Transporting CBT for Childhood Anxiety Disorders into Inner-City School-Based Mental Health Clinics

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The systematic expansion of evidence-based cognitive behavioral (CBT) protocols into the schools provides an opportunity for training front-line service providers in the early identification of anxious children and in the delivery of evidence-based treatments to children who might otherwise go without such treatment [Weist, M. D., & Evans, S. W. (2005). Expanded school mental health: Challenges and opportunities in an emerging field. Journal of Youth and Adolescence, 3, 3–6]. In this article, we discuss the progress of our ongoing study aimed at transporting manualized CBT for anxious youth into inner-city school-based clinics. In this context, we outline the rationale for the study and specific adaptations and obstacles encountered to date.

Psychological science has enhanced clinical practice through the development, identification, and utilization of treatments supported by research (Task Force on Promotion and Dissemination of Psychological Procedures, 1995). Recent studies with children and adolescents document the efficacy of treatments for childhood psychiatric disorders, including the use of cognitive behavioral therapy (CBT) for children with anxiety disorders (e.g., Barrett, Dadds, & Rapee, 1996; Kendall, 1994; Kendall et al., 1997; Silverman, Kurtines, Ginsburg, Weems, Lumpkin, et al., 1999; Silverman, Kurtines, Ginsburg, Weems, Rabian, et al., 1999). The challenges that continue to confront psychology, however, are the dissemination of empirically supported assessment and treatment strategies to children’s community mental health treatment settings and the evaluation of treatment effectiveness with youth from diverse racial and ethnic backgrounds (Barlow, 2000; Weisz, Donenberg, Han, & Weiss, 1995).

The systematic expansion of evidence-based CBT protocols into inner-city schools provides an opportunity to address these gaps in services and research by training school-based clinicians in the early detection of anxious children and in the delivery of treatment to children who might otherwise go without treatment (Weist & Evans 2005). However, this task is fraught with challenges and requires numerous adaptations to both the intervention and evaluation process. The Baltimore Child Anxiety Treatment Study in the Schools (BCATSS) was designed to address these issues.

BCATSS: Study Description

The primary aim of BCATSS is to determine the feasibility and effectiveness of a school-based CBT, delivered by school-based clinicians, in reducing levels of anxiety symptoms among inner-city (predominantly African American) boys and girls (ages 7 to 12). More specifically, the study takes place in five public elementary schools in inner-city Baltimore, a low-income, high-crime, and predominantly African American community. The study is comprised of several stages. Stage 1 focuses on engaging community stakeholders, refining the intervention and research methods (e.g., assessments) to ensure their cultural relevance, and training school-based clinicians. Stage 2 involves an open trial during which clinicians and researchers identify an anxious child in each school and pilot the study and intervention procedures. The study will culminate in Stage 3, a randomized controlled trial (RCT). Specifically, within each of four elementary/middle schools, 10 children with a primary diagnosis of generalized anxiety disorder (GAD), social phobia (SOP), separation anxiety (SAD), and/or specific phobia (SP) as determined by Anxiety Disorders Interview Schedule for DSM-IV–Child version (ADIS-IV-C; Silverman & Albano, 1996) will be randomly assigned to either a 12-week individual CBT for anxiety intervention or treatment-as-usual (TAU) delivered by school-based clinicians. Independent evaluators (IE) will conduct assessments of outcomes (along with child, parent, and teacher reports). Intervention adherence and quality
assurance will be assessed via structured manuals, audio-taped sessions reviewed by study staff, and ongoing weekly supervision provided by the BCATSS staff.

Youth are recruited via existing referral processes to the school-based clinic, including referrals made by school personnel (e.g., teacher, nurse) and parents. As part of routine care, youth complete a psychiatric evaluation and a self-report anxiety screen (i.e., Screen for Child Anxiety and Related Emotional Disorders [SCARED]; Birmaher et al., 1999). Youth who receive a preliminary diagnosis of an anxiety disorder by a psychiatrist and/or score in the clinical range on the SCARED are invited to participate in the BCATSS assessment to determine whether they meet the study’s inclusion criteria (i.e., a diagnosis of GAD, SOP, SP, SAD). This approach to recruitment was selected in consultation with school clinicians over a school-wide screening approach because it is more naturalistic and generalizable to the current functioning of the participating schools.

In the sections that follow, we explain the rationale for this study, review the current state of the literature on the feasibility and effectiveness of school-based CBT for anxiety disorders, and share our progress to date by discussing details of the study along with the challenges and adaptations needed when transporting CBT for anxiety into inner city school-based clinics.

Rationale for the Current Study

Rationale for Transporting CBT for Anxiety Disorders Into Schools

Several features unique to the school setting highlight the value of conducting treatment for anxious children in their schools. The school context is a primary setting in which anxiety-related problems occur. This is partly because school factors, such as teachers, peers, academic performance requirements, and school violence, contribute to and/or maintain anxiety symptoms. As a result, anxious youth may experience declines in their academic performance (Ialongo, Edelsohn, Werthamer-Larsson, Crockett, & Kellam, 1995). School-based anxiety interventions also enhance the generalizability of treatment because participants can practice their new skills in real-world situations at school and with peers (Masia, Klein, Storch, & Corella, 2001). In addition, when treatment is delivered at school, clinicians are on-site and can intervene in ways that are not available to outpatient clinic-based therapists (e.g., providing corrective feedback in real time). On a practical level, school-based interventions are more accessible and affordable than traditional community or hospital-based services. Specifically, transportation and scheduling are easier to arrange for in-school programs than in outpatient clinics. Also, utilization rates in school-based programs are higher than community outpatient clinics because of the familiarity and nonthreatening nature of the setting (Weist & Evans, 2005).

A review of the literature yields a number of studies involving successful school-based delivery of CBT to anxious youth (e.g., Dadds, Spence, Holland, Barrett, & Laurens, 1997; March, Amaya-Jackson, Murray, & Schulte, 1998; Saltzman, Pynoos, Layne, Steinberg, & Askenberg, 2001). In Australia, Mifsud and Rapee (2005) selected 91 children between the ages of 8 and 11 from economically disadvantaged families (race unspecified) to participate in a CBT study based on their scores at or above the 75th percentile on the Revised Children’s Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978). Nine schools were randomly assigned to either an 8-session school-based group CBT intervention delivered by school counselor and mental health worker pairs or wait-list control (approximately 6 months) (Mifsud & Rapee, 2005). Youth receiving the group CBT intervention reported significantly greater reductions in anxiety symptoms and cognitive biases following the intervention and at a 4-month follow-up than did youth in the control group.

In a separate school-based study in Australia, 61 youth (97% Caucasian, primarily middle-class) with anxiety disorders (i.e., SOP, GAD, or SAD) were assigned to one of three groups: (1) group CBT, (2) group CBT plus parent training, or (3) no-treatment control (Bernstein, Layne, Egan, & Tennison, 2005). The CBT intervention involved 9 weekly sessions and was delivered by experienced CBT therapists assisted by graduate psychology students. Results demonstrated the superiority of the CBT interventions compared to the control condition in the reduction of anxiety symptoms as indicated by child, parent, and clinician reports and provided preliminary data to support the added benefit of parent training over group CBT alone.

In New York City, Masia and colleagues (2001) conducted an open trial of CBT for 6 middle-class Caucasian adolescents with a diagnosis of SOP (based on the ADIS-IV-C). A CBT-trained clinical psychologist and an advanced doctoral student in clinical psychology led a 14-session school-based CBT group treatment program. At posttreatment, half of the participants no longer met criteria for a diagnosis of SOP. In a larger replication trial, Masia-Warner and colleagues (2005) then used a randomized wait-list control design to evaluate the same school-based CBT program. Thirty-five youth ages 13 to 17 (83% Caucasian) with a primary diagnosis of SOP were randomly assigned to CBT or a wait-list control. At posttreatment, 67% of adolescents in the treatment group, but only 6% of participants in the wait-list control group, no longer met criteria for SOP. In a more stringent test of treatment efficacy, Masia-Warner and colleagues compared CBT (delivered by a Ph.D. clinical psychologist and a clinical psychology graduate student) to an attention
control condition using an RCT involving 36 high school students (72% Caucasian; Masia-Warner, Fisher, Shrout, Rathor, & Klein, 2007). Results indicated significant reductions in anxiety in youth receiving CBT compared to youth receiving attention control. Additionally, improvements in symptomatology and functioning were maintained at the 6-month follow-up assessment. Taken together, these studies demonstrate the feasibility and effectiveness of school-based CBT for anxiety.

The pilot project for the BCATSS study provides preliminary evidence for the effectiveness of school-based CBT for anxiety specifically targeting African American youth from economically disadvantaged families (Ginsburg & Drake, 2002a). Twelve African American youth (mean age = 15.6 years) with anxiety disorders were recruited from one urban high school via a school-wide screen and then were randomly assigned to either a school-based group CBT (n = 4 treatment completers) or a group attention-support control condition (AS-Control; n = 5 treatment completers). Both groups met for 10 sessions. Two psychology graduate students (one Caucasian and one African American) administered the treatment. At posttreatment and based on independent evaluations, 75% of adolescents receiving CBT no longer met diagnostic criteria (using the ADIS-IV-C) for their primary anxiety disorder, compared with 20% in AS-Control.

In summary, there is a recent history of the school-based delivery of CBT that complements a longstanding history of the school-based delivery of mental health services, particularly in the prevention domain (Greenberg, Domitrovich, & Bumbarger, 2001). Although these studies provide preliminary support for the feasibility and effectiveness of a school-based CBT treatment for anxiety disorders, additional research is needed. In particular, there has been a call for research emphasizing dissemination of CBT to nonexpert CBT therapists (Mufson, Dorta, Olsson, Weissman, & Hoagwood, 2004).

Rationale for Training School-Based Clinicians

The rationale for training school-based clinicians stems from financial and pragmatic concerns, as well as a desire to expand the empirical literature by addressing issues related to dissemination and sustainability. In inner-city schools in particular, expert CBT clinicians are difficult to find and hiring them would be cost-prohibitive for these schools. However, mental health experts currently employed in the schools are familiar with the school culture and knowledgeable about environmental stressors that may contribute to a student’s anxiety. They are likely to have cultivated satisfactory working relationships with administrators, teachers, students, and the communities they serve. Due to their familiarity with the population and context, treatment services delivered by school clinicians may be less stigmatizing and threatening because students routinely visit counselors for a variety of reasons (Weist & Evans, 2005).

There is preliminary evidence demonstrating the feasibility and effectiveness of interventions delivered by school-based clinicians, particularly targeting posttraumatic stress disorder (PTSD) and depression. School-based psychiatric social workers in Los Angeles were trained to deliver a manualized CBT intervention to sixth grade youth exposed to violence who developed symptoms of PTSD but did not meet full criteria for this disorder (Stein et al., 2003). Training in the intervention took place over 2 days (16 hours). Clinicians received 2 hours of weekly supervision from a psychologist (study staff) and 1 hour of weekly supervision from their on-site clinical supervisor. One hundred twenty-six youth were randomly assigned to either a 10-week group CBT early intervention group or wait-list delayed intervention control group. Participants were predominantly Latino youth from an economically disadvantaged area of Los Angeles. At posttest, youth who had received CBT reported marked improvement in PTSD and depressive symptomatology as well as improved psychosocial functioning compared to youth in the wait-list control group. Following delivery of the intervention, youth in the wait-list group reported improvement comparable to that reported by the original treatment group. This group of researchers conducted another study with 198 Latino youth in third through eighth grades exposed to violence and exhibiting significant symptoms of PTSD and/or depression (Kataoka et al., 2003). After receiving training similar to that described previously (Stein et al., 2003), school-based psychiatric social workers delivered an 8-week group CBT intervention to 152 youth. Compared to the 46 youth in the wait-list control group, youth receiving CBT demonstrated significant symptom improvement, although still in the clinical range.

Similarly, Mufson and colleagues trained school-based clinicians in five schools located in impoverished areas of New York City to administer interpersonal therapy for adolescents (IPT-A), a manualized treatment for depression (Mufson et al., 2004). Clinicians were social workers and doctoral-level clinical psychologists. Training included reading the IPT manual, 2 half days of didactics, and weekly supervision with Dr. Mufson and one of her colleagues. Study findings revealed that youth receiving the 12-session IPT-A (n = 34, 77% Hispanic) showed greater reductions on self- and clinician-rated measures of depression and psychosocial functioning relative to youth in the treatment as usual condition (n = 29, 66% Hispanic).

In sum, it appears that manualized evidence-based CBT treatments can be effectively delivered by school-based clinicians who do not have prior formal training in CBT. Moreover, as demonstrated by a growing number of studies (e.g., Ginsburg & Drake, 2002a; Muñson et al.,
Rationale for Targeting Low-Income and Predominantly African American Youth

Inner-city African American youth from socioeconomically disadvantaged families were targeted in BCATSS for several reasons. These African American youth are grossly underrepresented in extant treatment studies, making it difficult to determine the efficacy of CBT in this population. The rates of anxiety disorders are likely to be high among this population. Research on African American and European American children suggest similar 3-month prevalence rates for anxiety disorders (6.7% vs. 4.8%, respectively; Angold et al., 2002). Research also suggests that African American and European American children have similar lifetime prevalence rates for all anxiety disorders except PTSD, for which African American children are at greater risk than European American children (Last & Perrin, 1993). Whereas some studies suggest that the content, expression, sensitivity, stability, and severity of anxiety may differ among African Americans from that of European American children (e.g., Lambert, Cooley, Campbell, Benoit, & Stansbury, 2004; Last & Perrin, 1993; Neal, Lilly, & Zakis, 1993; Silverman, La Greca, & Wasserstein, 1995), similarities have also been reported (e.g., Ginsburg & Drake, 2002b; Neal et al., 1993; Treadwell, Flannery-Schroeder, & Kendall, 1995). This population, however, is also likely to be at higher risk for anxiety due to the greater likelihood of exposure to chronic stressors related to living in inner city communities (e.g., community violence, poverty; Copeland, 2005; Fitzpatrick & Boldizar, 1993).

Low-income African Americans also face substantial barriers to obtaining adequate mental health services, such as logistical issues (e.g., lack of transportation or insurance, time and scheduling demands; Owens et al., 2002) and previous negative experiences with mental health professionals, including racism (Owens et al.; Young, Klap, Sherbourne, & Wells, 2001). Research suggests that African American youth are less likely to receive mental health services than European American youth, but this disparity is alleviated when services are delivered in schools (Angold et al., 2002).

Rationale for Child Age and Multiple Diagnoses

The decision to target elementary school-aged children was influenced by a number of factors, including data from previous efficacy trials with this age group (e.g., Silverman, Kurtines, Ginsburg, Weems, Lumpkin, et al., 1999; Silverman, Kurtines, Ginsburg, Weems, Rabian, et al., 1999), the greater likelihood of parental involvement for this age group, and the desire to target youth prior to the upsurge in risky behaviors (e.g., substance use, school dropout) that occurs during adolescence.

Inclusion criteria also allow for a broad range of anxiety disorders (i.e., GAD, SOP, SP, SAD) because these conditions share similar maladaptive processes (e.g., avoidance, cognitive distortions, somatic symptoms), are highly comorbid both at the symptom and disorder levels, and respond to the same treatment strategies with roughly the same effect size, regardless of which disorder is primary (Kendall et al., 1997; Silverman, Kurtines, Ginsburg, Weems, Lumpkin, et al., 1999; Silverman, Kurtines, Ginsburg, Weems, Rabian, et al., 1999). Additionally, this group of anxiety disorders has been considered distinct from other anxiety disorders such as OCD and PTSD (Bell-Dolan & Brazeal, 1993; Kendall et al., 1997; Pine & Grun, 1998). Children are included in BCATSS if they have comorbid disorders (e.g., depressive disorders, disruptive behavior disorders, ADHD, and other anxiety disorders such as OCD, PTSD, acute stress disorder) or symptoms of other disorders (e.g., PTSD symptoms); however, GAD, SOP, SP, or SAD must be the primary disorder (i.e., the disorder most in need of treatment). The empirical benefit of involving children with comorbid disorders was weighed against the potential reduced potency of the intervention effects. This requirement will ensure that GAD, SAD, SP, and/or SOP are the most severe disorders but will include children with comorbid conditions typically excluded from previous efficacy trials. Children with a primary diagnosis outside the scope of the study (e.g., PTSD, ADHD) who are in need of intervention may still receive treatment from the school clinician outside of the study or will be referred elsewhere.

From Efficacy to Effectiveness: Strategies and Modifications

Successful treatment of childhood anxiety holds the hope of decreasing acute distress and altering the life trajectory of affected children. As noted, studies involving children and adolescents document the efficacy of CBT for children with GAD, SAD, SP, and SOP (e.g., Kendall et al., 1997; Pine, Silverman, Fuentes, Kurtines, Weems, 2003). The next step is to evaluate the transportability of this treatment by assessing its effectiveness in community settings, with youth of diverse backgrounds, and delivered by non-CBT expert clinicians. BCATSS is designed to examine these factors. As Mufson and colleagues (2004) noted, however, conducting a transportability study naturally involves tension between the numerous systemic constraints of the setting and the goals of the researchers and therefore requires flexibility. In the sections that follow, we describe our strategies for gaining support for BCATSS and
the necessary modifications to assessment procedures, treatment delivery, and study design.

**Engagement of Community Stakeholders**

Initial steps in the development of our school-based intervention involved engaging school personnel (principal, teachers, larger school system that approves research), school-based clinicians, and parents of children who attend the schools to generate support for the project.

**School personnel.** School personnel often have mixed feelings about the provision of mental health services in schools (e.g., children will miss important academic information; school is for academics, not mental health treatment). Additionally, most school personnel focus on children with externalizing problems, thus anxiety is not frequently identified as a problem. Indeed, most staff we met with (including school clinicians) were skeptical that we would find anxious children in their schools. Thus, considerable work was needed (via individual meetings) to highlight how treatment of anxiety disorders: (a) would not be too lengthy (i.e., would not take children out of class for extended periods of time) and (b) could have a positive impact on school-relevant outcomes and academic functioning (e.g., improved test-taking performance, participation in class, classroom behavior and grades). A critical part of this process also involved educating school personnel via individual meetings (e.g., with principals) or group in-services (with teachers, clinicians) about the prevalence, signs and symptoms, and negative consequences of anxiety disorders.

**Parents.** Separate meetings held with parents were particularly important in the development and recruitment phases to address cultural and environmental factors that might affect study participation and implementation. For example, this African American community has developed a rich culture that influences family dynamics, child development, and mental health service utilization. African Americans tend to hold unique beliefs about mental illness and health care (e.g., lack of trust in health care providers, believing that illness can be managed without treatment) that reduce the likelihood of using school-based clinicians (Copeland, 2005; Owens et al., 2002). Rather than consulting mental health professionals, many African Americans use their religious beliefs and practices to understand and cope with illness and seek out advice from members of their extended family and community (Johnson, Elbert-Avila, & Tulsky, 2005).

As during the meetings with school personnel, study staff conveyed psychoeducation about anxiety during meetings with parents in order to demonstrate the potential usefulness of the treatment and generate referrals. However, the essential goals of the parent meetings involved building rapport and trust and demonstrating how we would minimize the treatment demands placed on this underserved population. Parental involvement in these schools is very limited for a variety of reasons, including inflexible work schedules, lack of transportation, parental absence from the home (e.g., parent in jail, in rehabilitation, homeless). Study accommodations include involving extended family members (e.g., grandparents, aunts, etc.) who may serve as primary caregivers to children, providing transportation vouchers (funded through the study budget) to assist family members with session attendance, being flexible in the scheduling of treatment appointments for parents, and identifying preferred methods of participant compensation (e.g., gift cards to stores specifically requested by families). However, despite these accommodations, it is still difficult for parents to attend treatment sessions and it is often a formidable task for clinicians to contact parents. For example, one therapist reported that the child’s parent had a cell phone with prepaid minutes that usually ran out, so there was no way to contact the parent.

**Recruiting and Training School-Based Clinicians**

School-based clinicians represent a variety of training and professional backgrounds and vary in the degree of allegiance they feel toward a specific theoretical approach (or to being eclectic). Clinicians also vary in their openness to incorporate new ideas and skills into their current treatment approach. Therapists may not be knowledgeable about CBT, may not see the value of CBT, and may have negative attitudes toward using evidence-based or manualized interventions (Addis & Krasnow, 2000). Proper training of school-based clinicians is crucial to the successful delivery of CBT to anxious youth and to the sustainability of evidence-based interventions being provided in the schools.

We recruited clinicians from a pool of 13 clinicians (master’s level social workers and Ph.D. psychologists) who are employed by the Johns Hopkins Division of Child Psychiatry School-Based Program. The clinicians conduct individual and group therapy and are on call for all school crises (e.g., suicide, school violence). There is one full-time clinician in each school. Each has an office in the school but the clinicians generally do not have functioning computers or telephones and carry a pager supplied by Johns Hopkins. The schools themselves have limited resources, are in poor condition, and are in high-crime neighborhoods. There is
wide variation among school clinicians with respect to how they interface with both school staff in general and other school mental health professionals. Some staff are well integrated and relied on heavily, while others operate primarily in isolation from other staff.

In approaching the clinicians, we emphasized that everything about the study is flexible such that clinician participation could be modified in a manner that is conducive to their setting and time schedule. We invited the clinicians to be collaborators in designing and modifying the treatment and study methods and to be co-authors of the outcome papers. We stressed how the project would make a significant contribution to the field and that their voices would be heard with respect to what is relevant and irrelevant (and in need of adaptation) about the manualized interventions for anxiety disorders.

Six clinicians volunteered (6 females, 4 African Americans) and to date two of the six have dropped out of the study. The major reasons cited by the clinicians who did not volunteer for BCATSS included excessive workloads (e.g., they have no room on their caseload for new kids or time to learn new skills), fears of additional paperwork and meetings, worries about whether the study would interfere with their quota requirements for patient billing, worries about their own ability to implement CBT (e.g., fears about the sessions being recorded), and skepticism about the research process, the usefulness of CBT for anxiety, and/or the presence of anxiety disorders in their school population.

To compensate the clinicians for their time and efforts they were offered continuing education credit for their participation in training and given a $50 gift card for completing the training. Rewards, based on donations offered to the study by local establishments (e.g., a hair salon offered a free facial) are also provided to the clinicians on an ongoing basis following successful participation and recruitment of study youth. We tried to reduce burden and provide support (e.g., extra supervision, therapy materials, continuing education) and work with administrators to alleviate their nonessential responsibilities (i.e., extra meetings), but billing requirements could not be altered. The productivity of the clinicians is measured by the number of children billed for service, thus their caseloads were not reduced.

The CBT training included asking the clinicians to read: (a) three to five journal articles and/or book chapters on the assessment and treatment of anxiety disorders in children, (b) the CBT treatment modules, and (c) an overview of the proposed study procedures. Clinicians participated in a 2-day training that involved a didactic overview of the signs and symptoms of anxiety disorders as well as a hands-on review of each CBT module. During the training, each CBT module was read aloud and discussed, a videotaped demonstration of each module was viewed, and then each module was practiced and role-played within clinician pairs.

Before and after the training, the clinicians completed an attitudinal questionnaire about the use of manualized treatment, a competence exam on knowledge of CBT, and an anonymous satisfaction questionnaire about the training itself (only at posttraining). The attitudinal questionnaire was comprised of 10 items (modified from Addis & Krasnow, 2000). Sample items included, “Manualized treatment is too rigid, limiting the ability of the therapist to address all of the client’s needs” and “Using a treatment manual detracts from the authenticity of the therapeutic interaction.” Each item was rated on a 1 (strongly disagree) to 5 (strongly agree) scale and higher scores represented greater support for treatment manuals (several items were reverse scored). Mean scores regarding attitudes toward manuals at posttraining ($\bar{x}=32.17$, $SD=4.62$) were significantly higher than those at pretraining ($\bar{x}=28.17$, $SD=3.87$), $t=4.00$, $p<.05$. A review of the pre- and posttraining attitudes toward manuals reported by clinicians (see Table 1) suggests that clinicians’ support for manuals increased similarly across clinicians. However, although their attitudes toward manuals became more favorable following training, it is apparent from the scores that the clinicians continue to have reservations about manuals.

The CBT knowledge questionnaire included 49 multiple-choice items and 1 open-ended item. Apparent from Table 2, initial knowledge of CBT varied among the clinicians and knowledge increased following training. Scores on the CBT knowledge assessment at posttraining ($\bar{x}=85.67$, $SD=7.66$) were significantly higher than those at pretraining ($\bar{x}=77.67$, $SD=12.72$), $t=2.89$, $p<.05$.

Clinicians also reported high levels of satisfaction with the CBT training. Specifically, the six clinicians rated how helpful each of the specific components of the CBT training were on a 4-point scale (1 = not at all helpful; 2 = undecided; 3 = somewhat helpful; 4 = very helpful). Below are the percent of therapists who rated each skill as 4 (very helpful): overview of anxiety and its disorders (100%), psychoeducation (100%), exposure (100%), problem-solving skills (100%), session handouts (100%), cognitive restructuring (83.3%), role-plays of skills (83.3%), case presentation discussion (83.3%), identifying emotions/somatic symptoms of anxiety (66.7%), video clips of skills (66.7%), and relaxation skills (50%).

Modification of the Study Design and CBT Intervention

Extant CBT treatment manuals for childhood anxiety (e.g., Kendall et al., 1997; Silverman, Kurtines, Ginsburg, Weems, Rabian, et al., 1999) range between 12 to 16 sessions and are organized sequentially by session, each of which lasts 60 to 90 minutes. Parent involvement occurs weekly or during specific sessions. Treatment sessions in efficacy trials
are scheduled one time per week and focus on anxiety (because exclusion criteria restrict comorbid disorders), and inclusion criteria often require a minimum IQ.

After there was systemic approval and support for BCATSS, modifications of the study procedures and evidence-based treatment manuals were needed. Input from parents and school personnel shaped the implementation of the study and assisted in determining which aspects of the original study protocol needed to be modified so that the methods used would be ecologically valid, acceptable to children, families, and school personnel, and culturally relevant.

Assessment and outcome evaluation. In designing and implementing the assessment battery for BCATSS, we faced several challenges which led to modifications of the assessment procedures typically used in efficacy studies. First, although the assessment measures being used in this study are considered to be the current “state of the field” for anxiety in children, there is little data on the reliability and validity of anxiety-related assessment instruments with inner-city African American children. For the BCATSS study, we chose measures that had been utilized in previous research examining anxiety in African American youth (Ferrell, Beidel, & Turner, 2004; Ginsburg & Drake, 2002a) and measures that were particularly relevant for urban youth (e.g., daily hassles related to living in an urban environment, stressful life events, exposure to community violence). During the planning phase of this project, the school clinicians reviewed the proposed assessment measures and provided feedback on the length and appropriateness of the questions. In addition, we added an “other” item to several of the self-report questionnaires to gather additional information and identify possible culture-specific anxiety symptoms. We also plan to obtain feedback on the measures from children, parents, clinicians, and teachers throughout the project.

Notably, when the assessment battery was first introduced to the school clinicians, they indicated that they did not systematically use pre-post assessments to monitor children’s progress in the school-based program. During planning meetings with the clinicians, we emphasized the importance of monitoring the children’s progress in a systematic way. Receiving the clinicians’ support for the assessment battery was crucial in order to have them assist with screening children who might be appropriate for the BCATSS study, scheduling the pre-post assessments with children and parents, and administering specific questionnaires on a weekly basis during treatment. The clinicians expressed concern about the amount of time that it would take for children to complete the measures on a weekly basis and the burden of additional paperwork for themselves. Based on this feedback, several modifications were made (i.e., clinician forms were made as brief as possible, short forms of the anxiety rating scale were created). Interestingly, attitudes toward the self-report measures changed somewhat after the clinicians began using these measures. Several clinicians who administered the anxiety rating scale to children on their caseload felt that the measure provided very useful information about anxiety symptoms. For instance, one clinician reported that she had worked with a child for over a year and did not know about the extent of that child’s anxiety until after administering the anxiety screen.

After finalizing the assessment battery, we faced several challenges with respect to implementation of the assessments. In any school-based study, there is a delicate balance between the need to gather comprehensive information with the practical time and resource constraints presented by conducting evaluations in the schools. For practical reasons, the 4-to 6-hour evaluations typically conducted in efficacy trials were not feasible in the school setting. School staff involved in the BCATSS study expressed concern about the amount of class time

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<th>Table 1</th>
<th>Pre and post ratings of clinicians’ attitudes toward treatment manuals (N=6)</th>
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<td>Clinician</td>
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<td>Pre</td>
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Note. Higher scores represent more favorable attitudes toward treatment manuals.

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<th>Table 2</th>
<th>Pre and post scores on clinicians’ CBT knowledge assessment (N=6)</th>
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<td>Clinician</td>
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<td>Pre</td>
<td>90%</td>
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<td>Post</td>
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Note. Scores reflect the percentage of correct answers.
that children would have to miss in order to participate in the assessments; there was limited space at the schools for conducting the assessments, and parents’ work schedules often did not permit time off to participate in lengthy assessment visits. To minimize the burden placed upon school personnel, children, and parents, the BCATSS assessment battery was crafted to include as minimal a number of measures as possible. In addition to minimizing the numbers of measures, child assessment sessions may be broken into several short visits based on children’s class schedules and room availability, parent interviews may be conducted by phone, and questionnaires are sent home for parents to complete. As this study is currently in progress, additional adaptations may need to be made. It is our hope that procedures utilized in the BCATSS study will inform subsequent effectiveness trials conducted in school settings.

**Treatment frequency and duration.** In addition to modifying the assessment and evaluation procedures, the treatment needed to be modified in several ways for BCATSS. Treatment sessions were shortened from 60 minutes to 35 to 40 minutes to fit into each school’s class period. The BCATSS treatment is a 12-week intervention. In addition, sessions are flexibly scheduled to parallel the school calendar and accommodate exams, field trips, and other school activities and are scheduled during the school day, rather than after school, due to transportation issues and after-school activities. Session times rotate to minimize the likelihood that children will miss the same class consistently.

**Treatment format, control condition, and randomization.** Treatment sessions in BCATSS are administered in an individual format, which diverges from published studies on school-based CBT that featured group formats. Recent data has found both group and individual CBT formats to be equally efficacious for reducing anxiety in youth (Flannery-Schroeder & Kendall, 2000). The decision to use an individual rather than a group format was based on feedback from school-based clinicians who felt that the former modality would be easier to implement in their schools due to scheduling and assessment/recruitment concerns.

Based on feedback from the Institutional Review Board and school staff, the original comparison group, a manualized attention support, was considered standard clinical care and thus unethical, and was changed to TAU, which will also be delivered in an individual format. Because there is only one clinician per school, the same clinician will deliver both treatments. We hope to minimize contamination across treatment conditions by having the clinician audiotape all sessions to be reviewed for contamination by BCATSS staff. Randomization to either the CBT or TAU group will occur at the level of the child.

**Treatment content.** The treatment manual is “modularized.” Specifically, rather than having therapists administer each session sequentially as presented in extant treatment manuals, modules representing core CBT skills for anxiety were developed. These modules are presented in Table 3. Each module is independent and self-contained and provides instructions for implementing key treatment skills, including relevant handouts for clinicians to use while teaching the skills in that module. The sequence of administering the modules is flexible, with the exception that psychoeducation occurs first. The efficacy of modular CBT for anxiety disorders has been demonstrated (Chorpita, Taylor, Francis, Moffitt, & Austin, 2004) and the use of modules is desirable for the delivery of school-based CBT for several reasons. Children attend therapy sporadically in the school setting (due to standardized testing, holidays, vacations) and often present with a broad range of therapeutic issues and clinical crises (e.g., fighting, suspensions). Thus, modules allow clinicians flexibility to use skills that are appropriate to the child’s clinical needs rather than following a prescribed session sequence.

However, because these are nonexpert CBT clinicians who have a number of logistical and therapeutic issues to

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Baltimore City Anxiety Treatment Study in the Schools (BCATSS) CBT modules</th>
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</thead>
<tbody>
<tr>
<td>Module title</td>
<td>Module content</td>
</tr>
<tr>
<td>Psychoeducation</td>
<td>Presents tripartite model of anxiety; teaches CBT model of anxiety (including importance of skill rehearsal and practice).</td>
</tr>
<tr>
<td>Contingency Management</td>
<td>Focuses on appropriate use of rewards to help the child learn the skills and face his/her fears.</td>
</tr>
<tr>
<td>Relaxation</td>
<td>Teaches deep breathing and progressive muscle relaxation.</td>
</tr>
<tr>
<td>Exposure</td>
<td>Reviews how to construct and implement a fear hierarchy.</td>
</tr>
<tr>
<td>Cognitive Restructuring</td>
<td>Teaches how to identify, evaluate, and replace maladaptive cognitions.</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>Presents a five-step plan for problem solving using the SOLVE method.</td>
</tr>
<tr>
<td>Relapse Prevention</td>
<td>Focuses on how to prepare for and prevent slips and the need for continued practice of skills (e.g., exposure).</td>
</tr>
</tbody>
</table>
deal with both within and outside of the study, a suggested ordering of modules was provided, with the psychoeducation module being delivered first. For subsequent sessions, during weekly supervision, study staff will follow a decision-making flowchart modeled for modular CBT for anxiety (Chorpita, 2007). The first question that will guide clinical decision-making is, *Is the child ready to practice exposures?* If the answer is yes, every effort will be made to guide clinicians to engage the child in exposure exercises. When clinical interference (e.g., disruptive behavior, low motivation, social skills deficits) obstructs practice, study staff will advise clinicians to flexibly apply appropriate modules (e.g., differential reinforcement, rewards, social skills training) for the purpose of returning to exposure as soon as possible. Modularity also provides flexibility that may be useful in addressing clinical interference resulting from comorbidity or unforeseen stressors. In addition, to capitalize on the advantages of the school setting, teachers are enlisted as cotherapists to facilitate exposures and support the implementation of skills in the classroom.

Careful attention to each child’s level of cognitive, social, and emotional development results in the optimal implementation of manualized CBT (Kingery et al., 2006), and parents and school staff provided feedback about the BCATSS treatment to investigators with regard to modifying the teaching style of CBT skills to inner city youth. For instance, suggestions were made to ensure that teaching techniques are more interactive and less didactic, that “homework” tasks are minimized, and that culturally relevant examples are used. The BCATSS school clinicians have also indicated that many children they see on their caseloads have difficulties with reading and abstract reasoning. While specific modifications to the manual have not been made to address such difficulties, clinicians will use their professional judgment and skills to simplify the material and present it at a speed appropriate to each child’s abilities (e.g., breaking it up over two sessions, asking questions to see if the child understands concepts, using examples, simplifying cognitive strategies, and, finally, emphasizing behavioral over cognitive interventions when needed). Finally, rapport-building activities, rewards, and role-plays for teaching skills should include references to pop culture (e.g., cartoon characters) that are popular with this age group.

School clinicians need to apply the CBT skills flexibly to accommodate children with a broad range of problems, including comorbid psychiatric conditions, stressful life events (e.g., family loss, financial hardships), and reality-based fears and worries (e.g., crime). Unlike children in efficacy trials, children in this study have high chronic levels of stress that do not fit into the sessions of existing CBT manuals. In the case of comorbidity, during supervision, clinicians are instructed to address the primary anxiety diagnoses first, and thereafter, CBT skills from other modules can be flexibly applied to target additional symptoms as necessary. It is not possible to define a priori all possible situations that may require adjunct services during the course of a study with a heterogeneous at-risk population. Given the nature of anxiety and likely comorbidities and life stressors present in the lives of these youth, three adjunctive services and attrition prevention (ASAP) sessions may occur outside the standardized intervention protocol under crisis or unusual circumstances if the clinician judges them to be necessary. If it is determined that such issues are interfering with CBT to the extent that the child needs additional sessions to address these issues, he or she will continue to receive treatment from the school clinician but will be excluded from the study.

A final modification of the manualized CBT involves increasing the use of rewards and positive reinforcement. As noted previously, the resources available in these schools and in the lives of these children are sparse. In order to maintain motivation and reward positive behaviors in therapy, therapists allow children to select a “prize” or reward contingent on session attendance, therapy “homework” completion, and active participation during therapy sessions. The types of rewards vary depending on the interests of the child but include tangible rewards, social rewards (e.g., eating lunch with counselor), activities (such as playing a special game), or tokens saved to spend at a later time. Rewards are often used by parents in CBT efficacy trials for childhood anxiety. However, because this option is unlikely to occur in the current context given the constraints of family resources and parent participation, therapists are encouraged to use rewards liberally.

**Conclusion**

The delivery of CBT to anxious youth in the school setting offers an opportunity to provide treatment to youth who may not otherwise receive services. The empirical literature provides preliminary evidence for the feasibility and effectiveness of school-based CBT interventions. The training of school-based clinicians to deliver CBT is a critical step toward the dissemination and sustainability of empirically supported treatments to community providers and the availability of such treatments to underserved populations, such as African American youth living in the inner city. Challenges arise in transporting these interventions into new contexts and assessing the effectiveness of CBT for anxiety disorders in this population and context.

But, in true CBT fashion, the best strategies for overcoming obstacles involve a collaborative approach between researchers, clinicians, and consumers and an empirical evaluation of treatment strategies to inform future CBT interventions implemented in school settings.
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