receive mental health services,
70–80% will receive services in schools (Burns et al., 1993). In addi-
tion, many of these children who receive school-based services are often
recipients of special education or other intensive services that these
children would not have received through mainstream mental health
institutions as schools have become the de facto mental health system
for youth in the United States (Van Acker and Mayer, Chapter 4, this
volume). Moreover, schools are an optimal venue for intervening with
these youth and their peer groups, an important contextual influence
on child cognition and behavior. For example, children are often influ-
benced by their peers in terms of establishing and maintaining self-con-
cepts, social relationships, close friendships, and clique formations.
Consequently, these peer influences can directly precipitate or reinforce
these children's associations and activities with either deviant or non-
deviant peer groups. As such, schools remain a viable site for flexible
and collaborative programs that are constructed in congruence with
school mandates, missions, and peer dynamics.

Intervention Modalities

Many cognitive–ecological interventions are a synthesis of individual,
family, and contextual modalities in an integrated intervention. The
cognitive–ecological model, however, can also emphasize one of these
modalities to suit intervention objectives.

Individual modalities are designed to address individual child be-

behavior including such risk factors as chronic patterns of dysfunctional
behavior, distinct styles of difficult temperament, and gender-based
forms and meanings of maladaptive behavior. For example, individual
interventions may include teaching children to properly regulate their
emotions, accurately interpret cues, and select appropriate behaviors for
interactions with other children and adults. In addition, reinforcement
systems to increase frequency of prosocial behaviors and decrease fre-
cency of negative behaviors are important elements of individual inter-
vention approaches.

Family interventions are geared toward modifying family interac-
tions, including risk factors related to parenting styles, socialization
practices, and communication patterns. These may be composed of
teaching the targeted children, their parents and guardians, and other
family members about consistent and appropriate discipline, warm and
effective communication, collaborative problem solving, and case man-

agement for family stressors (e.g., poverty) that are not child centered yet are debilitating to family functioning.

Contextual modalities are focused on changing structural, logistical, institutional, or other elements of the youth's surrounding environment in an effort to alter the youth's cognition and related behaviors. Contextual interventions can include making changes in the child's social, academic, and community environments, such as correcting the child's misattributions about hostility from peers and teachers, putting the child in prosocial peer group activities, strengthening home-school partnerships by rewarding positive academic performance and behavior in both settings, and establishing plans for monitoring in the child's neighborhood to avoid negative situations (e.g., gatherings involving drug and alcohol use). Moreover, these contextual interventions can include coordinated schoolwide programs to either reward or discourage specific shifts in self-awareness, cognition attributions, interpersonal communication, and prosocial behaviors, such as shared language among school staff and classroom competitions and rewards for intended behavior changes.

**Intervention Integration**

Although interventions may be focused on individuals, families, or schools and may be undertaken through different modalities, the developmental-ecological framework favors integrating the different foci and different modalities. An example of such integration is a case in which a child is referred for aggressive conflicts with peers and defiance toward teachers in the classroom. The individual modality can be geared toward teaching the child to correctly interpret cues that enable him or her to distinguish aggressive from nonaggressive peers. This modality can also include teaching the child "calm down" techniques for when angry or upset with peers. In addition, a tangible technique could be a reinforcement system for the classroom that awards points for positive and peaceful behaviors and subtracts points for negative behaviors. The family modality can involve teaching the child and his or her parents about constructive alternatives to hostility and violence in dealing with adults and peers. In addition, the family modality can design and implement a set of messages and discipline about appropriate conflict resolution in the classroom that can also be practiced in the home. As needed, the parents can also receive case management services, such as psychoeducation about dealing with aggressive children and adult treatment for any mental health issues that might be reducing parents' ability to implement the assigned interventions. Finally, the contextual modality can include enrolling the child in prosocial park district activities, coordinating parent participation in the classroom during high-conflict periods in the day, and

The elaborate nature of a cognitive-ecological approach to child intervention may imply that such interventions are implausible or impractical. In fact, there are many examples of intervention efficacy. However, as with other approaches, there is less certainty about how the evident potential translates to effectiveness for large-scale implementation. A number of programs and interventions based in the cognitive-ecological approach have shown promise for reducing aggression; improving achievement and social functioning; and reducing rates of delinquency, drug use, and other associated adolescent problems (Conduct Problems Prevention Research Group, 1999; Greenberg, Kusché, & Mihalic, 1998; Hawkins et al., 1992; Henggeler, Mihalic, Rose, Thomas, & Timmons-Mitchell, 1998; Tolan, Gorman-Smith, & Henry, 2004). These programs emphasize various aspects of the developmental ecology of youth in their family, community, and school contexts. In addition, their treatment focus ranges from universal prevention with youth at risk for mental health problems to more intensive intervention strategies for youth with severe psychosocial difficulties. The remainder of this chapter highlights selected programs that illustrate these types of ecological models dealing with children and adolescents.

**Individual Child Emphases**

The Promoting Alternative ThInking Strategies (PATHS) multiyear, universal prevention program for elementary school-age children (particularly grades K–5) combines school-based and family-based strategies (Greenberg et al., 1998). It seeks to both promote emotional and social competencies and reduce aggression and behavior problems, and its school-based implementation is designed to simultaneously enhance the educational process in the classroom. Classroom teachers receive developmentally appropriate instructions and materials to promote youth social-emotional competencies, including (1) cognitive strategies for thinking, planning, and resolving conflicts; (2) identification, management, and constructive expression of emotions; and (3) verbal and nonverbal communication strategies with adults and peers. In addition, parents receive information and join school-based activities as a means of promoting youth outcomes across home, family, and school contexts.
The PATHS program has been successful in improving protective factors and reducing risk factors among program youth compared with control group youth (Greenberg et al., 1998). In particular, the PATHS program has demonstrated improvements in using self-control, understanding and recognizing emotions, tolerating frustration, thinking and planning, and using effective conflict resolution strategies. The PATHS program has also reduced emotional and conduct problems, especially aggression, anxiety, and depressive symptoms (Conduct Problems Prevention Research Group, 2002).

The PATHS model has also played a role in FAST Track, a comprehensive child-focused intervention encompassing home, school, and community strategies for multiple settings and populations (Conduct Problems Prevention Research Group, 1999). FAST Track is a multiyear, universal prevention program that includes school-based strategies for youth, such as social skills training to strengthen social-cognitive and problem-solving skills and academic tutoring to improve reading skills. FAST Track has successfully incorporated the PATHS model as its classroom intervention component to provide an intensive home-school component to the overall model. To augment these school-based activities, the FAST Track model trains caretakers in cultivating academic skills and appropriate behaviors in youth as well as encouraging parental involvement in school. These parent-focused strategies are reinforced by regularly scheduled home visits by program staff (Conduct Problems Prevention Research Group, 1999).

FAST Track is an example of a coordinated, multicontextual, and multimodal intervention with promising preliminary outcomes. Initial evaluations indicate that program participants improve in behavior toward adults and peers. Parents also report less need for and use of corporal punishment, more warmth and involvement (mothers), and more parental involvement (Conduct Problems Prevention Research Group, 2002).

Family Emphases

The Schools and Families Educating (SAFE) Children program emphasizes family functioning via school-based strategies for young children (Tolan et al., 2004). The SAFE Children program is a single-year, universal prevention model for first-grade children that seeks to improve academic and behavioral development of youth, parenting techniques, family relationships, and parental involvement in school. The intervention consists of multiple family groups that strengthen family functioning, including through topics such as constructive discipline, family communication, and family cohesion. These family-focused group activities are enhanced by individual phonics tutoring to support educational success and reduce school failure, which contributes to child academic and behavioral difficulties in school. It should be noted that in some cases the phonics focus may not be consistent with the school's approach to first-grade reading instruction. However, this is rare, and we have not encountered much problem integrating this work with set school curricula. This may be due, in part, to a focus on engagement of staff to support the program and to help with its implementation.

Among program participants, child aggression has declined, reading scores and academic functioning have improved, children have shown an improved ability to concentrate and demonstrate prosocial behavior, and parents have maintained involvement in school. In addition, SAFE has successfully launched an effectiveness study in collaboration with local community mental health agencies to investigate whether these effects will continue when providers are community-based staff rather than the university-based graduate students as used in previous studies (Gorman-Smith et al., 2007).

Although SAFE and similar programs target early-age and universal prevention, multisystemic therapy (MST) is an intensive community-based example of the cognitive-ecological model that focuses on addressing family and community factors in seriously antisocial delinquent adolescents (Henggeler et al., 1998). MST is an intensive, short-term intervention for adolescents who are juvenile offenders that recognizes their complex network of interconnected systems (individual, family, and extrafamilial peers, schools) and neighborhood factors. MST treatment strategies focus on using structural, strategic, and cognitive-behavioral family therapy strategies to strengthen the caregiver and other supports for the targeted youth.

Extensive empirical evaluation indicates that MST has had significant success with juvenile offenders and other youth with severe problems. MST outcomes include reductions in long-term rates of rearrests, recidivism, out-of-home placements, and mental health problems. In addition, MST has led to improved family functioning. These types of intervention effects have been obtained with varied groups, including youth of different races/ethnicities and rural and urban youth (Henggeler et al., 1998).

School Classroom Emphasis

The Seattle Social Development Project (SSDP) is a multidimensional intervention that emphasizes school-based services to decrease adolescent problem behaviors (Hawkins et al., 1992). Using a social development model, SSDP integrates social learning principles at individual and peer
levels to increase prosocial bonds and behavior as well as school attachment and commitment for grade school and middle school children. SSDP instructs teachers in classroom management, interactive teaching, cooperative learning, and communication and conflict resolution skills. SSDP teacher training is intended to strengthen and clarify classroom rules and rewards, improve children’s academic performance, and increase prosocial peer interactions. SSDP also offers optional parent training in family management, parent–child communication, and drug use prevention.

Compared with youth in a control group, SSDP program participants had lower levels of aggression, alcohol use, self-destructive behavior, and delinquent peer association. In addition, these youth demonstrated higher levels of commitment, attachment, and success in school over a multiyear evaluation period (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999).

Schoolwide Emphasis

Whereas SSDP emphasizes classroom-based interventions, the Positive Behavioral Intervention and Supports (PBIS) program seeks schoolwide solutions to dealing with students with severe emotional and behavioral disabilities (Freeman et al., 2006). PBIS has been an important component in special education law (e.g., the 1997 and 2004 Individuals with Disabilities Education Acts), and its schoolwide format offers a promising opportunity for comprehensive cognitive-behavioral interventions with students having a range of mental health needs.

PBIS uses a multilayered, data-driven approach to identifying and addressing an intensifying level of psychosocial student needs through positive language, derived strategies, and contingent reinforcements that are implemented on a schoolwide basis. This model of synchronized slogans and activities among teachers, staff, and students throughout the school enables a consistent message toward maximizing positive outcomes. In addition, PBIS uses a three-tiered treatment continuum comprising universal prevention, early intervention, and intensive intervention that resolves youth problems in the least restrictive strategies and settings. This schoolwide approach also reduces the likelihood of using disjointed services and providers within the school setting or requiring segregated classrooms and other exclusionary approaches that unnecessarily isolate and alienate severely troubled students. Although most research to date has yet to explicitly evaluate outcomes with special education students, PBIS has an inclusive nature and systematic approach that may offer a much-needed systemwide framework for schoolwide cognitive-behavioral interventions to benefit the full range of mainstream and special education students.

The Cognitive–Ecological Model

Beyond Demonstrations: Future Directions

The available evidence suggests that a cognitive-ecological approach to prevention and intervention can provide a more sensitive and comprehensive understanding of child mental health and can more effectively guide intervention than a simple focus on the child or a given developmental setting. Moreover, theories of child developmental influences across levels can help integrate intervention foci and modalities. Exemplary programs have shown positive impacts on the academic, behavior, and social functioning of students with such changes in attitude, behavior, parenting and family relationships, and teacher and school behavior (Tolan & Gorman-Smith, 2003). Yet these results remain more a promise than a reality. We suggest two particular areas that might aid further development and utility of this approach, as well as some remaining challenges to realizing the full potential of this perspective.

Conceptual Development

Contextual Processes and Complexity

The relationship between context and child development (and risk) underscored by a developmental-ecological approach has broadened what we assess, how we design interventions, and how we measure effects. However, it has also brought into relief the limitations of how context is commonly conceptualized in developmental psychopathology and intervention design (Tolan & Gorman-Smith, 2003). Most often it is considered a static marker of difference in resources (e.g., socioeconomic level). However, as research unpacks such markers and identifies the critical interpersonal and social processes and sociological structures that compose them, the poverty of these conceptualizations becomes evident. Thus, there is a need to greatly improve the characterization, specification, and differentiation of various processes and how processes relate to structural characteristics, such as the economic status of a community. Similarly, it is becoming evident that although even gross differentiation of neighborhood and other key contexts is a step forward, it may carry assumptions that limit how informative such an approach can be. The impact and its antecedents may be so complex and intertwined that reducing them to a simple and homogenous influence is impossible. For example, an assumed “bad” neighborhood (e.g., a setting that is rife with poverty and violence) may be typically dismissed as a barrier to successful intervention with urban children. This same setting, however, may have important protective resources for children, opportunities for shaping cognition and behavior, or manageable obstacles to effective in-
tentions for targeted youth. Also, the impact of key neighborhood processes and norms may be different for adolescents and younger children. Teens, by the nature of their developmental stage, for example, are more susceptible to peer influences and thus at higher risk for gang involvement. However, this same neighborhood may offer additional buffers to gang involvement for lower risk youth, from positive adult mentors within the family, prosocial adolescent activities within the community, social supports in local faith-based centers, and school-based resources for successful academic and behavioral performance. By considering this variation in access to and use of protective elements, interventions that build on these natural opportunities are likely to be more successful and sustainable.

Similar conceptual complexities can be identified for schools and neighborhood informal relations. With further development of how we characterize and approach contextual effects, we are likely to greatly enhance the effects of interventions as well as the fit to those environments.

Power and Potential of Schools

Despite their critical role as a resource for identifying and serving children, schools have yet to view interventions for behavior and social problems as a key purpose. Moreover, the power of schools to affect development through intervention that target school conditions as well as their role as an opportune venue for intervention delivery is just being realized. For example, the School Health Policies and Programs Study 2000 indicated that the three most common forms of school-based services are individual therapy, case management, and evaluation/testing (Brener, Martindale, & Weist, 2001). These three activities are primarily limited to the diagnosis, treatment, and resource identification of individual children without equitable emphases on the assessment, modification, and enhancement of contributing factors in the children's overall developmental ecology. Consequently, the growing needs and scarce resources for school-based mental health services suggest a need for a paradigm shift that can produce efficient, effective, and sustainable school-based services across developmental contexts.

The power and potential of school-based prevention and intervention may be fully realized by adopting more ecologically oriented service delivery models (Ringeisen et al., 2003). For example, the ecological model (Atkins et al., 1998) and the expanded school mental health model (Weist & Christodulu, 2000) both adopt multidimensional and multicontextual intervention approaches that integrate individual, classroom, and school dimensions. Furthermore, the cognitive-ecological model (Guerra et al., 2005) extends these ecological principles by advocating structured treatment principles for implementation across these three intervention dimensions. These types of interventions use cognitive-behavioral principles to target multiple sources of influence on child cognition, including the student, teacher, classroom, and school interactions that shape and sustain children's ideas, emotions, and behaviors. Hence, ecological interventions (especially those with specific substantiated strategies such as cognitive-behavioral treatments) can be very useful in advancing school-based research and practice with child mental health.

Boon and Bane of School-Based Service

Although schools remain a promising site for both prevention and intervention activities, school-based programs also involve a number of facilitators and inhibitors of service delivery (Gerber & Solari, 2005; Mayer & Van Acker, Chapter 1, this volume). On a positive note, schools provide direct and structured access to students, many of whom are underserved or unserved by mainstream mental health institutions. Moreover, this access is provided through a preexisting school structure that is based on identification, provision, and evaluation of student service needs. In addition, schools offer a number of professionals and paraprofessionals who can collaborate with researchers and practitioners to individually or collectively implement and support these school-based interventions.

Despite these possible benefits, schools face serious challenges to successful service delivery. First of all, schools struggle to adequately provide psychosocial supports while maintaining their primary mission of academic excellence in this era of shrinking resources and increasing demands. Moreover, schools are facing severe pressures to focus attention and resources almost exclusively on academic test scores as indicators of progress and justifications for continued operation (e.g., avoiding closures, firings). Administrators and staff at these schools also face related job performance pressures that limit or prevent time for mental health training for implementing sophisticated mental health interventions. Finally, adaptation of structured interventions to the culture of the student and family background as well as the school setting and operation remains a challenge for successful intervention implementation.

Special Education System

One of the most important factors in successful school-based service delivery is the special education system (Van Acker & Mayer, Chapter 4, this volume). Although it primarily targets youth classified as having...
For example, parental involvement in children's schooling is associated with improved mental health outcomes (Lowie, Lever, Ambrose, & Hill, 2003; Tager, Atkins, et al., 2003). Moreover, school-based mental health programs that successfully involve parents in collaborative and consultation activities can significantly increase initial and ongoing parental involvement (80%) compared to a clinic-based model (0%) for 12 months. Consequently, the natural links between school activities and parental presence in supporting children's academic and behavioral performance suggest that school-based programs remain a largely untapped resource for advancing parental roles in ecologically appropriate interventions.

Challenges for Advancing a Cognitive-Ecological Approach

To realize the full advantages of a cognitive-ecological approach, the field needs additional work and advances (Guerra et al., 2005). We identify five areas of critical importance.

1. Developmentally informed and sensitive assessment and intervention. Although some interventions are designed with the developmental stage and needs of the targeted group in mind, many are not, and many others do not explicitly consider the developmental specificity of the intervention formulation. Just as cognitive development follows developmental patterns in form and substance, developmental influences and their impacts are dependent on context. Yet these aspects are not yet incorporated into many interventions, even among those applying a developmental-ecological approach.

2. More tests of context modification effects. Most interventions still focus on changing individual child cognitions and behavior, or changing parent or teacher cognitions and behavior. Far fewer consider how these might be constrained by, promoted by, and dependent on contextual characteristics. It may be that positive impacts could arise from changing contextual influences such as reinforcement of parent and teacher behaviors; organizational communication methods; physical characteristics of the contexts; and opportunities for positive behavior by children, parents, and teachers. Similarly, changing group norms may also lead to important effects. An important step forward in this effort is current approaches such as the PBIS model. However, there are methodological and practical challenges to such work, even though these approaches are sorely needed (Multisite Violence Prevention Project, 2004).

3. The need to consider implementation strategies and challenges. Current trends toward evidence-based practice and other applied research efforts require careful consideration of "real-world" practicalities (e.g., who can deliver the intervention, what the logistical and fiscal factors in sustaining these programs are, how to ensure rigorous fidelity while maintaining manageable implementation). Yet there are relatively
few studies of the role these practicalities play in the results (i.e., how variations in approaches or lower fidelity might enhance impact, sustainability, or engagement of providers and recipients). The field would be greatly enhanced by advances in our understanding of effective implementation, what makes a difference in program use and impact in real-world use, and what modifications are critical to attaining success within practical realms.

4. More attention to integrative and multidimensional programs. Applying multiple components simultaneously should, in theory, have a greater impact than applying them individually—they are more than the sum of their parts. At the least, when applied simultaneously they are complementary and additive. Yet few studies have tested this assumption. Moreover, many multicomponent programs arise from conceptually different predecessors and therefore may not be well-integrated for providers or recipients. Studies that examine the simultaneous application of multiple components can lead to a better understanding of how multicomponent and multidimensional interventions can avoid conflicting with one another and be translated across foci and modalities.

5. The need to expand tests of service delivery systems. In most cases, the available evidence for effects is drawn from relatively small-scale, well-controlled demonstration tests. There are few examples, and even fewer studies, of intervention delivery systems. As with other larger scale research, these tests require considerable resources and collaboration that can be quite challenging to manage. However, the lack of understanding of these promising interventions within service systems renders the knowledge most tentative. It maintains a gap between what could be done to aid children and what is likely to be done, such that the promise is not turned into practice. This is important to change, and appropriate research is needed to do so (Multisite Violence Prevention Project, 2004).

References


Brener, N. D., Martindale, J., & Weist, M. D. (2001). Mental health and social services: Re-
In this chapter, we discuss the future of school-based, cognitive-behavioral interventions (CBIs) for students with emotional and behavioral disorders (EBD). Our discussion is limited to the potential of CBIs in everyday school practice and not to their clinical applications as part of noneducational therapies (e.g., see Gerber & Solari, 2005; Maag, 2006; Polsgrove & Smith, 2004). For most of their childhood and adolescence, children and youth with EBD will be in public schools, and it is in these places, through individually tailored special education, that the opportunity is available to address their individual needs. Moreover, we believe that the problem of applying CBIs in schools is never about the ability to prepare a single teacher under relatively supported and controlled circumstances. The real problem, we contend, is how to bring valid knowledge about this or any scientifically valid or high-potential practice to bear generally and at some significant scale.