

CHARACTERISTICS OF EXPOSURE SESSIONS AS PREDICTORS OF  
DIFFERENTIAL TREATMENT RESPONSE IN A SAMPLE OF ANXIOUS YOUTH

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## ABSTRACT

Guidelines for conducting effective exposure treatment with anxious youth emphasize content (e.g., preparation for and processing of the exposure) and process (e.g., collaboration and youth involvement) variables as important elements of exposure task sessions, but there is a paucity of research examining these guidelines. Using multiple regression, this study evaluated the extent to which independent observers' ratings of process (i.e., collaboration and youth involvement) and content variables (i.e., preparation for and processing after the exposure task) were predictive of treatment outcome in a sample of 61 anxiety-disordered youth. Results indicated that collaboration between the youth and therapist significantly predicted improvement in treatment outcome as measured by youth-, parent-, and teacher-reports. Youth involvement in exposure task sessions predicted improved outcome as measured by teacher-report. Contrary to expectation, preparation for exposure did not predict outcome, but post-event processing of the exposure task was significantly predictive of clinician-rated diagnostic outcome. Exploratory analyses suggest that treatment responders were more likely to be assigned between-session exposure tasks as "homework" and were more likely to be rewarded for their efforts in session. Treatment implications and future directions are discussed.

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## TABLE OF CONTENTS

	Page
ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	iv
LIST OF TABLES.....	vi
CHAPTER	
1. INTRODUCTION.....	1
2. OVERVIEW OF CURRENT STUDY.....	61
3. METHODS.....	65
4. RESULTS.....	87
5. DISCUSSION.....	108
REFERENCES CITED.....	122
APPENDICES.....	138

## LIST OF TABLES

Table	Page
1. Observer Reliabilities .....	89
2. Means and Standard Deviations for Treatment Outcome Measures .....	92
3. Descriptive Analyses: Session Components .....	93
4. Descriptive Analyses: Global Ratings.....	94
5.1 Multiple Regression Analyses of Content Variables as Predictors of Outcome .....	99
5.2 Multiple Regression Analyses of Process Variables as Predictors of Outcome .....	100
6.1 Overall Contribution of Models and Individual Contribution of Study Variables to Treatment Outcome: Clinician-Rated Measures.....	101
6.2 Overall Contribution of Models and Individual Contribution of Study Variables to Treatment Outcome: Child-Reported Measures .....	102
6.3 Overall Contribution of Models and Individual Contribution of Study Variables to Treatment Outcome: Mother-Reported Measures .....	103
6.4 Overall Contribution of Models and Individual Contribution of Study Variables to Treatment Outcome: Father-Reported Measures.....	104
6.5 Overall Contribution of Models and Individual Contribution of Study Variables to Treatment Outcome: Teacher-Reported Measures .....	105

# CHAPTER 1

## LITERATURE REVIEW

### Overview

Anxiety disorders in children and adolescents<sup>1</sup> are highly prevalent (Costello, Egger, & Angold, 2005) and impairing. Moreover, if left untreated, anxiety disorders of youth can persist well into adulthood and are associated with negative outcomes (Pine, Cohen, Gurley, Brook, & Ma, 1998). In response to these concerns, there has been a surge in research on treatment interventions for anxiety-disordered (AD) youth. Cognitive-behavior therapy (CBT), in particular, has emerged as an efficacious treatment for anxious youth (see Cartwright-Hatton, Roberts, Chitsaben, Fothergill, & Harrington, 2004, for a review). Despite these advances in the development of CBT for anxious youth, several questions remain. What are the active ingredients of CBT that lead to improved treatment outcome? What characteristics of the youth or therapist act as mediators and moderators of outcome? Why do some youth show a limited response to treatment? There exists a need for continued research on specific factors of treatment that contribute to improved treatment outcome.

This chapter reviews the literature on treatment outcome research for CBT with anxious youth. First, prevalence and impairment of anxiety in youth are reviewed. Next, the rationale behind CBT for anxiety disorders is discussed briefly, followed by a review of randomized clinical trials (RCTs) evaluating the efficacy of CBT programs for anxious youth. A review of extant research on predictors of outcome is then provided, followed by a discussion of the potential active ingredients within CBT, with a focus on exposure tasks within treatment. Several theories behind the effectiveness of exposure are

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<sup>1</sup> Children and adolescents will hereafter be referred to as youth.

presented, followed by a review of general guidelines for conducting exposure tasks within treatment for childhood anxiety. The chapter concludes with an examination of specific characteristics of exposure treatment that might be related to treatment outcome, a review of the limited research in this area, and a discussion of the need for research on the critical elements of exposure treatment that lead to improved response rates in CBT for anxious youth.

### Prevalence and Impairment of Childhood Anxiety Disorders

Historically, anxiety disorders in youth have remained under-diagnosed, especially relative to externalizing disorders. Epidemiological studies conducted over the past two decades, however, have made the presence of internalizing pathology in youth both salient and undeniable. It is now generally well-documented that anxiety disorders are one of the most common psychiatric disorders of youth, with prevalence estimates ranging from 5.7% to 17.7% in community samples (Costello & Angold, 1995). In more recent years, epidemiological studies have shown that the rate of youth anxiety disorders has steadily been on the rise. In a recent review, Costello et al. (2005) found estimates ranging from 2.8% for current prevalence of one or more anxiety disorders to as high as 27% for lifetime prevalence. The authors noted that studies with a short assessment interval (i.e., current, 3-month or 6-month) reported the lowest rates (2.2% to 17.7%), whereas those using a 12-month period of reference or a lifetime criterion reported rates ranging from 8.6% to 27%.

It is important to note that most epidemiological studies have reported on “anxiety” in general, without taking into consideration *Diagnostic and Statistical Manual of Mental Disorders –Third Edition – Revised (DSM-III-R; American Psychiatric*



Association [APA], 1987) or *Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition (DSM-IV*; APA, 1994) diagnostic categories or functional impairment. Chavira and colleagues (2004) found that the rate of anxiety disorders in a primary care setting was approximately 35% when only a mild to moderate level of functional impairment was examined. When a stricter criterion for disorder-specific impairment was utilized (i.e., high impairment), the rate dropped to 17%, which is broadly consistent with findings from community samples (e.g., Costello & Angold, 1995).

High prevalence rates aside, it is perhaps more noteworthy that youth anxiety disorders are often left untreated. Chavira and colleagues (2004) found that in a primary care setting, approximately 72% of youth with an impairing anxiety disorder had not received any form of psychotherapeutic intervention. Additionally, only 9% of youth with an anxiety disorder had received medication treatment, relative to those with current depressive disorders (20%) or current externalizing disorders, such as Attention-Deficit Hyperactivity Disorder (ADHD; 79%).

The gap between prevalence and treatment utilization for youth anxiety disorders is troublesome for a variety of reasons. Research suggests that anxiety disorders are highly stable over time (Bittner et al., 2007). Additionally, if left untreated, youth anxiety disorders are associated with a risk for chronic anxiety, major depression, and substance use in adulthood (e.g., Aschenbrand, Kendall, Webb, Safford, & Flannery-Schroeder, 2003; Costello, Mustillo, Erkanli, Keeler, & Angold, 2003; Essau, Conradt, & Petermann, 2002; Pine et al., 1998). Additionally, youth anxiety is often associated with educational underachievement, low self-esteem, and loneliness (Fordham & Stevenson-Hinde, 1999; Van Ameringen, Mancini, & Farvolden, 2003). Finally, the presence of

internalizing pathology may intensify the impact of comorbid disorders such as ADHD (Jensen et al., 2001).

### Cognitive-Behavioral Therapy for Anxious Youth

In response to growing concerns about high prevalence rates and the potential for negative sequelae if left untreated, the development of effective interventions for youth anxiety disorders has become an important focus of research. Research efforts have consistently yielded results supporting CBT as the treatment of choice for anxiety-disordered (AD) youth (e.g. King, Heyne, & Ollendick, 2005). The American Psychological Association (APA) Task Force on Promotion and Dissemination of Psychological Procedures (1995) designated CBT as a “probably efficacious” treatment for anxiety disorders, identifying CBT as an empirically supported treatment (EST). According to the guidelines set forth by the Task Force, to be deemed “probably efficacious,” a treatment must (a) demonstrate superiority, at a statistically significant level, to an already established EST, a no-treatment control group, alternative treatment group, or placebo condition in an RCT, controlled single case experiment, or equivalent time series design; (b) be conducted with a manualized treatment protocol or equivalent; (c) be conducted with a population treated for specified problems; and (d) be examined using reliable and valid outcome measures, and appropriate data analysis (Chambless & Hollon, 1998). Meta-analytic reviews conducted by Gould and colleagues (1997a; 1997b) indicate that approximately 60 RCTs evaluating CBT as an effective treatment for adults with anxiety disorders support the APA Task Force’s appraisal of this treatment modality.

Although the literature on ESTs for youth anxiety disorders is not as prolific as its adult counterpart, numerous outcome studies affirm the status of CBT as an EST. These studies are reviewed at length here, but first, a discussion of the cognitive-behavioral approach to treatment is warranted.

### *The Cognitive-Behavioral Approach to Treatment*

According to Barlow (2002), anxiety can be conceptualized as a tripartite construct involving physiological, cognitive, and behavioral components. From an evolutionary perspective, anxiety is a normal and expected emotional response that serves an adaptive and protective function: physiological arousal, in the form of increased autonomic system activity (e.g., heart racing, sweating, breathing faster), warns of impending danger (e.g., a car speeding towards an individual crossing the street), and can activate a “fight or flight” mechanism, producing a motor response or behavior that mobilizes the individual to prevent negative consequences (e.g., jumping out of the car’s way). Adaptive anxiety can arise even in situations that are not life-threatening. For example, an individual preparing for a final exam is likely to experience some level of anxiety, perhaps taking the form of anxious cognition (e.g., “I need to do well on this test so I can get a good grade in this class”), or somatic responses, such as “butterflies in the stomach,” the night before or the morning of the exam. If the level of anxiety experienced by the individual falls within the normal, expected range, he/she will likely mobilize for action by preparing for the exam. Again, in this example, anxiety serves the protective function of preventing an unwanted, negative outcome (e.g., performing poorly on the test) from occurring.

As described in Albano, Causey, and Carter (2001), youth experience expected levels of fear and anxiety as part of normal development. It is not uncommon, then, for younger children to feel mild distress when they separate from their parents, to have a fear of the dark, “monsters in the closet,” or bad weather, or to experience specific fears of injections or animals. As children get older, increased self-awareness might lead to concerns about peer evaluation. When fear and anxiety exceed the bounds of what is considered developmentally appropriate and/or anxiety becomes significantly distressing and begins to interfere with an individual’s functioning, often across settings, such as school/work, at home with family, and with peers, it can be said that the anxiety is maladaptive or disordered.

Youth with anxiety disorders often require pharmacologic and/or psychotherapeutic intervention. CBT is one such psychological intervention, designed to target the somatic, cognitive, and behavioral aspects of anxiety. As described in Albano and Kendall (2002), most CBT protocols for anxious youth involve five main treatment components that, in combination, address the physiological, cognitive, and behavioral aspects of anxiety: psychoeducation, somatic management skills, cognitive restructuring, gradual exposure to feared situations, and relapse prevention plans. During the early stages of treatment, affective awareness is increased and corrective information about anxiety is provided; explanations often include normalizing the experience of anxiety. Youth are then assisted in identifying different somatic reactions to anxiety (e.g., heart beating fast, face getting flushed, hands sweating, upset stomach, etc.), and somatic management techniques, such as relaxation procedures, are introduced. Cognitive restructuring techniques focus on identifying and challenging maladaptive thoughts and

shifting towards coping-focused thinking. Following the skill-building portion of treatment, graduated and controlled behavioral exposure to feared situations and stimuli is conducted. Finally, relapse prevention plans are discussed, with a focus on consolidating and generalizing treatment gains over time.

### *Empirical Evidence for CBT*

Preliminary support for the efficacy of CBT was provided by several multiple baseline design evaluations. For example, Ollendick, Hagopian, and Huntzinger (1991) developed an intervention program for youth with separation anxiety disorder (SAD), consisting of five major components: (a) recognizing anxious feelings and physical reactions to anxiety; (b) identifying and modifying negative self-statements; (c) generating positive self-statements and other positive strategies to cope effectively during anxiety-provoking situations; (d) rating and rewarding efforts at coping; and (e) behavioral exposure to feared situations. Kane and Kendall (1989) developed a similar intervention for youth with overanxious disorder (OAD). Multiple assessments were conducted at pre-, mid-, and post-treatment, as well as at 3-month, 6-month, and 1-year follow-up intervals. Results indicated that both interventions were effective in the reduction of anxiety symptomatology.

The preliminary studies lay the groundwork for numerous studies of CBT for anxious youth. Kendall (1994) conducted the first RCT investigating the effectiveness of CBT for children diagnosed with an anxiety disorder. Forty-seven youth, aged 9-13, were assigned *DSM-III-R* diagnoses of OAD ( $n = 30$ ), SAD ( $n = 8$ ), or avoidant disorder ( $n = 9$ ) according to the *Anxiety Disorders Interview Schedule for Children (ADIS; Silverman, 1987)*. Children with a primary anxiety diagnosis were randomly assigned to 16 weeks of

CBT ( $n = 27$ ) or an 8-week wait-list control condition ( $n = 20$ ). Children in the active treatment condition received 16 sessions of individual CBT following the *Coping Cat* program (Kendall, 1990). Treatment consisted of two phases: the first eight sessions were devoted to helping the youth (a) recognize anxious feelings and somatic responses to anxiety; (b) clarify cognition in anxiety-provoking situations; (c) develop a plan to cope with the situation (i.e., modifying anxious self-talk into coping self-talk, as well as determining what coping actions might be effective); and (d) evaluate performance and administer self-reinforcement as appropriate. During the second eight sessions, the youth practiced these newly acquired coping skills by engaging in gradual exposure to feared situations/stimuli. Specifically, session 9 involved practicing in low-anxiety situations, sessions 10-13 involved medium-anxiety situations, and sessions 14-16 involved practicing in high-anxiety situations. In addition, during session 16, the youth created a “commercial” or individualized project, such as a rap song, poem, or comic strip, designed to inform other youth about how to cope with anxiety. Youth assigned to the wait-list control condition did not receive any treatment. Pre- and post-treatment assessments were conducted, and wait-list participants still meeting diagnostic criteria for an anxiety disorder at the posttreatment assessment were provided with CBT. Treatment outcome was evaluated using diagnostician ratings on the *ADIS* and child-, parent-, and teacher-report measures. Results of this RCT indicated that youth receiving active treatment fared better than youth assigned to the wait-list condition on a majority of outcome measures: 64% of those receiving CBT did not meet diagnostic criteria for an anxiety disorder following treatment, compared to only 5% of those in the wait-list group. Youth and therapist variables and comorbidity were not associated with treatment

outcome. In comparison to those in the waitlist condition, treated youth showed significantly decreased self-reported levels of anxiety and depression, and treatment-produced gains were maintained at 1-year follow-up and an average of 3.35 years following treatment (Kendall & Southam-Gerow, 1996), further establishing the integrity of CBT as an effective treatment for childhood anxiety.

A second RCT conducted by Kendall and colleagues (1997) yielded results confirming the outcomes of CBT for AD youth. Following similar diagnostic procedures as the first trial, 94 AD youth, aged 9-13 years, were randomly assigned to receive 16 weeks of individual CBT (ICBT;  $n = 60$ ) or were placed on an 8-week wait-list ( $n = 34$ ). Consistent with the first RCT, ICBT during this trial consisted of eight sessions of education and skill-building, followed by eight sessions of gradual exposure to anxiety-provoking situations, progressing from low-anxiety to high-anxiety situations. Posttreatment assessments indicated treatment response patterns consistent with the first RCT on diagnostician-rated measures (i.e., *ADIS*): 54% of youth receiving active treatment no longer met criteria for their primary anxiety diagnosis (i.e., disorder with highest severity rating at pre-treatment), and 71% of youth no longer had their primary anxiety diagnosis as primary. In contrast, only two youth assigned to 8 weeks of a wait-list control condition did not meet diagnostic criteria for their primary anxiety disorder at the posttreatment assessment. Posttreatment ratings on self- and parent-report measures indicated that treated youth were perceived as being better able to cope during anxiety-provoking situations than their counterparts in the control group. Decreased internalizing symptomatology was observed on the majority of outcome measures. As with the first RCT, comorbidity was not found to be a moderator of treatment gains, therapist and

youth variables did not bear an impact on treatment outcome, and treatment-induced gains were maintained at 1-year follow-up and 7.4 years (Kendall, Safford, Flannery-Schroeder, & Webb, 2004) following treatment. Taken together, the results from these two RCTs provided convincing evidence to support the notion of CBT as a “probably efficacious” treatment for anxious youth.

The 16-week *Coping Cat* program (Kendall, 1990) has been modified (i.e., *Coping Koala*; Barrett, Dadds, & Rapee, 1991) and evaluated independently in Australia (Barrett, Dadds, & Rapee, 1996). Specifically, CBT was compared to a CBT + FAM condition, which consisted of individual CBT for the youth with adjunctive family anxiety management training, requiring greater parental involvement. CBT consisted of four sessions of psychoeducation and skill-building, followed by eight sessions of exposure to feared situations, starting with low-anxiety situations and gradually increasing to high-anxiety situations. CBT + FAM focused on helping parents develop strategies to address the youth’s anxiety, as well as manage their own distress in response to the youth’s reactions, in addition to CBT. Seventy-nine youth, between the ages of 7 and 14, with primary diagnoses of OAD and SAD were randomly assigned to CBT, CBT + FAM, and wait-list control conditions, each lasting 12 weeks. Posttreatment assessments indicated that 43% of youth in the CBT condition met diagnostic criteria for an anxiety disorder, compared to 74% of youth in the wait-list condition. CBT + FAM proved superior to CBT: 84% of youth were diagnosis-free at post-treatment. Treatment gains for both active treatment conditions were observed at 6- and 12-month follow-up assessments, with CBT + FAM yielding a slightly higher response rate than CBT alone (6-month: 84%, 12-month: 95%, for CBT + FAM vs. 71% and 70%, respectively, for



CBT alone). Further analysis revealed the effects of gender and age on treatment response. Younger children (7 to 10 years of age) and female participants responded better to the CBT + FAM condition, whereas older youth (11 to 14 years of age) and male participants did not demonstrate differential response to the two treatment conditions. Barrett (1998) replicated the results of this initial evaluation of the *Coping Koala* program in a subsequent study. Sixty AD youth, ages 7-14, were randomly assigned to CBT + FAM conducted in a group format or to CBT + FAM conducted individually. Consistent with the results of the first trial, both CBT treatments produced significant change on the dependent variables in contrast to the wait-list condition. Improvement was evident across measures and was maintained at 1-year follow-up.

Barrett and colleagues' (1996; 1998) studies affirmed the efficacy of CBT and suggested the need to include parents in the treatment of anxious youth. An important research question came to the forefront: does increasing parent involvement in treatment enhance the efficacy of CBT for anxious youth? In a recent study, Kendall, Hudson, Gosch, Flannery-Schroeder, and Suveg (2008) examined the impact of increasing parental involvement in CBT. A total of 161 youth, ages 7-14, diagnosed with primary generalized anxiety disorder (GAD;  $n = 88$ ), SAD ( $n = 47$ ), or social phobia (SP;  $n = 63$ ) and their parents were randomly assigned to receive one of three treatments: ICBT ( $n = 55$ ), family CBT (FCBT;  $n = 56$ ), and a family-based education/support/attention active control (FESA;  $n = 50$ ). ICBT was conducted individually with youth and followed the *Coping Cat* protocol (Kendall & Hedtke, 2006), consisting of 14 youth sessions and two separate parent sessions, which provided therapists an opportunity to inform parents about treatment and the youth's progress, collect information, and answer questions.

FCBT, on the other hand, included both the youth and parents in 14 sessions and followed a family-based CBT protocol for anxious youth (Howard, Chu, Krain, Marrs-Garcia, & Kendall, 2000). Two sessions were conducted independently with the parents and youth to allow them an opportunity to discuss issues privately with the therapist. FESA followed a similar session format but did not involve CBT content. Rather, therapists followed a manual for family education, support, and attention for anxious youth (Krain, Hudson, Choudhury, & Kendall, 2000). As part of FESA, youth and their parents were taught about emotions in general and anxiety in particular, provided with various theories of anxiety, and provided with opportunities to discuss the youth's anxiety. Of note, participants in the FESA condition were not taught coping or anxiety management skills. ICBT and FCBT consisted of two eight-session parts. The first part of treatment consisted of psychoeducation and skill-building, whereas the second part provided the youth/family with opportunities to practice new skills during gradual exposure to feared situations. FESA provided therapeutic support and education about anxiety for all 16 sessions. Pre- and post-treatment and one-year follow-up assessments were conducted.

Results on diagnostic measures indicated that 64%, 64%, and 52% of the primary diagnoses of youth in ICBT, FCBT, and FESA, respectively, were no longer primary at posttreatment. Further analyses revealed that 57%, 55%, and 37% of primary diagnoses were no longer present following treatment. Child- and parent-report measures indicated a uniform decrease in internalizing symptomatology, regardless of treatment condition. Treatment gains were maintained at follow-up. Notably, integrity checks indicated that approximately 65% of FESA content consisted of CBT content and procedures.

However, follow-up analyses indicated that this did not bear an impact on treatment outcome. Overall, the results of this RCT did not indicate that the inclusion of parents as “co-clients” in treatment provided benefits that were incremental relative to individual treatment. Indeed, research on the importance of including parents in CBT for anxious youth yields mixed results (Barmish & Kendall, 2005).

Research has also examined the relative efficacy of CBT, medication, and the combination of the two for the treatment of AD youth. In the recently completed Child and Adolescent Anxiety Multimodal Treatment Study (CAMS; Walkup et al., 2008), 488 youth between the ages of 7 and 17 with a primary diagnosis of SAD, SP, or GAD were randomly assigned to receive 12 weeks of ICBT (i.e., 12 child-focused sessions and 2 parent sessions), sertraline (SRT; at a dose of up to 200 mg/day), a combination of the ICBT and SRT (COMB), or a placebo drug (PBO). Categorical and dimensional ratings of anxiety severity were obtained at baseline and at 4, 8, and 12 weeks. Results indicated that youth receiving any of the “active” treatments responded well to treatment. The percentages of children who were rated as “much improved” or “very much improved” were 80.7% for COMB, 59.7% for ICBT, and 54.9% for SRT. All therapies were superior to PBO (23.7%). In their discussion of the results, the authors described CBT for youth anxiety as a well-established, evidence-based treatment and suggested that given the lower rate of adverse events in ICBT versus SRT, some parents and youth may consider choosing CBT as their initial treatment.

#### *Adaptations of CBT*

In the decade following these initial RCTs, CBT programs such as the *Coping Cat* (Kendall & Hedtke, 2006) and *Coping Koala* (Barrett et al., 1991) have been revised to

address the needs of specific clinic populations. Driven by the rising cost of health care and the need for time and cost effective treatment, CBT has been adapted for delivery in group formats. Research has also examined the ability of CBT to address the needs of specific ages (i.e., adolescents) and conditions, including social phobia, specific phobias, school refusal, and youth with intellectual disabilities. In this section, evaluations of several adaptations of CBT are reviewed.

*Group CBT.* Treatment provided in a group format may increase cost-efficiency and provide opportunities for peer modeling and social exposure tasks. When group treatment for youth anxiety also includes a parent or family component, additional benefits might be observed. Barrett (1998) found that group family CBT (FGCBT;  $n = 23$ ) was efficacious relative to a wait-list control condition ( $n = 20$ ): at posttreatment, 75% of youth receiving FGCBT no longer met criteria for any anxiety disorder, compared to only 25% of youth in the control condition. Similar results were obtained by Silverman and colleagues (1999b), who examined the efficacy of FGCBT versus a wait-list control condition. In this RCT, 56 youth between the ages of 6 and 16 with a primary *DSM-III-R* diagnosis of avoidant disorder or OAD and their parents received FGCBT or were placed on a wait-list for 8 to 10 weeks, with an assignment ratio of 2 to 1 (treatment to control). In FGCBT, youth and parents met in separate groups with a therapist for 40 minutes and then a conjoint meeting was conducted for 15 minutes. Parallel content was presented to the youth and parents. Pre- and post-treatment, as well as 3-, 6-, and 1-year follow-up, assessments were conducted. Differences in primary diagnostic recovery rates were observed for youth in FGCBT relative to the wait-list control condition: 64% of youth no longer met diagnostic criteria for their primary anxiety disorder compared with

13% of youth in the control condition. Similar improvement was observed on child- and parent-reported internalizing symptomatology, and there was a consistent trend for treatment gains to continue at follow-up.

Flannery-Schroeder and Kendall (2000) compared GCBT, ICBT, and wait-list control for 37 youth, ages 8-14, with SAD, OAD, or SP. Participants were randomly assigned to receive ICBT ( $n = 13$ ) or GCBT ( $n = 12$ ) or were placed on a 9-week wait-list. ICBT consisted of 18 weekly sessions of youth-focused treatment lasting 50-60 minutes, while GCBT involved 18 weekly sessions lasting approximately 90 minutes. Session content was derived from a version of the *Coping Cat* modified to be delivered in a group setting (Flannery-Schroeder & Kendall, 1996) and was uniform across treatments. Both forms of treatment were youth-focused but included several parent sessions. Post-treatment assessments indicated that 73% of youth receiving ICBT and 50% of those receiving GCBT no longer met diagnostic criteria for their primary anxiety disorder, compared to only 8% of youth randomized to the wait-list control condition. Furthermore, a large percentage of youth did not meet diagnostic criteria for any anxiety disorder following treatment with ICBT (64%) and GCBT (50%). Significant improvements were found on multiple youth- and parent-reports of anxiety-induced distress and coping for both ICBT and GCBT relative to the wait-list control condition. Treatment gains were maintained at 3-month follow-up.

A series of other studies have demonstrated the efficacy of family CBT conducted in group format (e.g., Barrett & Turner, 2004; Cobham, Dadds, & Spence, 1998; Manassis et al., 2002; Rapee, 2000; Shortt, Barrett, & Fox, 2001).

*CBT for anxious adolescents.* Developmental changes can make successful treatment of adolescents a challenging endeavor. Albano and colleagues (1995) developed one of the first group treatments specifically designed to address the developmental needs of adolescents with anxiety disorders. The intervention, called Cognitive-Behavioral Group Treatment for Adolescents (CBGT-A), was adapted from an effective intervention for adults with SP (Heimberg et al., 1990) and consists of 16 sessions of cognitive restructuring, psychoeducation, training in social skills, problem-solving, and assertiveness, and gradual exposure to socially distressing, anxiety-provoking situations. Initial reports of CBGT-A consisted of a series of case studies with five adolescents with SP and revealed that, following the intervention, four of the five adolescents were assessed to have only sub-threshold levels of the disorder; at 1-year follow-up, four of the five adolescents no longer met diagnostic criteria for their primary disorder. To evaluate the efficacy of CBGT-A, Hayward and colleagues (2000) conducted a small RCT with socially phobic adolescent girls, comparing the treatment with a wait-list control. Results indicated that there were significant reductions in clinician-rated interference scores in the CBGT-A group ( $n = 11$ ) compared with the control group ( $n = 22$ ). Additionally, 45% of the CBGT-A group no longer met diagnostic criteria for SP at posttreatment, relative to 5% of participants in the control group.

Group treatment for adolescents with SP has also proven to be effective when provided within a school setting. Masia, Klein, Storch, and Corda (2001) conducted a pilot study evaluating the feasibility and effectiveness of school-based CBT for six adolescents with SP. Following the traditional CBT outline, the intervention, named

Skills for Academic and Social success (SASS), is composed of 14 group sessions: one educational session, one session on realistic thinking, four social skills training sessions, five exposure sessions, and one session on relapse prevention. Post-intervention assessments revealed that 50% of subjects no longer met full criteria for SP and all participants were classified as treatment responders (i.e., markedly or moderately improved). Despite a small sample size and the absence of a control group, this pilot study demonstrated the feasibility of conducting group treatment for SP youth in a non-traditional setting – school.

*School refusal.* What about the anxious youth who experiences difficulty attending or staying in school? School refusal behavior is often driven by separation anxiety or social anxiety concerns (see King and Berstein, 2001). Perhaps more than any individual anxiety disorder, school refusal can be highly impairing, given that it directly interferes with a youth's ability to function within the school setting. Traditional CBT protocols that involve 8 to 9 weeks of psychoeducation and skill-building prior to behavioral exposure may delay the attainment of the primary goal of school refusal treatment: to help the youth attend school. Consequently, several adaptations of CBT have been developed to better address the needs of school refusing youth. Outcome studies indicate that CBT is an effective treatment for school refusal (e.g., Blagg & Yule, 1984; Last, Hansen, and Franco, 1998). Kearney and Silverman (1990) demonstrated the usefulness of a functional analytic approach in the assessment and treatment of school-refusing youth. Seven youth were divided into four categories based on the functional nature of their school refusal behavior and were treated accordingly: (a) fear of a specific stimulus or general negative affectivity within the school setting, treated via relaxation

training and systematic desensitization; (b) escape from aversive social situations, treated via cognitive restructuring, modeling, and social skills building; (c) separation anxious behavior or a desire to be with a caregiver, treated via shaping and differential reinforcement of other behavior; and (d) the desire to stay home for tangible reasons such as watching television, treated via contingency contracting procedures. Treatment sessions were conducted over 3 to 9 weeks. Results were favorable: six of seven youth achieved full-time school attendance by the end of treatment and continued to attend at 6-month follow-up. Overall, research indicates that school refusal behavior responds favorably to CBT.

In addition to the results reported herein, positive findings have been reported for CBT as an effective intervention for children who have specific phobias (e.g., Graziano & Mooney, 1980; Ost, Svensson, Hellstrom, & Lindwall, 2001; Silverman, Kurtines, Ginsburg, Weems, Rabian, et al., 1999a) and for parents of children who have an intellectual disability in addition to an anxiety disorder or phobia (i.e., Creating Confident Children Program; Ciechomski, Jackson, Tonge, King, & Heyne, 2001).

#### *Limitations of Extant Research on CBT Efficacy*

To date, 26 studies examining the efficacy of CBT for anxious youth have been published. A closer examination of the literature reveals that only 13 of these studies can be considered RCTs, using the criteria outlined by Kendall, Holmbeck, and Verduin (2004). Consistent with the definition of an RCT, these 13 studies examined the efficacy of CBT by randomly assigning children and adolescents with one or more *diagnosed* anxiety disorder(s), and/or their parents, to receive individual, group, or family CBT or an equivalent *inactive* control and utilized at least one diagnostic measure as a primary



treatment outcome measure when examining between-group differences. In each of these studies, outcome was evaluated during pre- and post-treatment and follow-up assessments. Diagnostic outcomes were generally reported as either the number of pretreatment primary diagnoses that were no longer primary at posttreatment or that were no longer present at posttreatment, suggesting that they had remitted.

Across trials, youth randomized to receive CBT had a 57.0% chance that they were free of their primary diagnosis following treatment (370/648). In contrast, youth who were randomized to inactive control groups had a 31.8% chance of remission (91/286). Response rates for CBT ranged between 50 and 75%, depending on how results were reported, reaffirming the status of CBT as a “probably efficacious” treatment.

Although these findings are highly promising, they must be interpreted with caution due to the presence of methodological issues evident in the CBT literature. For example, very few published studies provide results for the intent-to-treat sample, focusing instead on study completers. Albano and Kendall (2002) warn that in the most methodologically rigorous trials, when results of intent-to-treat analyses are reported, the effects of CBT are more modest. For example, using intent-to-treat analyses, Flannery-Schroeder and Kendall (2000) reported results indicating that 50% of youth receiving ICBT were responders to treatment, compared to 73% if results regarding treatment completers are reported. With regard to treatment outcome, one of the most commonly reported results is improvement on diagnostic measures. Specifically, many studies report the percentage of children whose pretreatment primary anxiety disorder is no longer primary at posttreatment. As discussed by Albano and Kendall (2002), this approach disregards the continued presence of comorbid anxiety or other diagnoses, the presence

of symptomatology present at the sub-clinical level, and global impairment in functioning. Another methodological issue concerns the use of a wait-list control condition: does trial after trial simply prove that some form of treatment is better than no treatment? Although an education and support condition often seems to be a viable alternative to wait-list control, it is often the case that CBT techniques are inadvertently used (e.g., Kendall et al., 2008), turning a seemingly “inactive” condition into a more active intervention.

There is a striking heterogeneity in extant research examining the efficacy of CBT for anxious youth that makes direct comparisons difficult. Studies differ with regard to the number and length of sessions and participants in the session, as well as content and format of sessions, to name just a few differences. Even elements that are common across programs, such as engaging in gradual, hierarchically-based exposure to anxiety-provoking situations, are variable across studies. Across trials, the number of sessions allotted for engagement in exposure treatment has ranged from six to nine (44% to 67% of the total number of treatment sessions), and some publications have not specified how many sessions were devoted to exposure treatment. This lack of uniformity across studies renders it difficult to draw conclusions about the number and type of exposure sessions needed for treatment-induced gains to occur. This example illustrates that while the review of extant research supports the notion that progress is being made in the development of interventions for the management of youth anxiety disorders, questions of underlying processes and mechanisms of change, as well as questions regarding the relative efficacy of specific versus nonspecific elements of CBT, remain.

#### Research on Predictors of Treatment Outcome

It is unrealistic to expect a 100% success rate for any treatment (see Kendall, 1989). Nevertheless, it is important to recognize that research on factors associated with treatment outcome may increase our understanding of which interventions provide the greatest benefits for certain youth and which elements of CBT are essential. This knowledge, in turn, may lead to improved response rates, as knowledge of the factors associated with success and failure has the potential to enhance the overall efficacy of empirically supported treatments (Kazdin & Kendall, 1998). A multitude of factors might account for variance in treatment response, including child and parent symptom variables (e.g., severity of disorder, comorbidity, parent psychopathology), youth, family, and/or therapist characteristics (e.g., age, gender, ethnicity, etc.), context variables, and/or process variables (e.g., therapeutic relationship). To date, research examining the impact that these variables might bear on treatment outcome for anxious youth is limited and has generally taken the form of secondary analyses in larger treatment outcome trials (e.g., Kendall, 1994). Aside from basic demographic variables, little research attention has been devoted to predictors of treatment outcome in RCTs (e.g., process variables), possibly because many of these trials are insufficiently powered to explore these hypotheses. Few studies have systematically examined potential predictors of treatment outcome for anxiety disorders in youth, despite calls for such research (e.g., Kazdin and Kendall, 1998).

Although not the primary focus of these trials, several RCTs examined associations between pretreatment youth, parent, or family characteristics and treatment outcome. The majority of studies indicated that demographic variables are not associated with treatment success or failure (e.g., Kendall, 1994; Kendall et al., 1997, 2004, & 2008;

Silverman et al., 1999b; Treadwell, Flannery-Schroeder, & Kendall, 1995), but other studies found different results. For example, Kendall (1994) reported that pretreatment youth variables, such as age, gender, and ethnicity, family characteristics, such as parents' marital status, fathers' level of education, and household income, and parental psychopathology were unrelated to treatment outcome. In contrast, Barrett et al.'s (1996) findings differed: the authors reported different success rates by gender and age in response to their CBT alone vs. CBT plus family anxiety management training (CBT + FAM) in a sample of 79 AD youth. Specifically, younger children (ages 7 to 10) responded better to the CBT + FAM condition, whereas older youth (ages 11 to 14) did not show differential response to treatment. Additionally, female participants responded better in the CBT + FAM condition, while male participants responded equally well to both forms of treatment. It is important to note that similar findings have not been reported in subsequent RCTs by other researchers.

In an effort to address the gap in the literature on factors associated with treatment outcome, recent research efforts have involved focused, more systematic investigations of potential predictors of outcome for CBT for anxious youth. Berman, Weems, Silverman, and Kurtines (2000) investigated specific variables that may be associated with improved treatment response. Specifically, they examined youth's sociodemographic characteristics, diagnostic characteristics, treatment format, youth symptoms as reported by both youth and parent, parent symptoms, and marital adjustment in a sample of 106 AD youth (ages 6 to 17) and their parents, who participated in one of two RCTs examining the efficacy of CBT treatments for anxiety in youth (i.e., Silverman et al., 1999a; Silverman et al., 1999b). Two groups were formed for comparison purposes: a

treatment success and a treatment failure group. Treatment success was defined as either no longer meeting diagnostic criteria for the pretreatment primary anxiety disorder diagnosis or showing a major reduction of severity (i.e., a drop of  $\geq 4$  points on the clinician's severity rating). Treatment failure was defined as still meeting diagnostic criteria for the pretreatment primary anxiety diagnosis or not showing a major reduction in severity.

Results were consistent with those reported previously in numerous RCTs of CBT efficacy: no significant between-group differences were found on sociodemographic variables, diagnostic variables (i.e., primary diagnosis, total number of diagnoses, comorbidity of diagnoses, or severity of disorder), or treatment format (i.e., individual vs. group). However, a significant between-group difference was observed with regard to comorbid depressive symptoms: youth in the treatment failure group had significantly higher rates of comorbid diagnoses of major depression and higher levels of self-reported depressive symptomatology than youth in the treatment success group. Additionally, results indicated that youth trait anxiety was a significant predictor of poor treatment outcome, suggesting that youth whose anxiety is more stable and trait-like in nature may not respond as well to treatment. Finally, results indicated that parent self-reported psychopathology was negatively associated with outcome.

In a similar study, Southam-Gerow, Kendall, and Weersing (2001) examined correlates of treatment response both at posttreatment and one year following treatment for 135 AD youth (ages 7 to 15) who received at least 12 sessions of a manual-based CBT. Consistent with Berman et al. (2000), the variables measured included youth symptoms, youth characteristics, and context variables. The youth's perception of the therapeutic

relationship was also examined. For comparison purposes, youth were divided into two groups: poor treatment response and good treatment response. Treatment success was defined as the absence of any anxiety disorder following treatment based on parental report, a more stringent criterion than that used by Berman et al. (2000). Consistent with the findings reported by Berman et al. (2000), youth sociodemographic characteristics (i.e., gender, ethnicity, SES) were not associated with treatment outcome at posttreatment or 1-year follow-up. Similarly, family composition (single versus dual parent households), number of youth diagnoses, and the youth's perception of the therapeutic relationship did not predict treatment response at posttreatment or follow-up. Higher levels of parental- and teacher-reported pretreatment youth internalizing symptoms (including anxious and depressive symptoms) and higher levels of maternal self-reported depressive symptoms and trait anxiety were associated with poor treatment response. Additionally, older children did not respond as well to treatment as their younger counterparts: higher child age was associated with poor treatment response.

Crawford and Manassis (2001) extended the findings of Berman et al. (2000) and Southam-Gerow et al. (2001) by examining familial predictors of treatment outcome with a sample of 61 AD youth (ages 8 to 12) and their parents. Child- and parent-reports of family functioning, parenting stress, parental frustration, and parental psychopathology were compared at pretreatment and following 12 sessions of individual or group CBT. The results indicated that pretreatment family dysfunction predicted poorer treatment outcome on diagnostic measures. Perceived parental frustration also predicted reduced improvement on clinician- and child-rated outcome measures. Taken together, these results suggest that youth who perceive more problems or higher levels of frustration in

their families might be less responsive to treatment. It is possible that if youth perceive that they are the cause of their parents' frustration and negative family interactions, their anxiety is likely to be exacerbated. Other research (Victor, Bernat, Bernstein, & Layne, 2007) suggests that family cohesion (i.e., the emotional bonding that family members have towards one another and the degree to which family members are connected; Olson, 2000) is related to treatment outcome. Specifically, youth from families that score high on measures of cohesion have demonstrated significantly greater decreases in anxiety severity and impairment than youth from families who score low on measures of cohesion. Unlike previous studies, Victor et al. (2007) found no association between parental psychopathology and treatment outcome. However, parents from families low in cohesion reported significantly higher levels of parenting stress and psychopathology compared to parents from families high in cohesion, suggesting that low cohesion may be a proxy for general parental distress.

Preliminary work by Berman et al. (2000), Southam-Gerow et al. (2001), and Crawford and Manassis (2001) lay the groundwork for more recent research on predictors of treatment outcome in AD youth. Recent research has examined the potential impact of the youth's primary anxiety diagnosis on successful treatment outcome. Crawley, Beidas, Benjamin, Martin, and Kendall (2008) found that youth with a primary diagnosis of SP who presented for outpatient psychotherapy were less likely to respond favorably when compared to youth with another primary diagnosis, (i.e., GAD or SAD). The authors reasoned that one explanation for these findings is that SP in youth is highly comorbid with affective disorders, such as major depression or dysthymia. Consistent with Berman

et al.'s (2000) findings, it appears that youth who report a greater number of depressive symptoms are likely to show decreased response to treatment.

Given that youth anxiety disorders are highly comorbid with other forms of pathology, such as affective disorders (e.g., Brown & Barlow, 1992), comorbidity has also received research attention as a potential moderator of treatment outcome. Analyses conducted as part of larger RCTs have generally found that fewer disorders at pretreatment do not seem to predict greater treatment gains (e.g., Kendall, 1994; Kendall et al., 1997). In a more direct examination of the impact of comorbidity on treatment outcome, Kendall, Brady, and Verduin (2001) conducted a study with 173 youth, ages 8 to 13, who had participated in two previously published RCTs examining the efficacy of CBT for anxious youth (i.e., Kendall, 1994; Kendall et al., 1997). Results indicated that youth with comorbid diagnoses at pretreatment were not significantly less likely to respond to treatment as indicated by remission of their primary diagnosis. In a more recent, yet unpublished, examination of the impact of comorbidity on treatment outcome, Kendall and colleagues (2008) found similar results. Specifically, this study examined the impact of co-occurring obsessive-compulsive disorder (OCD) on treatment outcome in a sample of 14 youth with a primary diagnosis of GAD, SAD, or SP. Results indicated that, relative to AD youth without comorbid OCD ( $n = 100$ ), AD youth with OCD did not show a differential response to treatment on diagnostic measures. Consistent with these results, the few studies that have addressed prediction of treatment outcome in CBT for anxious youth have been unable to identify many variables or sets of variables that are associated with treatment outcome.

#### Research on Mediators of Treatment Outcome



Studies have examined specific, theoretically-driven variables as mediators of treatment outcome in youth anxiety disorders. For example, Treadwell and Kendall (1996) evaluated the relationship between the use of positive and negative self-statements at pretreatment and treatment outcome in 71 AD youth (ages 8 to 13) and found that negative self-statements significantly predicted higher posttreatment self-reported anxiety severity and mediated treatment gains. In another study, Chu and Kendall (2004) found that child involvement, defined as the youth's willingness to behaviorally participate in therapy tasks and to self-disclose, ask questions, and mentally engage the therapeutic material, in a manual-based CBT for youth with anxiety disorders was reliably associated with clinical gains. In this study, selected audiotapes of therapy sessions from the first half of a sample of 63 youth (ages 8 to 14) with a primary anxiety disorder diagnosis were coded by independent raters using the *Child Involvement Rating Scale* (Chu & Kendall, 1999). Results indicated that greater levels of youth involvement, measured just prior to the midpoint of treatment (i.e., before the start of exposure tasks), were associated with significant treatment outcomes on diagnostic measures (i.e., absence of pretreatment primary anxiety disorder or improvement in impairment ratings). The authors noted that strong involvement-outcome relationships were not evident until midtreatment, right before the start of the exposure portion of treatment. The clinical implications of this finding cannot be underestimated: youth involvement seems critical heading into behavioral exposures. The authors recommended that youth involvement be assessed prior to exposure tasks to assess the child's readiness. The results from this study also indicated that involvement shifts (i.e., changes in involvement from earlier to later sessions) were associated with response to treatment: youth who demonstrated large

negative involvement shifts (i.e., became significantly less engaged as treatment progressed) experienced less than half the success rate (22.2%) of the overall sample (50.9%). Collectively, these findings highlight the importance of maintaining baseline levels of involvement throughout treatment with CBT for anxious youth.

It has been suggested that client involvement in therapeutic tasks is likely facilitated by a strong therapeutic alliance (Chu & Kendall, 2004; Shirk & Karver, 2006), with alliance defined as the relational, emotional, and cognitive connection between a client and therapist (Karver, Handelsman, Fields, & Bickman, 2005). Therapeutic alliance, a term often used interchangeably with therapeutic relationship, is different from client involvement or engagement on specific therapy tasks (see Karver et al., 2008), and while it is undoubtedly intertwined with client involvement (i.e., stronger alliance leads to increased involvement), Hill (2005) contends that the two are conceptually and methodologically separable.

The association between alliance and outcome in treatment for childhood anxiety disorders is another area that has received little research attention. This is particularly unfortunate given that AD youth have been shown to rate their relationship with their therapist as one of the most important factors in their treatment, even after three years following their initial treatment (Kendall & Southam-Gerow, 1996). Preliminary work suggested that process variables such as the youth's perceptions of the therapeutic relationship or therapists' perceptions of parental involvement were not associated with successful outcome (Kendall, 1994). Similar results were found in the most recent RCT conducted by Kendall's group (2008).

However, other research suggests that the relationship between process variables, such as alliance, and treatment outcome merits attention. Creed and Kendall (2005) examined therapist alliance-building behavior in a sample of 56 AD youth (ages 7 to 13) receiving 16 sessions of manualized CBT. Youth and therapist perspectives of the relationship alliance were measured using the *Therapeutic Alliance Scales for Children* (TASC; Shirk & Saiz, 1992), and the first three sessions of CBT were coded by independent observers on several dimensions of positive (e.g., customizing session for the youth, playfulness, collaboration, finding common ground, etc.) and negative (e.g., pushing the youth to talk, being overly formal, not following through on promises, etc.) therapist behavior. Results indicated that the presence of collaboration predicted early youth ratings of a stronger alliance, whereas a therapist pushing the youth to talk or trying too hard to emphasize common ground predicted early youth ratings of a weak alliance and continued to predict lower ratings of alliance in later sessions (i.e., session 7). These results indicate a link between specific forms of therapist behavior and subsequent ratings of alliance.

What happens to alliance during later sessions of treatment? In CBT for anxious youth, these later sessions generally involve gradual exposure to feared situations, which may negatively impact therapeutic alliance. In a study using the same sample as Creed and Kendall (2005), Kendall et al. (2009) found that alliance ratings grew significantly across the first 8-10 sessions of treatment and then leveled over time, not decreasing at any point during the exposure-based portion of treatment. Taken together with the results of Creed and Kendall (2005), these findings suggest that, in CBT for anxious youth, if

therapeutic alliance is established early in treatment, it is likely to be maintained throughout treatment.

Although the relationship between alliance and treatment outcome was not a focus of these studies, other research suggests that therapeutic alliance is associated with treatment outcome (e.g., Shirk & Karver, 2003; Karver et al., 2008). Indeed, preliminary evidence suggests that therapeutic alliance and youth involvement might be especially important in CBT as opposed to nondirective or supportive treatments (see Karver et al., 2008), but further research is needed before definitive conclusions can be drawn.

Given that increased understanding about how specific aspects of the therapeutic relationship are related to treatment outcome might assist in the development of more effective interventions for children and adolescents, the importance of continued research in this area cannot be underestimated. In addition to further examination of the therapeutic relationship, youth involvement, and therapeutic alliance, it is important to examine specific process variables, such as therapists' use of interpersonal skills, therapist self-disclosure, and therapist direct influence skills (i.e., competence, presenting information clearly and with an understandable rationale) as they relate to treatment outcome in CBT for anxious youth. Future research should take into account certain methodological considerations. For example, as described in Hughes and Kendall (2007), studies that examine the youth's perception of the therapeutic relationship at one time point, usually at the end of treatment, are likely to find a ceiling effect: most youth give their therapists positive ratings. These ratings are also potentially confounded by improvement experienced as the result of treatment. Shirk and Karver (2003) found that therapists' ratings of the therapeutic relationship were more strongly related to outcome

and showed more variability than youth ratings. As recommended by Shirk and Karver (2003), future research should assess the therapeutic relationship over the course of therapy to prevent inflation of the relationship-outcome associations when the relationship is assessed at the end of treatment. Following this recommendation, Hughes and Kendall (2007) found that therapist ratings of the therapeutic relationship across 14 sessions significantly predicted lower primary anxiety disorder severity at posttreatment ( $n = 138$ ) and 1-year follow-up ( $n = 121$ ) for children who received CBT for anxiety disorders, accounting for 4% and 7% of the variance in outcome, respectively.

In summary, preliminary conclusions can be made with regard to predictors of treatment outcome in CBT for anxious youth. Extant research suggests that pretreatment demographic characteristics (e.g., age, gender, and SES) are not strong predictors of treatment outcome. Co-occurring depressive symptoms may decrease response to treatment. Parental psychopathology and familial factors, such as cohesion, may be associated with treatment outcome but it remains unclear if this holds true for youth receiving individual CBT or if it is limited to CBT that involves an adjunctive parent component (e.g., Barrett et al., 1996). Research on process variables and their relation to outcome, albeit limited, suggests that a strong therapeutic alliance enhances youth involvement in therapeutic tasks, which, in turn, mediates better response to treatment. Despite some inconsistent findings and methodological limitations, these preliminary studies on predictors of treatment outcome in CBT collectively reflect the field's growing awareness of the need to improve the efficacy of interventions for anxious youth.

Efforts to improve treatment guide research efforts designed to investigate specific treatment components in CBT. What are the “active ingredients” in CBT for AD

youth that may lead to improved treatment response? As a first step in answering this question, it is important to consider aspects of CBT programs common across RCTs that have examined the efficacy of CBT with different age groups, including parents as co-clients vs. collaborators in treatment, in different countries, and with specific clinical populations. Although some variability exists among CBT programs in terms of content (i.e., relaxation training, social skills, parent training), format (i.e., individual, group, or family-based), and duration (12-20 sessions), a common component of all successful CBT programs is engagement in gradual exposure to feared situations via hierarchically-ranked exposure tasks.

#### Exposure Tasks in CBT for Anxious Youth

Marshall (1985) described exposure as any procedure that requires confrontation with a stimulus that typically elicits an undesirable behavior or an unwanted, usually negative, emotional response. From the behaviorist perspective, anxiety disorders are characterized by continuous attempts to avoid confrontation with fear-evoking cues (Mowrer, 1960). Contemporary theorists agree that avoidance remains a key behavioral characteristic of anxiety in adults (Barlow, 2002; Borkovec, Alcaine, & Behar, 2004) and youth (Kendall & Suveg, 2010). Avoidance responses are made consistent with the belief that they will prevent a negative or unwanted outcome. Escape responses, which often precede avoidance, are responses that “stop” a negative condition from occurring. The avoidance seen in anxiety disorders is the continuation of a response which is believed to prevent a feared negative outcome from occurring. The avoidance seen in anxiety disorders can be considered maladaptive: when a feared situation/stimulus is repeatedly avoided due to unreasonable or excessive responses to *perceived* as opposed to actual

threat, it may cause marked distress and interrupt developmentally appropriate activities (Himle, Fischer, Lee, & Muroff, 2006). Foa and Kozak (1986) propose that the psychotherapeutic environment is one in which confrontation with fearful events can be promoted so that changes in affect can occur. In CBT for anxious youth, this confrontation is achieved via hierarchy-based exposure tasks.

As described in Bouchard, Mendlowitz, Coles, and Franklin (2004), exposure procedures, can take many forms. The most common form is gradual exposure, where a hierarchy of stimuli is created and then confronted by the client, slowly progressing from situations that are deemed to provoke minimal to mild levels of anxiety to the most challenging fear-inducing situations. An alternate, more intensive approach is flooding, in which the initial confrontation with stimuli is designed to elicit the strongest emotional response a client can tolerate. The rate at which exposures occur can also differ: they can be massed (i.e., one after the other) or spread out over time. The fear-inducing stimuli used for exposure can be internal (e.g., body sensations, intrusive thoughts, mental rituals, worries, etc.) or situational (e.g., places, objects, individuals, animals, etc.) and can be presented in real life (i.e., in vivo) or imagined (i.e., imaginal). Regardless of the type of exposure technique used, the purpose is uniformly the same: to create a strong emotional experience involving prolonged, systematic, and repeated contact with the avoided stimuli or situations.

The importance of exposure tasks in CBT for anxious youth is widely accepted. Kazdin and Weisz (1998) consider exposure treatment to be a key element of all CBT programs for anxious youth. Others have asserted that exposure is an important, if not the most important, therapeutic ingredient in CBT for anxiety disorders (Antony & Swinson,

2000; Barlow, Gorman, Shear, & Woods, 2000; Bouchard et al., 2004; Kendall et al., 2005; Rapee, Wignall, Hudson, & Schniering, 2000). In some CBT programs for anxious youth, exposure sessions comprise as much as 67% of all treatment sessions.

Interestingly, youth who have completed treatment with CBT may also view exposure tasks as an important part of treatment. Kendall and Southam-Gerow (1996) assessed 36 youth previously diagnosed with an anxiety disorder approximately 3.35 years after they had completed treatment with a manualized CBT program. Seventeen percent of children recalled in-vivo exposure tasks as being the most important aspect of treatment.

Approximately 19% of youth reported that they actually enjoyed engaging in in vivo exposure tasks during treatment. Moreover, youth seemed to remember the in vivo tasks that had been conducted while they were in treatment: 69% of youth said “yes” when asked. Results indicated that remembering in vivo exposure tasks was associated with a decrease in youth-reported anxiety symptoms at long-term follow-up.

Empirical evidence supports the importance of exposure tasks in CBT for youth with anxiety disorders (March, 1995). Eisen and Silverman (1993) used a multiple-baseline design to compare the use of cognitive restructuring skills plus exposure, relaxation skills plus exposure, and a combination of cognitive restructuring skills and relaxation plus exposure in a sample of four youth diagnosed with OAD. Results indicated that the three treatments produced equivalent changes on child-, parent-, and clinician-rated measures of anxiety at posttreatment and 6-month follow-up assessments. Although this study was limited by its small sample size, it provided some early empirical evidence for the use of gradual exposure plus either cognitive restructuring and/or relaxation techniques with anxious youth. While the exclusive impact of exposure



on treatment gains was not examined, it was the common element among the different treatments, suggesting that it might be the effective ingredient.

In a somewhat more direct examination of the impact of exposures on treatment outcome, Kendall et al. (1997) conducted assessments at the midpoint of a 16-session CBT program (i.e., after 8 weeks of educational/skills training and immediately prior to 8 exposure-based sessions), as part of a larger RCT in which CBT was compared to 8 weeks of a wait-list control. No significant differences were observed on child- and parent-reported measures of anxiety between the active treatment group and the wait-list group after 8 weeks. However, between-group comparisons after the full course of treatment (i.e., 16 weeks) and after 8 weeks of wait-list revealed significant differences on parent- and child- rated measures of anxiety. Although preliminary, these results provide indirect evidence that the educational skills/training segment of treatment was not sufficient to produce the beneficial gains observed following 16 weeks of treatment, but that the second 8 weeks of treatment, the exposure segment, whether alone or in combination with the first half of treatment, did contribute to producing significant reductions in anxiety symptoms. Similar results were obtained by Silverman et al. (1999a) who compared two exposure-based conditions in an RCT for youth with phobic disorders: a self-control (SC) condition, which included gradual exposure to feared situations preceded by a skills-training component (i.e., cognitive restructuring, self-evaluation, self-reward), and a contingency management (CM) condition, which included gradual exposure to feared situations with adjunctive parent training in techniques such as positive reinforcement, shaping, and consistency. Posttreatment assessments revealed that 88% of youth in the SC group no longer met criteria for their anxiety disorder at the end

of treatment, compared to 55% of youth in the CM group. The findings are consistent with Kendall et al.'s (1997): exposure treatment, preceded by skills training, leads to improved treatment outcome.

Although there is a paucity of research in this area in the youth anxiety literature, in the adult anxiety literature, empirical evidence regarding the exclusive impact of exposure tasks in CBT is abundant. In their review, Foa and Kozak (1985) provided a wealth of evidence that attests to the efficacy of exposure techniques. Several studies indicate that exposure-based treatment, without an added cognitive restructuring or relaxation component, may be sufficient to induce change in adults with anxiety disorders (e.g., Arntz, 2002; Bouchard et al., 1996; Foa, Rothbaum, Riggs, & Murdock, 1991). Notably, it is not uncommon for effect sizes for combined (i.e., cognitive restructuring plus exposure) and exposure-only therapies to be roughly equivalent (e.g., Feske & Chambless, 1995). Regardless, it is evident across the adult literature, and to a lesser extent in the child literature, that exposure-based techniques are a critical component of CBT for anxiety disorders. Given that exposure tasks are common to most, if not all, CBT for youth anxiety disorders and preliminary evidence suggests that exposure might be the most effective ingredient in CBT, research is needed to examine which specific elements of exposure-based sessions are critical and predict differential response to treatment.

### *Theoretical Perspectives on Exposure Tasks*

Further consideration of the theoretical underpinnings of the inclusion of exposure techniques in contemporary CBT programs is warranted. This chapter now reviews behavioral and cognitive theories regarding potential mechanisms of action that may be

associated with the effectiveness of exposure-based treatment, discusses the importance of exposure tasks in CBT for anxious youth, and reviews guidelines for conducting exposure tasks. Empirical evidence regarding specific elements of exposure tasks associated with differential treatment outcome is presented, with concluding remarks focusing on areas in need of further research.

*Behavioral theories.* Historically, the processes by which exposure leads to improvement have been debated by theoreticians and researchers alike (see Bouchard et al., 2004; Kendall et al., 2005). Most of the early work on exposure techniques operated from the behavioral viewpoint that anxiety disorders are founded in abnormal associations among stimuli and responses (see Foa & Kozak, 1986). Fear acquisition is believed to occur through classical conditioning (Pavlov, 1927): it is believed that a neutral stimulus (NS; e.g., a dog) is paired with an unconditioned stimulus (US; e.g., pain) and produces an unconditioned response (UR; e.g., fear). Within this framework, it is believed that repeated presentations of these pairings or a single pairing of a high enough intensity will ultimately lead to the UR (fear) being experienced in the absence of the US (pain). In other words, a fear response might be triggered by the mere presence of a previously neutral stimulus (e.g., a dog). In this way, a child might learn to fear dogs if he/she is bitten by a dog and experiences pain. Alternately, the child may learn to fear dogs by watching someone else being bitten by a dog (i.e., vicarious learning or modeling; Bandura, 1967). Although fears may be acquired through classical conditioning processes or modeling, they are maintained through operant conditioning (Skinner, 1938, 1953): avoiding the fear-inducing stimulus leads to a reduction in fear (i.e., negative reinforcement). For example, a child who becomes afraid of dogs after

being bitten is likely to avoid being in places where dogs are present, such as the park, and therefore does not experience the anxiety associated with being around dogs. In this case, the child's avoidant behavior is negatively reinforced.

According to the behavioral view, fear reduction is hypothesized to occur through stimulus-response dissociations. Early work by Jones (1924) suggested that fear could be reduced by presenting a pleasant stimulus concurrently with an anxiety-provoking stimulus, a process that later came to be known as counterconditioning (Wolpe & Lazarus, 1966). Based on these principles, Wolpe (1958, 1995) developed a behavioral treatment known as systematic desensitization, which involved gradual exposure to feared stimuli while simultaneously engaging in a process called reciprocal inhibition, or the suppression of a fear response by engaging in a biologically incompatible behavior, such as relaxation. In treatment, systematic desensitization involves the creation of a hierarchy of fear by the individual and his/her therapist, which progresses from low to medium to high-level anxiety-provoking situations. The procedure begins by confronting situations low on the fear hierarchy while engaging in reciprocal inhibition and then moving up the hierarchy when the previous situation is no longer anxiety-provoking or elicits only minimal levels of fear. In this manner, a stimulus-response dissociation has occurred.

Although appealing, empirical evidence has not necessarily supported Wolpe's technique. Gillian and Rachman (1974) demonstrated that individuals can experience decreased anxiety during exposure even when they are not actively engaging in reciprocal inhibition. Additionally, flooding has proven to be an effective technique for some: individuals have shown fear reduction when presented with the most anxiety-provoking

stimuli first, suggesting that gradual exposure is not a necessary condition for anxiety reduction to occur (Marks, 1987; Wilson, 1973). As noted in Kendall et al. (2005), however, gradual exposure may decrease treatment attrition by making treatment “more palatable” (p. 137).

According to the behavioral view, other examples of stimulus-response dissociations include extinction and habituation (see Kendall et al., 2005). Extinction occurs when the UR no longer follows the CS over repeated trials. To revert to the earlier example, if a child with a fear of being bitten by a dog is repeatedly in the presence of a dog without being bitten, the fear response will become dissociated from the stimulus (i.e., the dog). Additionally, by actually confronting the feared stimulus, the anxious individual will no longer be negatively reinforced for avoiding the stimulus. Rather, the individual will experience a decrease in anxiety *in the presence of* the stimulus. When an individual stays in the presence of an anxiety-provoking stimulus for an extended period of time until fear is no longer experienced, habituation is said to have occurred.

According to Foa and Kozak (1986), techniques such as systematic desensitization that are deeply rooted in traditional learning theory are limited in that they focus exclusively on stimulus-response associations and overlook some aspects of the meaning of the associated events that are involved in learning. Additionally, behavioral theories have failed to specify the optimal conditions for effective exposure, the detrimental role of safety-seeking or subtle avoidance behavior, or the persistence of some fears despite repeated stimulus presentations (e.g., Bandura, 1986; Davey, 1992; Rachman, 1991). Given these limitations of traditional behavioral accounts, contemporary theorists have shifted their attention to cognitive processes as potential

mechanisms of action in exposure, specifically the information processing and cognitive mediation assumed to underlie the experience of fear.

*Cognitive theories.* Craske and Rowe (1997) comment that more recent theories of exposure focus on “cognitive mediation of outcome expectancies regarding the dangerousness of phobic stimuli (emotional processing theory), expectancy of anxiety (emotional processing and predictive accuracy), and self-efficacy” (p. 259). Cognitive theories posit that the effectiveness of exposure lies in its ability to change associations between perceived threat and the feared stimuli. Examples of such theories include Rachman’s (1991) neo-conditioning theory and Foa and Kozak’s (1986) emotional processing theory.

Rachman’s (1991) neo-conditioning theory is based in part on the premise that “conditioning is not merely a transfer of power from one stimulus to another” (p. 167). By this, Rachman was referring to behavioral theorists who believed conditioning could only occur if two stimuli were contiguous in time and space and viewed the organism as rather passive, subject to, and never in control of, stimulus-response relationships. In contrast, Rachman (1991) viewed the organism as an active participant in the conditioning process, an information-seeker, using logical and perceptual relationships among events to form a sophisticated representation of the world. Contrary to behaviorist beliefs, he believed that conditioning was a highly flexible and functional process.

Within this theoretical framework, Rachman and Bichard (1988) introduced the notion of predictive accuracy – fearful people tend to start out by *over*-predicting how much fear they will experience in certain situations or under certain circumstances and then learn to predict with increasing accuracy. Over time, through reinforcement, the

individual develops a drive to predict. Exposure treatment, then, would work to alter this anxiety expectancy and decrease the likelihood of accurate prediction.

Another compelling view of how exposure may lead to fear reduction is Foa and Kozak's (1986) emotional processing theory of fear. Using Lang's (1977, 1979) bioinformational conceptualization of fear as a guide, Foa and Kozak (1986) posit that fear is represented as a network in memory that includes three kinds of information: (a) information about the feared stimulus or situation; (b) information about verbal, physiological, behavioral, and overt behavioral responses to the feared stimulus or situation; and (c) interpretive information about the meaning of the stimulus and response elements of the structure. According to the authors, this information structure can be thought of as a program for escape or avoidance behavior, a program that must involve information that specific stimuli or situations are dangerous, as well as information about physiological activity that is preparatory for escape. In other words, to be a fear structure, this program must involve some notion of escape from threat. According to Foa and Kozak's (1986) model, normal fear structures are distinguished from pathological fear structures in that the latter involve excessive response elements (e.g., avoidance, physiological activity, etc.) and resistance to modification.

Given this resistance, Foa and Kozak (1986) argue that two conditions are required for fear reduction: (a) fear-relevant information must be made available in a manner that will activate the fear memory or structure; and (b) the information made available must include elements that are incompatible with some of those that exist in the fear structure so that a new memory can be formed. For an emotional change to occur, the authors state that this new information, which is both cognitive and affective in nature,

must be integrated into the evoked fear structure. This process, which ultimately leads to a decrease in emotional responses, is referred to as emotional processing. Of note, Foa and Kozak's (1986) view that emotional processing involves incorporation of new information into an existing fear structure allows for either increased or decreased emotional responding. Therefore, exposure to information that is consistent with a fear memory would be expected to strengthen the fear, while information that is inconsistent would lead to fear reduction. Behavioral treatments, such as exposure, then, are designed to provide information that is sufficiently incompatible with the fear structure to reduce fear.

Within the framework of emotional processing, the effectiveness of exposure-based treatments can be explained as follows: long lasting fear-reduction is possible because structural change (i.e., learning) has occurred. Foa and Kozak (1986) propose several mechanisms that might facilitate learning. First, through exposure, the individual is able to dissociate negative physiological responses from stimulus situations. In other words, as physiological responses decrease during confrontation with feared situations, interoceptive information about the absence of physiological arousal is generated. This weakens the preexisting links between stimulus and response elements, and the resulting, less "unitized" configuration of elements is less readily evoked by information that matches only some elements of the fear structure. Next, this lowered arousal facilitates the integration of corrective information about the meaning of the feared stimuli and associated responses. Specifically, propositions about potential threat are modified and produce a change in the representations of the probability of feared consequences. Representations of lowered potential harm and decreased negative valence (i.e., reduction



in the discomfort that is believed will necessarily occur when faced with the fear-inducing stimulus) prevent avoidance from occurring, thereby reducing the associated physiological arousal. This leads to habituation and facilitates long-term decreases in anxiety.

Despite differences, contemporary cognitive theories such as Rachman's (1991) and Foa and Kozak's (1986) share some common ground. Based on learning principles, these theories posit that fear is the result of internal representations of stimuli, actions, and outcome. Fear stimuli are associated with danger, and the internal representations of these stimuli involve not only information about the feared stimuli, but also the general meaning of the stimuli, the feared reaction, and the response behaviors. According to these theories, the effectiveness of exposure lies in its ability to provide corrective information that is incompatible with the dysfunctional associations stored in memory and its ability to facilitate the formation of new and more functional associations (see Bouchard et al., 2004).

Although a thorough review of the empirical evidence surrounding each of these theories is beyond the scope of this chapter, it is important to note that indirect empirical evidence for cognitive theories of fear development and reduction has been found in studies of the effect of attention versus distraction during exposure, as well as the generalization of effects observed during exposure treatment (Foa and Kozak, 1986; Kendall et al., 2005). According to the cognitive view, emphasizing the processing of fear-relevant information (i.e., attention) should maximize the effectiveness of exposure (see Bouchard et al., 2004). Grayson, Foa, and Steketee (1986) examined the effect of attention during exposure therapy in a sample of 17 individuals with obsessive-

compulsive disorder (OCD) who had contamination fears and engaged in cleaning rituals. Individuals received exposure with distraction (i.e., holding a contaminant while playing a video game) on one day, followed by exposure with attention (i.e., holding a contaminant and sharing thoughts with their therapist about holding the contaminant) the next day, or vice versa. Results indicated that gradual within-session anxiety reduction was observed in both the attention and distraction conditions on the first day. On the second day, however, fear reduction was *maintained* only in individuals in the attention condition, while individuals in the distraction condition returned to their original level of fear. Consistent with these results, Mohlman and Zinbarg (2000) manipulated the intensity of focus or distraction among 72 arachnophobic individuals while they were exposed to a live tarantula. Although distraction led to less self-reported anxiety, attention was associated with a stronger reduction in fear. Thus, in line with the cognitive viewpoint, long-term fear reduction occurs when there is a loosening of the associations in memory associated with a fear stimulus, and this reduction is facilitated by active processing (i.e., attention, focus) of fear-relevant information.

Additional indirect evidence for cognitive theories of fear reduction through exposure can be found in the generalization of effects that is observed during exposure treatment with anxious children. It is not uncommon to observe that a successful exposure trial with one stimulus/situation is often accompanied by a reduction in anxiety to other stimuli/situations. With these types of generalization effects occurring during exposure, some have speculated that cognitive changes must underlie effective exposure treatment. Cognitive theories of anxiety reduction suggest that introducing information into a fear representation (or program, structure, or schema, depending on the theorist)

that is inconsistent with the existing information will eventually dismantle the fear representation and lead to anxiety reduction. Repeated instances of this phenomenon might produce a cognitive shift, leading anxious individuals to reinterpret and change how they view anxiety-provoking stimuli and their reactions to them (see Kendall et al., 2005).

Another explanation for cognitive shift is an increase in the individual's perceived self-efficacy (Bandura, 1977) or ability to cope during an anxiety-provoking situation. The notion of perceived self-efficacy has also been used as a potential explanatory mechanism of change of exposure-based treatment, given that it is involved more specifically in the reduction of avoidance behavior. According to Bandura (1977), people who perceive themselves as inefficacious in exercising control over potentially aversive events view such events anxiously, conjure up possible injurious consequences, and display phobic avoidance of them. Consistent with this, in their review of etiological factors that may lead to anxiety, Manassis, Hudson, Webb, and Albano (2004) state that anxious youth's coping styles (i.e., ways of managing unpleasant emotions) often lead them to avoid fearful situations, possibly because they feel incapable of effectively managing these situations. By broadening an anxious youth's coping repertoire (i.e., helping them develop effective coping skills), CBT can be helpful in introducing the youth to alternatives to avoidance. Exposure-based treatment allows the youth to practice these skills in situations he or she has identified as fearful. If the youth is able to experience mastery in these situations, a newfound sense of self-efficacy may result. Consistent with this, Kendall et al. (1997) found that anxious youth rated their ability to cope with feared situations as much higher following exposure tasks. Kendall et al.

(2005) assert, in accord with Bandura's (1977) theory, that the knowledge that coping skills are available to manage anxiety (i.e., avoidance is not the only option) is likely to increase perceived self-efficacy and decrease threat, thereby leading to anxiety reduction. Proponents who ascribe to this theory argue that the key element in exposure is that anxious behavior is more accurately predicted by perceived self-efficacy than by changes in the level of anxiety or cognitive changes experienced by the individual.

#### *Guidelines for Conducting Effective Exposure Tasks in Treatment with Anxious Youth*

Although there is currently no consistent evidence supporting the superiority of one theoretical explanation over the others, one indisputable truth is evident: exposure treatment is effective. As it relates to the treatment of anxious youth, exposure tasks allow youth to “face their fears” while developing adaptive behavior in response to a feared stimulus or situation (Kendall et al., 2005). Given that avoidance remains a key characteristic of anxiety disorders in youth (Kendall & Suveg, 2006), it is not uncommon for youth to have engaged in clinically significant levels of avoidance of anxiety-provoking situations by the time they present for treatment. It is also possible that youth have attempted enduring anxiety-provoking situations independently but have not experienced success. In CBT for anxious youth, after acquiring the necessary education in coping skills needed to manage anxiety-provoking situations, the therapist, in collaboration with the youth, plays an active role in planning and conducting effective exposure tasks. As described in Kendall et al. (2005), the therapist's role is similar to that of a supportive, yet challenging, coach whose goal is to help the youth genuinely engage with (i.e., not avoid) the exposure task and test predictions regarding negative outcomes.

Over time, it is hypothesized that participation in exposure will help the youth feel a sense of mastery and success in situations where he/she might not have felt it previously.

Given the widely accepted importance of exposure treatment when working with anxious youth, there has been an increase in the dissemination of information regarding the general guidelines associated with conducting effective exposure-based treatment with anxious youth. Although there exists some variability in the specifics outlined by different adaptations of CBT (e.g., Albano et al., 1995; Barrett et al., 1996; March & Mulle, 1998), the majority of programs ascribe to a common set of principles when conducting exposure treatment. In recent years, Bouchard et al. (2004), Kendall et al. (2005), and Rapee et al. (2000) have independently published compilations of guidelines, along with specific exposure techniques that they recommend, for use by clinicians working with anxious youth. A review of these guidelines indicates that the elements of exposure tasks in treatment considered to be critical (i.e., emphasized by experts) can be categorized in three general ways: (a) factors relating to the therapeutic relationship, such as collaboration; (b) technical characteristics of the exposure treatment itself, such as frequency, duration, type of exposure (e.g., imaginal vs. in vivo), location, parental presence during exposure tasks, etc.; and (c) implementation of effective exposure treatment (i.e., preparation, execution, and processing).

*Therapeutic relationship: Collaboration.* From creating a hierarchy of anxiety-provoking situations to planning exposure tasks that will occur between sessions to the implementation of within-session exposure tasks, collaboration between a youth and his/her therapist is widely recognized as being a critical element of effective exposure treatment for anxious youth (see Bouchard et al., 2004; Kendall et al., 2005). Because

collaboration has been shown to improve therapeutic alliance (Creed & Kendall, 2005), which, in turn, has been found to be positively related to youth involvement in therapeutic tasks (Chu & Kendall, 2004), it follows that collaboration between a youth and a therapist is essential for treatment success. A strong, collaborative therapist-youth relationship seems especially important during the exposure phase of treatment, given the potential for distress when facing anxiety-provoking situations.

Given that therapeutic alliance may develop as early as the first three sessions of treatment (Creed & Kendall, 2005), the emphasis during the exposure phase of treatment is on maintaining already established rapport through collaboration. Prior to the start of exposure treatment, the therapist and youth work together to develop a hierarchy of anxiety-provoking situations (i.e., fear hierarchy or “fear ladder”) that the youth will progressively engage in during subsequent exposure sessions. Kendall and colleagues (2005) emphasize that the therapist should not make assumptions about the youth’s feared situations; rather, through a general dialogue, the therapist should obtain situations from the youth that target his or her specific fears. The therapist should, by this point in treatment, be fairly knowledgeable about the nature of the youth’s anxiety and can offer suggestions about anxiety-provoking situations if the youth is unable or unwilling to offer them. Once a list of situations has been generated by the youth and supplemented by the therapist, the two collaborate to determine if the situations produce a low, medium, or high level of anxiety for the youth, and the situations are then ordered from least to most anxiety-provoking. As stated previously, gradual exposure to anxiety-provoking situations may not be necessary for anxiety reduction to occur (e.g., Marks, 1987), but it

is likely to make treatment more appealing and is reflective of a collaborative effort to gradually introduce the youth to his/her fears.

After this hierarchy of anxiety-provoking situations has been created, it is important for the therapist to work with the youth to select which exposure tasks will be carried out during upcoming sessions, as well as between sessions, so the youth has opportunities to practice at home, at school, and/or in peer settings. Consultation and negotiation are part of the collaborative effort involved in the actual execution of exposure tasks, particularly if the youth shows resistance (Kendall et al., 2005). The therapist can provide several choices for current and future exposure tasks, allowing the youth to select which tasks he/she will participate in during which sessions, as well as what his/her reward will be for completing the task. Allowing the youth to experience a sense of control during exposure sessions is likely to increase motivation and compliance, further strengthening the therapeutic relationship.

*Characteristics of exposure tasks.* With regard to the more technical aspects of exposure, theoreticians and practitioners alike seem to agree that exposure therapy tends to be the most effective when it is prolonged, massed, and carried out in vivo (Bouchard et al., 2004; Foa & Kozak, 1986; Kendall et al., 2005; Rapee, 2000). With regard to length, there is a general consensus that the feared situation must be endured until at least some decrease in anxiety is experienced. Kendall and colleagues (2005) state that it is important for the youth to remain in contact with a feared stimulus or situation until anxiety is reduced by at least 50%. One way to determine if a youth has endured an anxiety-provoking situation for a sufficient amount of time is by tracking his or her Subjective Units of Distress/Discomfort Scale (SUDS; Wolpe, 1969) ratings. With youth,

SUDS scales often range from 0 to 10 (Wolpe, 1969) or 0 to 8 (Kendall & Hedtke, 2006), with 0 indicating “no distress” and 8 or 10 indicating the “highest level of situational distress.” During exposure tasks, the therapist can ask the youth to rate his or her peak anxiety level. This can be done right before the start of an exposure task, at timed intervals during the exposure task, and/or after completion of the exposure task, depending on the nature of the task. The therapist usually can also assign a SUDS rating for the youth, if he or she appears to be inaccurately reporting the amount of distress experienced. Since decreasing ratings of distress can serve as a good indicator that the youth is feeling more comfortable in a feared situation, the length of an exposure task can be determined by a reduction in the youth or therapist’s SUDS ratings. Exposure tasks allow the youth opportunities to test negative predictions (e.g., “If I get up in front of a group and give a speech, someone will laugh at me”), as well as to experience anxious feelings and learn that they decrease over time (i.e., learning that the anxiety will not “go on forever”). Therefore, exposure tasks must be of adequate duration, as leaving a situation too early may not allow fears to be sufficiently challenged and the same level of anxiety might arise in a future situation (Bouchard et al., 2004). Depending on the nature and severity of the youth’s anxiety, exposure duration can vary from several minutes to an hour or more.

Repetition of exposure tasks is also considered to be critical to treatment success (see Bouchard et al., 2004). Here again, SUDS ratings can be of value: the therapist and youth can compare the SUDS ratings at the start of an exposure task across several sessions, and the exposure task can be repeated until the ratings decrease (Kendall et al., 2005). Rapee and colleagues (2000) state that a general “rule of thumb” is that exposure



tasks should be repeated until they become “boring.” It is believed that repeated practice allows the youth to build a repertoire of successful experiences in anxiety-provoking situations, making it more difficult to discount successful experiences in the future and generate helpful coping thoughts (e.g., “I’ve done it before; I can do it again!”), and also allowing him/her to collect information that can help defuse negative predictions (“I got up in front of all those people, and not a single person laughed”). Practice in multiple settings, such as at home, school, or with peers is also encouraged because it is believed to produce generalization effects (Bouchard et al., 2004) and can also be useful when the optimal exposure cannot be conducted within the clinic setting (Kendall et al., 2005).

In addition to duration and frequency, the type of exposure tasks that will be conducted must also be carefully considered. When conducting exposure treatment with anxious youth, two types of exposure are commonly utilized: imaginal and in vivo exposure. Imaginal exposure tasks involve having the youth “role-play” the feared situation with the therapist, considering the different obstacles that might arise. Given that anxious youth often experience distress just by thinking or talking about anxiety-provoking situations, imaginal exposure can be used as preparation for in vivo exposure tasks, as it allows the youth to practice coping in anxiety-provoking situations prior to actually engaging in them (Kendall et al., 2005). Imaginal exposure tasks can also be useful for youth who have more abstract worries, such as youth who have GAD and often worry about health-related issues or death and dying. Imaginal exposure might take the form of having the youth discuss and explain the specifics of their feared catastrophe (e.g., getting sick, parents getting into a car accident, etc.), how the situation will progress, and how it might end (e.g., “Who would take care of you if something did

happen to your parents?"). The therapist can also have the youth write a story about a feared event, describing in detail what would happen, and then have the youth read the story out loud until his or her anxiety is reduced.

Once the youth has practiced through imaginal exposure, in vivo exposure tasks can begin. In vivo exposure involves actually being confronted with a feared situation or stimulus and enduring distress until some anxiety reduction is achieved. In vivo exposure tasks vary in content depending on the nature of the youth's anxiety and can be specifically tailored to address the youth's individual needs. For example, an in vivo exposure task for a youth with perfectionism worries might be to have him or her take a test in-session without being allowed to erase any answers or go back to double-check his/her work. For a youth with separation concerns, an in vivo exposure task might be to have the youth sit in-session while his or her parent leaves the clinic to run some errands. In addition to the nature of the youth's anxiety, it is also extremely important to consider the severity of the disorder when deciding on exposure tasks. For an extremely separation anxious youth, a first exposure session might involve having the parent leave the clinic for one or two minutes. This exposure task might require several repetitions during subsequent sessions before the youth feels comfortable with the parent leaving the clinic for longer periods. It might take even longer for the child to feel comfortable with having the parent sit on a different floor of the building during the youth's session or for the parent to be outside the building altogether. Regardless of the nature of the in vivo exposure task, it is important for the therapist to address the youth's expectations, prepare him/her for possible negative events, and help the youth problem-solve how he/she will cope with the situation.

This preparation is particularly important when exposure tasks are conducted outside the therapy setting. It is not uncommon for youth to become comfortable with in-session exposure tasks, because they might feel more secure than they would if the anxiety-provoking situation took place at school or in a peer setting. Consequently, it is important for the therapist and youth to collectively create a list of situations that can be practiced in between sessions, and for the youth to engage in these situations without the therapist present. The therapist can help the youth prepare for the in vivo exposure to be carried out between sessions using imaginal exposures. It is likely that the therapist will also need to consult with other adults in the youth's life, such as parents and teachers, to plan out-of-session tasks and facilitate the successful completion of these tasks. Parents of anxious youth often experience difficulty tolerating their child's distress level (see Tiwari et al., 2008), so it is important for the therapist to help the parent problem-solve ways that he or she can allow the youth to endure the feared situation and also to emphasize the importance of not supporting or reinforcing avoidance. As with in-session in vivo exposure tasks, out-of-session exposure tasks should take into consideration the nature and severity of the youth's anxiety. Continuing the example of the SAD youth used earlier, the first out-of-session exposure task might involve being on the same floor of the house as the parent but in a different room, while subsequent tasks might involve being on a different floor of the house or staying at a neighbor's house, without the parent, for increasing amounts of time. As the youth progresses through increasingly difficult in vivo exposure tasks, it is hoped that he or she will learn to challenge negative expectations, adequately cope with distress, and feel a sense of mastery (Kendall et al., 2005).

For younger children, it might be necessary to include parents when conducting in vivo exposure tasks. Research indicates that including parents in CBT for anxious youth can be beneficial (e.g., Barrett et al., 1996; Mendlowitz et al., 1999). Although Barrett et al.'s (1996) treatment included a family component that involved teaching parents how to manage their own anxiety, the parenting component of the Mendlowitz et al. (1999) study focused on teaching parents to be active coaches for their child and how to model effective coping strategies. The results for those receiving this treatment were positive, suggesting that parental involvement in treatment can be beneficial. Including parents in sessions with exposure tasks can also be beneficial in that it allows the therapist to model how to help the youth effectively manage their anxiety during a difficult situation. It might also provide a chance for parents to be “exposed” to their own feelings of distress when the child is anxious. Younger children are more likely to necessitate parental involvement with both in-session exposure tasks (e.g., if the youth has SAD), and out-of-session, with the implementation of exposure tasks agreed upon by the therapist and youth to be carried out during the week (Kendall et al., 2005). Regardless of the youth's age, however, the extent of parental involvement in exposure tasks should be determined by the individual needs of the youth.

*Implementation of exposure tasks.* In addition to important features of exposure tasks, guidelines for conducting exposure treatment also include information on the implementation of exposure treatment. Most CBT programs for anxious youth follow a general format for sessions with exposure tasks consisting of the joint selection by the youth and therapist of an exposure task to be practiced during the session, preparation for

the task, execution of the task, evaluating performance during the task, and providing rewards for effort.

Preparation for an exposure task generally consists of discussing the anxiety-provoking situation, anticipating possible somatic and cognitive reactions, and determining ways in which the youth can effectively manage his or her anxiety during the situation (e.g., see Kendall & Hedtke, 2006). Kendall et al. (2005) suggest that, as part of preparation, the therapist and youth can role-play, through imaginal exposure, or practice the feared situation, using props if needed, to allow the youth to practice coping before the actual in vivo exposure task. During the preparatory phase, the therapist might also have the youth pick out a reward that he or she will enjoy once the exposure is completed.

During the actual exposure task, several important factors must be considered. As mentioned previously, to determine the length of an exposure, the therapist may choose to obtain SUDS ratings from the youth immediately before, at several intervals during, and immediately after an exposure task. If obtaining SUDS ratings during an exposure task is not possible (e.g., interferes with the task or is intrusive), it is recommended that the therapist use clinical judgment to determine when the exposure task can be terminated. During the execution of an exposure task, it is also important for the therapist to tolerate the youth's distress (which may increase the therapist's own anxiety level) and not reinforce the youth's potential desire to avoid the exposure task. Kendall et al. (2005) advise that short-term discomfort (the youth, parent, or therapist's) should not outweigh the long-term benefits associated with exposure treatment.

Following an exposure task, it is recommended that the youth and therapist evaluate the outcome and that the therapist reward the youth for his or her effort. When processing an exposure task, SUDS ratings can be useful in providing feedback. For example, the therapist and youth may graph SUDS data and discuss the youth's corresponding anxious feelings before, during, and after the exposure task. The youth and therapist might discuss features of the exposure task, including how the youth was feeling, what the youth was thinking, and how the youth chose to manage his or her anxiety. Additionally, the two can discuss any obstacles that were encountered, what specific aspects of the task made it easy or difficult, and what, if anything, the youth might do differently in the future. It is also important for the therapist to praise the youth for his or her effort and provide the youth with a reward of his or her choosing as positive reinforcement, increasing the likelihood that the youth will engage in future exposure tasks and also providing the youth with a sense of success and competence. Whenever possible, feedback and rewards should be presented immediately after the completion of an exposure task (Kendall et al., 2005).

#### *Empirical Evidence on Exposure Task Characteristics*

Whether it pertains to parental involvement in exposure tasks, the use of imaginal or in vivo exposure, or the duration and frequency of exposure tasks, there is a paucity of research on the specific characteristics of exposure tasks in CBT with anxious youth that are associated with increased effectiveness. This state of affairs is particularly troublesome given that exposure task characteristics, such as type of exposure, duration, frequency, and the content of the exposure task, are likely related to successful treatment outcome, according to Foa and Kozak (1986). A review of the adult anxiety literature and

the limited youth anxiety literature in this area indicates that the only exposure task characteristic empirically measured as a potentially important factor relating to treatment outcome is the type of exposure (i.e., imaginal vs. in-vivo). Studies with adults yield mixed results. Dyckman and Cowan (1978) reported that the use of in-vivo exposure tasks was associated with significantly greater fear reduction than the use of imaginal exposure tasks. Another study (i.e., James, Hampton, & Larsen, 1983) found that both imaginal and in vivo exposure produced significant reductions in a sample of six female participants with agoraphobia, with neither treatment being more effective than the other. Abramowitz (1996) reported findings suggesting that the combination of in-vivo and imaginal exposure tasks is more effective than either type of exposure treatment alone in reducing anxiety symptoms. Finally, a study by Rentz, Powers, Smits, Cogle, and Telch (2003) revealed no significant differences in fear reduction when participants were treated with in-vivo exposure tasks, imaginal exposure tasks, or active-imaginal exposure tasks (i.e., imaginal exposure combined with the physical performance of actions that would be carried out in the in-vivo exposure task, but in the absence of the feared stimulus).

With youth, only one study examining the use of imaginal vs. in vivo exposure has been conducted to date. An early study by Ultee, Griffioen, and Schellekens (1982) examined the effectiveness of imaginal and in vivo exposure in a sample of 24 youth between the ages of 5 and 10 with a fear of water. Seven youth received four sessions of imaginal exposure followed by four sessions of in vivo exposure, while eight youth received eight sessions of in vivo exposure. A control group, consisting of nine youth, received no treatment. Results indicated that after eight sessions, participants receiving

only in vivo treatment showed significant improvement relative to their counterparts. Importantly, prefacing in vivo treatment with imaginal treatment did not lead to improved outcome. These results must be interpreted with caution, however, given that the mean age of the sample was approximately 6 years, and imaginal exposure may require cognitive capacities that are still developing in younger children.

Inconsistent findings, small sample sizes, and methodological differences across the few studies examining exposure task characteristics render it difficult to use these results to inform the treatment of anxious youth. King et al. (2005) commented that there exist many questions about exposure treatment that are in need of empirical attention. In response to such calls, two recent studies have examined the relationship between the content and nature of exposure tasks and treatment outcome in CBT for anxious youth (Benjamin et al., 2010; Hedtke, Kendall, & Tiwari, 2009). Benjamin et al. examined the degree to which changes in youth- and therapist-reported SUDS ratings during exposure tasks were predictive of outcome in a sample of 111 youth, aged 7 to 14, who met criteria for a primary diagnosis of SAD, GAD, and/or SP and who were treated with 16 weeks of individual CBT (i.e., *Coping Cat*; Kendall & Hedtke, 2006) or family CBT (Howard et al., 2000). SUDS ratings assessed how anxious a youth was feeling when exposed to an anxiety-provoking situation (0 = *no anxiety*; 8 = *maximum anxiety*). For each of 8 exposure sessions, the youth and the therapist generated separate SUDS ratings on the amount of anxiety the youth was experiencing in specific situations. SUDS ratings were gathered at each session, before the exposure task, every 2 minutes during the exposure task, and immediately following the exposure. SUDS change scores were calculated by subtracting the lowest SUDS rating from the highest SUDS rating during each exposure



task. Results indicated that the magnitude of youth-reported SUDS change significantly predicted whether a child's primary diagnosis was no longer primary following treatment. More specifically, youth-rated SUDS change scores in the sessions involving exposure to low-level and medium-level anxiety-provoking situations were particularly useful in predicting outcome. Consistent with self-efficacy theory (Bandura, 1977), these results suggest that the learning and mastery experiences that occur early in exposures are particularly beneficial for the anxious youth. Also, given the importance of youth involvement in therapy tasks in CBT (Chu & Kendall, 2004), it is possible that youth who experience improvement early in treatment have higher initial engagement and are likely to show increased response to treatment.

Hedtke et al. (2009) examined the use of safety-seeking behavior (SSB), defined as behavior designed to enhance feelings of safety in the presence of perceived threat (Salkovskis, 1988, 1991; e.g., avoidance), and coping behavior (CB), defined as behavior used by individuals prior to or during exposure tasks that is intended to help manage anxiety (e.g., problem-solving, thought challenging, coping self-talk), during exposure tasks in a sample of 87 AD youth (ages 7 to 13). Results indicated that youth who responded poorly to treatment engaged in SSB to a greater degree during exposure tasks relative to youth who responded well to treatment. This study also explored whether specific features of exposure tasks conducted as part of CBT, such as the number of exposure tasks, type of exposure task, location of exposure task, length of exposure task, target disorder for exposure task, and parental presence during exposure task, predicted differential treatment outcome. Results revealed that only one characteristic of exposure tasks accounted for a significant portion of the variance in treatment outcome: number of

exposure tasks. Specifically, it was found that a greater number of exposure tasks conducted during treatment sessions was found to be significantly predictive of lower improvement ratings on diagnostician-rated measures. This seems contrary to the assertion that for exposure treatment to be effective, exposure tasks must be repetitive and massed (Bouchard et al., 2004; Foa & Kozak, 1986). Follow-up analyses indicated that although variable, only about 10 minutes of each session was spent engaging in exposure. These results suggest that when it comes to exposure treatment for anxious youth, quality may be more important than quantity: fewer exposure tasks, done better, may lead to improved treatment outcome. The results also indicated that the target disorder of the exposure task matched the youth's pretreatment principal diagnosis only 37% of the time, and that whether or not the target disorder of the exposure task matched the youth's pretreatment principal diagnosis was not significantly related to treatment response status. It is possible that this represents the generalization of exposure task effects that Kendall et al. (2005) allude to.

## **CHAPTER 2 OVERVIEW OF CURRENT STUDY**

Studies by Benjamin and colleagues (2010) and Hedtke and colleagues (2009) represent a shift in treatment outcome research: with empirical support confirming the status of CBT as an effective intervention for anxious youth, there is interest in understanding how specific treatment components, such as exposure tasks and their features, may predict differential treatment response. Although guidelines for conducting exposure tasks in CBT for anxious youth are available (e.g., Kendall et al., 2005), research is needed to examine these guidelines. The association between specific aspects of exposure tasks in CBT and differential treatment response is an area that is need of research attention.

Several specific questions remain unanswered. First, questions emerge regarding technical aspects of conducting exposure tasks. If only 10 minutes of an exposure session are spent engaging in an actual exposure task (Hedtke et al., 2009), it is likely that the remainder of the session is spent preparing for the exposure task and processing the exposure task once completed. It is important to know, then, what is the frequency and duration of the preparation for, execution of, and processing of exposure tasks? What specific elements are involved in these different components of a session in which an exposure task takes place and how might characteristics of the youth influence the amount of time spent on each component? Some youth might benefit from extensive preparation for an exposure task and require little to no processing once it is completed, whereas others may benefit from “jumping right in” with little preparation but might wish to discuss how they felt during the exposure task and what they might choose to do differently in the future once the task has been completed. Additionally, is it important to

present exposure tasks in hierarchical order or are there times when higher-level fears might need to be targeted first? Do exposure tasks, in practice, encapsulate the specific fear that is being targeted? With regard to types of exposure tasks, what combination of imaginal, in vivo, real-life exposure is most effective? Answers to practical questions related to the technical aspects of exposure tasks may provide insight into how sessions can be structured to optimize treatment gains.

Second, questions remain regarding the role that the therapeutic relationship might play when conducting exposure tasks with anxious youth. Given that the focus in the latter portion of treatment is on maintaining already established rapport and therapeutic alliance, what steps help a therapist ensure the therapeutic relationship is maintained during the exposure-based portion of treatment, particularly when asking the youth to engage in tasks that might produce high levels of distress? Is collaboration during the selection of and execution of exposure tasks a predictor of variable outcome? In a similar vein, how important is the involvement of the youth in the exposure-based portion of treatment? Does a highly involved, motivated youth fare better in treatment because he/she is more likely to engage in distressing exposure tasks, thereby experiencing greater reduction in fear? Conversely, are youth who are less involved, perhaps even resistant to engaging in exposure tasks, likely to show decreased levels of response to treatment? Research would benefit from the examination of these aspects of the youth-therapist relationship during exposure tasks in treatment.

The current study extends the literature on the relationship between exposure tasks and treatment outcome in CBT for anxious youth. Specifically, this study evaluated the extent to which (a) aspects of the therapeutic relationship (e.g., collaboration) and (b)

youth involvement in exposure task sessions were associated with treatment outcome in youth anxiety disorders. This study also (c) examined whether the quality of preparation for exposure tasks or processing of exposure tasks was associated with treatment outcome. Finally, this study (d) explored specific components of individual segments of exposure task sessions (e.g., rapport-building, imaginal exposure, and specific ways of processing exposure tasks once completed) and any possible associations between these variables and differential treatment response.

### Primary Hypotheses

It was predicted that (a) collaboration between the youth and the therapist and (b) youth involvement during sessions in which exposure tasks take place is significantly related to treatment response (i.e., significant main effect of collaboration and involvement). Specifically, it was hypothesized that higher levels of collaboration between the youth and the therapist during sessions in which an exposure task takes place significantly predict better treatment response, defined as higher change scores on diagnostic severity, parent- and youth-report of youth anxiety, and clinician-rated overall functioning. It was also hypothesized that increased youth involvement during the session is associated with improved treatment response.

With regard to content variables, such as the preparation for an exposure task and processing the exposure task once it has been completed, additional hypotheses were offered. In the only study of its kind to date examining characteristics of exposure tasks and their association with treatment outcome (Hedtke et al., 2009), results indicated that fewer exposure tasks per session were associated with improved treatment response (i.e., higher change scores on diagnostic severity, parent and youth report of youth anxiety,

and clinician-rated overall functioning). Assuming that the rest of the session is spent preparing for and processing the exposure task(s), it was hypothesized that better preparation for an exposure task is associated with improved outcome (i.e., higher change scores on diagnostic, parent-, youth-, and clinician-rated measures of severity), suggesting a main effect of preparation. Additionally, it was hypothesized that more thorough processing following an exposure task is associated with improved outcome (i.e., higher change scores on diagnostic, parent-, youth-, and clinician-rated measures of severity), suggesting a main effect of processing.

#### Exploratory Hypotheses

Because this is the first empirical investigation to examine specific components of exposure tasks sessions, no hypotheses were offered to predict the means or frequency of occurrence for these variables. Notably, testing these hypotheses was not the main aim of the proposed study. However, because little is known about the nature and content of exposure tasks in CBT with anxious youth, it was considered important to begin to assess these potential variables of interest and to describe, at least on a preliminary level, their potential relationship to treatment outcome.

## CHAPTER 3 METHOD

### Preliminary Power Analyses

Effect sizes (ES; or “relationship sizes” for correlational results) could not be estimated from previous research on exposure tasks in CBT for anxious youth, because no studies have examined the relationship between specific session components, collaboration, and youth involvement in exposure task sessions and treatment outcome. However, research by Hedtke et al. (2009) examining the relationship between exposure tasks characteristics and outcome in CBT for anxious youth provides data to help estimate the minimum relationship size needed for the current study. Specifically, Hedtke and colleagues found that the average use of SSB and average use of CB together accounted for 19% of the total variance in ADIS C/P CSR change scores and 14% of the total variance in CGAS composite change scores, corresponding to medium relationship size estimates, according to Cohen’s (1988) definition of small ( $f^2 = .02$ ), medium ( $f^2 = .15$ ), and large ES ( $f^2 = .35$ ). When considered individually, greater use of SSB during exposure tasks contributed significantly to lower pre- to post-treatment change scores on both clinician-rated measures. The magnitude of the relationship was large with reference to the ADIS C/P CSR change score and medium when considering the CGAS composite change score. Other studies evaluating predictors of outcome in AD youth indicate medium to large ES (e.g., Berman et al., 2000; Southam-Gerow et al., 2001). Consistent with this research, if this study observed at minimum, medium relationship sizes, using Cohen’s (1988) n-needed tables, the current study would require a minimum sample size of 60 participants to achieve a power of .80 to detect an overall significant contribution of

collaboration, youth involvement, preparedness for the exposure task, and processing of the exposure task to treatment outcome.

Informed by the n-needed analysis for the primary and secondary hypotheses and previous research regarding treatment response status, a minimum of 60 participants (the largest n-needed that was determined to achieve adequate power) was included in the current study.

### Participants

Participants were 61 anxiety-disordered youth, 38 males (62.3%) and 23 females (37.7%), ranging in age from 7.15 to 13.81 years ( $M=10.15$ ,  $SD=1.69$ ), and their parents (59 mothers; 59 fathers). The 61 youth and their respective parents took part in a larger study evaluating the efficacy of a 16-session individual cognitive-behavioral therapy (ICBT) versus a 16-session cognitive-behavioral therapy involving the family (FCBT) for the treatment of childhood anxiety. Youth were referred for treatment from multiple community resources (e.g., school counselors, pediatricians, mental health practitioners) and were treated with ICBT ( $n=34$ ) or FCBT ( $n=27$ ) at the Child and Adolescent Anxiety Disorders Clinic (CAADC) at Temple University.

Of the 61 treated youth, 83.6% were Caucasian, 9.8% were African American, 1.6% were Hispanic, and 4.9% identified themselves as “Other.” Data with regard to annual family income were available for 56 of the 61 families and showed that 10.7% of the sample earned less than \$30,000; 30.3% earned between \$30,000 and 59,999; 23.3% earned between \$60,000 and \$79,999; and 35.7% earned \$80,000 or more annually.

All youth met *DSM-IV* diagnostic criteria for a principal diagnosis of GAD (39.3%), SP (26.2%), and/or SAD (21.8%) based on a semi-structured diagnostic



interview. Of the 61 youth, 55.7% met *DSM-IV* diagnostic criteria for at least one co-principal diagnosis. In addition to principal diagnoses, 65.5% met diagnostic criteria for at least one other anxiety disorder (i.e., GAD, SP, or SAD), 6.5% met diagnostic criteria for Attention Deficit Hyperactivity Disorder, 4.9% of children met diagnostic criteria for a depressive disorder, 1.6% met criteria for each Obsessive Compulsive Disorder and Oppositional Defiant Disorder, 60.7% met criteria for at least one specific phobia, and 10.3% met criteria for “other” psychiatric disorders (e.g., enuresis, selective mutism). Youth were excluded if they had a Full Scale IQ below 80 (i.e., potentially unable to fully comprehend cognitive components of treatment), demonstrated psychotic symptoms, were taking antianxiety or antidepressant medications, or were non English-speaking/writing (i.e., could not complete research forms or participate in treatment without a dedicated translator).

## Measures

### *Primary Dependent Measure*

*Anxiety Disorders Interview Schedule for Children - Child and Parent Versions (ADIS-C/P; Silverman & Albano, 1996).*

The ADIS-C/P is a semistructured interview designed specifically for the diagnosis of DSM-IV anxiety disorders in youth ages 6 to 18. The ADIS-C/P also assesses mood and externalizing disorders (e.g., Major Depressive Disorder, Attention-Deficit/Hyperactivity Disorder) and screens for potential psychotic symptoms (e.g., hallucinations, delusions), rendering it sensitive to comorbidity. Parent and youth interviews are conducted separately and informants are asked to provide interference ratings, ranging from 0-8 (with “0” representing no impairment in functioning to “8”

representing severe impairment across several domains of functioning, such as with family and peer relationships and/or academic performance) as needed, yielding two diagnostic profiles. A composite diagnostic profile is then generated by applying an algorithm to the youth's and parents' separate diagnostic profiles (see Silverman and Albano, 1996). Youth- and parent-rated impairment ratings allow independent evaluators (i.e., diagnosticians) to assign diagnoses and rate the interference associated with each on a 9-point scale, referred to as Clinician Severity Ratings (CSR; range = 0-8; CSR  $\geq$  4 = meeting diagnostic criteria). These CSRs identify diagnoses as primary (the disorder with the highest CSR), co-primary (two or more disorders sharing the highest CSR), or secondary (any or all other disorders with CSRs of lesser severity).

The ADIS-C/P possesses solid psychometric properties for the diagnostic assessment of anxiety disorders in youth (Silverman & Nelles, 1988; Silverman & Eisen, 1992). The interview demonstrates high test-retest reliability for both the parent and child interviews: kappa coefficients for GAD, SP, and SAD are all in the excellent range (.80 - .92; Silverman, Saavedra, & Pina, 2001). The ADIS-C/P has also demonstrated strong concurrent validity (Wood, Piacentini, Bergman, McCracken, & Barrios, 2002) and sensitivity to treatment effects in studies of AD youth (e.g., Kendall et al., 1997). The ADIS-C/P has become the most commonly used diagnostic measure in research with AD youth and has evolved into the gold standard of diagnostics by which self-reports are compared and evaluated (e.g., Silverman & Ollendick, 2005).

In the present study, composite ADIS-C/P CSR scores at posttreatment were used to classify youth as treatment responders or treatment nonresponders. Consistent with previous research (e.g., Berman et al., 2000), youth who no longer met *DSM-IV* criteria

for their principal pretreatment diagnosis (i.e., ADIS-C/P composite CSR < 4) at posttreatment or who showed a CSR reduction of 3 or more points for their principal pretreatment diagnosis were considered treatment responders. In the case of co-principal diagnoses at pretreatment, if the youth did not meet *DSM* criteria for at least one of the disorders or showed a CSR reduction of 3 or more points for at least one of the disorders, the youth was considered a treatment responder. All other youth were considered treatment nonresponders.

#### *Additional Dependent Measures*

*The Children's Global Assessment Scale (CGAS; Shaffer et al., 1983).*

The CGAS is a modification of the adult Global Assessment Scale and provides a clinician-rated measure of the youth's (ages 4-16) global impairment and functioning over the previous month. The scale assesses general functioning on a scale of 1 (lowest) to 100 (highest), with behavioral descriptions and anchor points. The CGAS has favorable psychometric properties, with high test-retest reliability and interrater reliability (Shaffer et al., 1983). Green, Shirk, Hanze, and Wanstrath (1994) suggested that CGAS ratings obtained in clinical contexts accurately reflect evaluations of functional competence. A composite CGAS score is assigned by the ADIS-C/P diagnosticians after a collaborative discussion between the parent and youth interviewers following the diagnostic assessment. Posttreatment CGAS scores were used in the present study as a measure of overall functioning.

*Child Behavior Checklist (CBCL; Achenbach, 1991; Achenbach & Edelbrock, 1991).*

The CBCL is a 118-item parent-report measure that assesses youth behavioral problems and social competencies. Items are scored 0 to 2 (depending on the degree to

which the particular item characterizes the child). The CBCL has both narrow-band and wide-band scales, and normative data are available from the manual (Achenbach, 1991). Subscales include activities (measures both the number of activities/jobs and performance on these), social (measures social participation and social skills), and school (measures academic performance). The CBCL is able to discriminate between internalizing and externalizing disorders (Aschenbrand, Angelosante, & Kendall, 2005; Seligman, Ollendick, Langley, & Baldacci, 2004) and favorable psychometric properties have been reported. The Internalizing factor includes the three syndromes of Withdrawn, Somatic Complaints, and Anxious/Depressed. In the present study, posttreatment CBCL Total and Internalizing scale scores were used as a measure of parental-report of youth anxiety behavior and overall functioning.

*Teacher Report Form (TRF; Achenbach, 1991; Achenbach & Edelbrock, 1996).*

The TRF is a 113-item teacher-report measure that is parallel in form to the CBCL and is designed for use in conjunction with the CBCL to provide an overall understanding of a child's functioning in multiple environments. The TRF has demonstrated high retest reliability (.85) and moderate interrater agreement (.51; Achenbach, 1991). As with the CBCL, the TRF is able to discriminate between internalizing and externalizing disorders. In the present study, posttreatment TRF Total and Internalizing scale scores were used as a teacher-report of youth anxiety behavior and overall school functioning.

*Coping Questionnaire-Parent (CQ-P; Kendall & Marrs-Garcia, 1999).*

The CQ-P assesses a parent's perception of their child's ability to cope with anxious distress in three anxiety-provoking situations identified from the initial structured

interview. The three items are rated on a Likert-type scale from 1 (*not at all able to help him/herself*) to 7 (*totally able to help him/herself*). The scale has demonstrated moderate interrater agreement and sensitivity to treatment effects (Kendall et al., 2008).

*Multidimensional Anxiety Scale for Children (MASC; March, Parker, Sullivan, Stallings, & Conners, 1997).*

The MASC is a 39-item inventory designed to address anxious symptomatology in youth ages 8-16, completed separately by the youth and parent(s). It is comprised of four major factors and six subscales: (1) physical symptoms with tense/restless and somatic/autonomic subscales; (2) social anxiety with humiliation/rejection and public performance, (3) harm avoidance with perfectionism and anxious coping subscales; and (4) separation anxiety. The MASC has demonstrated high internal consistency (March et al., 1997; March, Sullivan, & Parker, 1999). Three-week test-retest reliability for the MASC is .79 in clinical (March et al., 1997) and .88 in school-based samples (March et al., 1999). The MASC has also shown adequate convergent and discriminant validity (see March et al., 1997; March & Albano, 1998). Posttreatment total MASC scores were used in the present study as a measure of youth self-reported anxiety. Additionally, given that exposure-based treatment is focused on decreasing avoidance by directly exposing youth to anxiety-provoking stimuli, particular attention was given to pre- to posttreatment changes in the Harm Avoidance scale of the MASC, which is comprised of the Anxious Coping and Perfectionism subscales.

#### *Independent Measures*

*Exposure Session Rating Manual (ESRM) and Exposure Session Rating Form (ESRF; see Appendix for both measures).* All exposure session components, process, and content

ratings were operationally defined in the ESRM for use by independent observers.

Rating anchors for the content and process ratings were also qualitatively defined in the ESRM using a 5-point Likert-type scale. Observers recorded all of their responses on the ESRF.

The ESRM is divided into two sections: the first provides detailed instructions on the assessment of the presence of components of individual segments of the session, while the second provides descriptions of rating anchors for observers to assign global ratings of content and process variables. The determination of which variables to include in the first section was based on a review of the general outline for sessions in which exposure tasks take place provided in the *Coping Cat Therapist Manual* (Kendall & Hedtke, 2006), therapist experience, and a qualitative examination of previous videotaped sessions of ICBT and FCBT.

Using these methods, it was determined that exposure task sessions typically consist of distinct segments that can be categorized as: (a) general introductory activities, (b) preparation for the exposure task, (c) conducting the exposure task, and (d) processing the exposure task. The introductory portion of the session is typically characterized by rapport-building activities, such as a discussion of how the youth's week has been and/or playing a game with the youth, as well as a review of the take-home task (i.e., STIC) assigned during the previous session. Once the STIC has been reviewed, it is customary for the therapist to begin a discussion of the current session, specifically, the exposure task(s) to be completed. Preparation for the exposure task consists of the following elements: selection of the exposure task, role-play and/or practice with the therapist, and discussion and/or selection of a reward that the youth will receive upon completion of the

task. Other elements that may be involved in preparation include the use of imaginal exposure or an explanation of the rationale behind the exposure task, or exposure treatment more generally. Following preparatory activities, the exposure task is generally conducted and subsequently processed by the therapist and youth. Processing the exposure task usually takes the form of a discussion of the youth's performance during the task, features of the exposure task that made the youth more or less anxious, and a discussion of the youth's SUDS ratings during the task. Once this general processing is complete, it is recommended that the youth and therapist select an exposure task for the youth to complete during the week (i.e., STIC), select an exposure task for the next session, and reward the youth for effort.

Observers recorded the presence/absence (yes/no) of each element of the introductory, preparatory, and processing segments of the session and noted the amount of time spent engaging in exposure tasks during the session. When multiple exposure tasks were conducted during a given session, observers rated the preparation for and processing of the first exposure task viewed on the tape. Observers provided qualitative ratings of two content-related variables: the overall preparedness for the exposure task and the level of processing of the exposure task. Ratings were made on a 5-point Likert-type scale, ranging from 1 (*Not at all*) to 5 (*Very much/Extensive*).

Global ratings were also collected for two process variables: collaboration and youth involvement. These variables were chosen due to previous research suggesting that youth involvement in treatment (Chu & Kendall, 2004) and a collaborative relationship between the therapist and youth (Creed & Kendall, 2005) are associated with improved treatment outcome. Collaboration was operationally defined as an agreement on

treatment goals and an emphasis on teamwork to assist in accomplishing those goals. Consistent with this definition, the following behavior was viewed as being indicative of a collaborative relationship: (a) the therapist and youth worked together to determine which exposure task(s) were conducted during the session; (b) the therapist actively consulted with and negotiated with the youth throughout the session, from the selection of the task to the processing of the exposure task; (c) throughout the session, the therapist encouraged the youth's participation and involvement and encouraged specific feedback from the child; and (d) the therapist fostered a sense of togetherness by using words such as "we," "us," and "let's." Observers rated the level of collaboration between the youth and therapist using a 5-point Likert-type scale, ranging from 1 (*Not at all*) to 5 (*Very much*), for each segment of the session: introductory activities, preparing for the exposure, and processing the exposure.

Youth involvement was operationally defined as youth's willingness to behaviorally participate in therapy tasks and to self-disclose, ask questions, and engage the therapeutic material (Chu & Kendall, 2004). Observers were asked to look for specific behavior that was indicative of youth involvement, such as discussing or introducing new topics, making suggestions to change the task recommended by the therapist, engaging in self-disclosure, demonstrating enthusiasm for therapy-related tasks, asking questions or for further explanations, and elaborating on points made by the therapist, thereby demonstrating understanding of session content. Observers were also asked to look for behavior that was indicative of negative involvement, such as being withdrawn, passive, or nonresponsive to the therapist, not participating in discussions with the therapist, distracting activities away from therapy-related tasks, either



behaviorally or verbally, and/or acting in an oppositional manner towards the therapist or treatment activities. Taking into consideration behavior indicative of both positive and negative involvement, observers rated the degree of the youth's involvement using a 5-point Likert-type scale, ranging from 1 (*Not at all*) to 5 (*Very much*), for each segment of the session: introductory activities, preparing for the exposure, and processing the exposure.

The mean score for each global rating was calculated by computing the average of the score on that item across 3 exposure sessions, which were randomly selected from (a) within low-level exposure sessions (*Coping Cat* sessions 10 and 11), (b) within medium-level exposure sessions (*Coping Cat* sessions 12 and 13), and (c) within high-level exposure sessions (*Coping Cat* sessions 14 and 15). For items related to the distinct components of each segment of the session, each item was rated as having occurred ("yes") or not ("no") in each session. The frequencies of each item were then combined for the three exposure sessions.

### *Interventions*

#### *ICBT*

Participants in ICBT received 16, 60-minute sessions over a 16-week period (one session per week). The first half of treatment (7 sessions) focused on teaching new skills to the youth (through education), whereas the second half of treatment (7 sessions) provided the youth the opportunity to practice newly learned skills (through exposure tasks). Two sessions, one during the first half of treatment (Session 4) and one prior to

the start of exposure tasks (Session 9), were designated for meetings between the therapist and parents.

ICBT consists of the following components: (a) recognizing anxious feelings and somatic reactions to anxiety, (b) identifying cognition in anxiety-provoking situations (i.e. unrealistic or negative expectations), (c) developing a plan to cope with the situation (e.g., by modifying anxious self-talk into coping self-talk, through relaxation, or through problem-solving techniques), (d) behavioral exposure, and (e) evaluating performance and self-reward. These principles were presented to the youth during treatment as part of the “FEAR plan,” where FEAR is an acronym that can be used by the youth to remember skills learned. To help reinforce and generalize the skills, specific take-home tasks (i.e., STIC tasks) were assigned. During the second part of treatment, STIC tasks generally consisted of in vivo exposure tasks that the youth completed at home, school, or in other social settings. Given the focus on individual treatment in ICBT, parents were minimally involved in the youth’s treatment: parents were scheduled for meetings with the therapist after the 3rd and 8th sessions and may or may not have been involved in exposure tasks (depending on the nature and goal of task).

Although following a manualized treatment protocol, therapists were encouraged to tailor the treatment to the youth’s developmental level and/or individual characteristics, allowing for flexibility. In particular, sessions in which exposure tasks took place allowed for considerable flexibility in that one or multiple exposure tasks could have been conducted, either in the office or outside of the office. Additionally, the nature of the exposure task was specific to the youth’s target disorder and could have involved in-vivo or imaginal confrontation with an anxiety-stimulus.

## *FCBT*

As with ICBT, participants in FCBT received 16, 60-minute sessions over a 16-week period (one session per week). The first half of treatment (7 sessions) focused on teaching new skills to the youth and the parent (through education), whereas the second half of treatment (7 sessions) provided the youth the opportunity to practice newly learned skills (through exposure tasks). Two sessions, one during the first half of treatment (Session 4) and one during the second half of treatment (Session 9) were designated for private meetings between the therapist and parents.

FCBT covers all of the principles of ICBT but involves more direct parental involvement, as parents are included in the therapy sessions. Although the treatment remains youth-focused, the educational portion of treatment in FCBT also aims to modify parental beliefs and expectations, to teach parents more constructive responses to the youth's distress, to help parents identify and support the youth's mastery experiences, and to enhance effective communication between the youth and parent. The structure of the second half of treatment (exposure sessions) is similar to ICBT, where parents may or may not be involved in exposure tasks (depending on the nature and goal of the task).

As with ICBT, FCBT allowed for flexibility so that treatment could be tailored to the youth's developmental level and/or individual characteristics. In particular, sessions in which exposure tasks took place allowed for considerable flexibility in that one or multiple exposure tasks could have been conducted, either in the office or outside of the office. The nature of the exposure was specific to the youth's target disorder and could have involved in-vivo or imaginal confrontation with an anxiety-provoking stimulus.

### *Procedure*

Informed consent and assent for treatment and videotaping was obtained from participating parents and youth, respectively. As part of a comprehensive intake assessment, all 61 AD youth and their parents completed self-report questionnaires (MASC and CBCL, respectively) and were interviewed by trained, reliable diagnosticians using the ADIS-C/P. Diagnosticians were doctoral students ( $n = 15$ ) in clinical psychology, specializing in the study of youth anxiety. Separate diagnosticians conducted the parent and youth interviews so that information reported in one interview did not bias administration of the other interview or subsequent diagnoses. Diagnosticians conducted an approximately equal number of parent and youth interviews. Following the diagnostic interview, parent and youth diagnosticians made separate CGAS ratings and then collectively decided on a composite CGAS score. After the assessment process was complete, children were randomly assigned to receive one of three treatments for 16 weeks, two of which were ICBT and FCBT. The third condition, an education, support, and attention treatment (i.e., FESA) did not contain exposure tasks as part of the treatment protocol and therefore was not included as part of the current study.

To control for potential therapist factors, youth were randomly assigned to therapists, who were trained in all three treatments. Diagnosticians for a given case were not the therapist on that case. After 16 weeks, parents and youth were asked to complete a posttreatment assessment and were evaluated by the same diagnostician as at the intake assessment (to maintain diagnostic consistency) using the same measures implemented at the intake assessment. Diagnosticians were blind to the youth's treatment condition at the posttreatment assessment.

All therapy sessions were videotaped for each youth. Out-of-office sessions and exposure tasks were also videotaped using a portable digital camera. Three of the six (50%) possible exposure session videotapes (sessions 10-15) were selected for all 61 children to be rated by independent observers for session components and global ratings. A total of 183 sessions were coded, three per participant. Guidelines for conducting exposure tasks with anxious youth (e.g., Kendall et al., 2005) recommend a gradual, hierarchy-based approach, meaning that initial exposure sessions are intended to expose the youth to low anxiety-provoking situations (sessions 10 and 11), whereas later sessions expose the youth to medium (sessions 12 and 13) and then high (sessions 14, 15, and 16) anxiety-provoking situations. In the present study, the three sessions to be rated were randomly selected from within the low (session 10: 42.6%, session 11: 54.1%), medium (session 12: 49.2%, session 13: 45.9%), and high (session 14: 54.1%, 41.0%) anxiety-provoking session categories, ensuring that each category was represented for each youth and that the sessions were sequentially selected. A certain percentage of the total number of sessions rated were “combined” sessions (e.g., 10 and 11: 3.3%, 12 and 13: 4.9%, 14 and 15: 4.9%), which may have occurred as a result of scheduling conflicts requiring the material from two sessions to be covered on the same day. Session 16 was not rated in this study, because during this final session, the youth was asked to create a “commercial” or individualized project, such as a rap song, poem, or comic strip, designed to inform other youth about how to cope with anxiety. Although an exposure task may have been conducted during this last session, the creation of the commercial would likely take time away from preparation for the exposure task and processing the exposure task. Since it was possible that multiple exposure tasks could occur in a session,

ratings were made pertaining to the first videotaped exposure task conducted in each session selected, including the “combined” sessions. Observers were trained according to specific reliability guidelines (detailed below) and were permitted to replay the videotape, as needed, to ensure proper rating of all sessions components.

### *Diagnostic Training*

All diagnosticians underwent training to administer the ADIS C/P and generate CGAS ratings. To be ADIS C/P certified, diagnosticians were required to complete three training stages: (1) extensive didactic training in child diagnostics, (2) the viewing of live ADIS-C/P administrations by reliable senior interviewers, and (3) the administration of ADIS-C/P interviews in the presence of a senior interviewer. To successfully pass stages 2 and 3, diagnostic profiles of the training diagnostician had to match those of the senior interviewer on at least three out of four consecutive administrations, and diagnosticians were required to pass each stage before entering the next. In addition, diagnosticians presented diagnostic assessments conducted within the past week at the weekly staff meeting. If there was a diagnostic disagreement among the staff, the sources of these differences were discussed and a consensus diagnosis was reached. With regard to CGAS ratings, diagnosticians were trained to a reliable standard ( $ICC \geq .80$ ) by generating CGAS ratings after viewing the administration of diagnostic assessments by senior diagnosticians and conducting diagnostic assessments. After reaching criterion for administering the ADIS C/P and CGAS, unannounced reliability checks were conducted and 30% of pre- and post-treatment diagnostic assessments and CGAS ratings were randomly selected for review by trained raters to ensure the ongoing maintenance of

agreement among diagnosticians (i.e., kappa  $\geq$  .80 for ADIS C/P and ICC  $\geq$  .80 for CGAS).

### *Therapist Training*

Therapists ( $n = 11$ ) were advanced doctoral candidates in clinical psychology, Master's-level clinicians, or Ph.D.-level clinical psychologists with a minimum of 2 years experience at the CAADC working with anxious youth and their families prior to beginning training in the implementation of the ICBT and FCBT treatment protocols. All therapists were trained in and provided therapy for both conditions (i.e., ICBT and FCBT). As part of the CAADC's standard training procedures, for each treatment, therapists were required to have (a) studied written materials (e.g., the treatment manual, articles related to conducting CBT with anxious youth); (b) participated in training workshops (i.e., didactic presentation, role-play, trainee demonstration, and videotape playback and discussion) led by the CBT supervisors; (c) successfully passed a CBT competency test; and (d) completed supervised pilot experience with at least one treatment case. Following training and pilot experience, and continuing throughout the study, therapists participated in weekly group supervision for two hours and, when appropriate, individual supervision. Supervision groups were led by licensed clinical psychologists with at least five years experience in implementing and supervising the treatment protocols with anxious youth.

### *Treatment Integrity*

Treatment integrity was assessed by therapy supervisors. To reduce potential bias, supervisors did not rate sessions of cases that they supervised. Supervisors rated an approximately equal number of ICBT and FCBT sessions. To prevent the possibility that

periodic recordings would alter therapist behavior, all therapy sessions were recorded and 30% of the already-recorded tapes were randomly selected for integrity ratings.

Therapists were blind to which session tapes were checked.

Treatment integrity raters were trained by listening to eight audiotapes with the treatment integrity supervisor (i.e., one of the designated therapy supervisors) and discussing the ratings. The treatment integrity supervisor and raters (i.e., therapy supervisors) rated new audiotapes and reached a kappa criterion of at least .80. After reaching the predetermined criterion, raters assessed treatment integrity by comparing session content to a list of session activities and goals specific to the administered treatment session (ICBT or FCBT). This rating of actual treatment content to proposed treatment content checked that the treatment protocols were being followed. Of the total number of tapes randomly selected to be rated for treatment integrity, 30% were also rated by another supervisor to assess reliability.

#### *Independent Observer Training*

Independent observers ( $n = 3$ ) were one advanced (i.e., Master's-level) graduate student in clinical psychology (three years of therapy experience) and two undergraduate research assistants with experience working in the field of child anxiety and familiarity with the treatment. Through reading materials, educational and instructive presentations, and supervised practice, raters were trained. Training began with a review of the ESRM and ESRF. Each section of the ESRM was explained in detail to the observers, and they were provided with videotaped examples of the content and process variables. Instructions for completing the ESRF were also reviewed at length. Following the initial training and introduction to the procedures, the investigator watched five training



videotapes with each observer to familiarize the observers with the variables being examined. The observers then rated five additional training tapes on their own (the investigator also rated these tapes independently). For categorical variables (e.g., session components), Cohen's kappa was used to determine whether observers reached agreement with the investigator (i.e.,  $\kappa \geq .80$ ). For continuous items (e.g., global ratings), an intraclass correlation coefficient (ICC) was used to determine whether observers reached agreement with the investigator (i.e.,  $ICC \geq .80$ ). Observers rated training tapes in groups of five until agreement with the investigator was reached on all items. Discrepancies that arose during the training were discussed at length during further training sessions. Once observers reached the set criterion for both the categorical variables and global ratings, they began rating videotapes from the current sample. Observers were encouraged to discuss their ratings with the investigator as needed. Two unannounced reliability checks took place during the course of the study. Reliability ratings covered 20% of the total ratings.

### *Data Analysis*

#### *Group Differences*

Before testing specific hypotheses, descriptive and preliminary analyses were conducted. As part of the preliminary analyses, multicollinearity among independent variables (IVs) was assessed prior to each regression analysis. If there was a large correlation (i.e.,  $r \geq .90$ ; Tabachnick & Fidell, 1996) between IVs, one of the highly correlated IVs was omitted (based on theory, logic, and reliability of variables) from the regression equation to avoid redundancy of variables. Pretreatment differences on demographic and diagnostic variables between treatment responders and non-responders

were examined using t-tests and chi-square tests. If significant differences were found, that demographic variable was controlled for in the analyses of the main hypotheses.

### *Primary Analyses*

To test the primary hypotheses, a multiple regression analysis was performed using mean content (i.e., preparation for and processing of exposure task) and process (i.e., collaboration and youth involvement) ratings to predict treatment outcome. Multiple regression was chosen to provide an estimate of the relative contribution of each predictor to the variance in youth treatment outcome ( $R^2$ ). Stepwise selection was specified as the entry method to determine the contribution of each predictor already in the regression equation if it were to enter last. To isolate the unique contributions of each predictor variable to the total variance accounted for in treatment outcome (i.e., taking out the contribution of the other IV), the partial correlation coefficient ( $pr^2$ ) was reported.

Treatment outcome was defined by change scores from pre- to post-treatment measures of youth anxiety symptomatology (i.e., ADIS-C/P composite CSR for child's principal diagnosis, MASC, CBCL, TRF, CQ-P) and clinician-rated overall functioning (CGAS). In the case of co-principal anxiety (i.e., GAD, SP, or SAD) diagnoses at pretreatment, an average change score from pre- to post-treatment for the co-principal diagnoses was used as the treatment outcome measure for the ADIS-C/P. The decision to use change scores as the dependent variables (DVs), as opposed to posttreatment scores, was made to account for pretreatment scores, which may have contributed to posttreatment anxiety scores (i.e., to minimize the number of predictor variables). For all measures, change scores were calculated by subtracting the posttreatment score from the pretreatment score (e.g., post MASC Total score – pre MASC Total score). For clinician-

child-, parent-rated CBCL, and teacher-reported measures, *lower* change scores were considered indicative of *greater* change or improvement. For example, an AD youth who was assigned a pretreatment CSR of 7 and was later assigned a posttreatment CSR of 1 would have a lower change score (e.g., -6) than a youth whose CSR actually increased from pre- to post-treatment (e.g., increased from CSR = 4 to CSR = 6; change score = 2). On the parent-rated Coping Questionnaire (CQ), greater improvement was represented by *higher* change scores, since higher scores on the CQ are indicative of improved coping ability (e.g., 1 = *not at all able to help him/herself*; 7 = *completely able to help him/herself*).

#### *Exploratory Analyses*

Analyses to determine descriptive statistics were conducted for all elements of the introductory, preparatory, and processing segments of sessions. To explore potential between-group differences in the frequency of these elements, AD youth were first categorized based on response status. Youth who no longer met *DSM-IV* criteria for their principal pretreatment diagnosis (i.e., ADIS-C/P composite CSR < 4) at posttreatment or who showed a CSR reduction of 4 or more points for their principal pretreatment diagnosis were considered treatment responders. In the case of co-principal anxiety diagnoses at pretreatment, if the youth did not meet *DSM-IV* criteria for at least one of the disorders or showed a CSR reduction of 4 or more points for at least one of the disorders, the youth was considered a treatment responder. All other youth were considered treatment nonresponders. Next, between-group differences on elements of the introductory (i.e., rapport-building, reviewing STIC task), preparatory (i.e., selection of exposure task, role-play, practice with therapist, imaginal exposure to prepare, review of

relaxation techniques, rationale/explanation of exposure, selection of reward), processing (i.e., evaluation of performance, discussion of exposure task features, discussion of SUDS ratings), and closing (i.e., selecting exposure task for the next session, assigning STIC, and rewarding for effort) segments of sessions were examined using a univariate analysis of variance.

## CHAPTER 4 RESULTS

### Reliability

#### *Diagnostic Reliability*

##### *CGAS*

Diagnosticians were required to reach an ICC criterion of  $\geq .80$  at the outset of the study. Three unannounced reliability checks were conducted, covering 30% of pre- and post-treatment CGAS ratings. Results supported the maintenance of agreement among diagnosticians, yielding an average ICC of .83 across reliability checks.

##### *ADIS-C/P*

Diagnosticians were trained to administer the ADIS-C/P in accordance with the procedure outlined previously. Three unannounced reliability checks were conducted by trained raters throughout the study, covering 30% of pre- and post-treatment diagnostic assessments. Interrater reliability for the youth's principal diagnosis (i.e., presence = "yes" or "no") and CSR (i.e., agreement within one CSR point = "yes" or "no") were  $\kappa=.97$  and  $\kappa=.81$ , respectively.

#### *Analyses of Treatment Integrity*

Prior to providing treatment, all therapists were trained to administer ICBT and FCBT in accordance with the therapist training procedure outlined previously. Four unannounced reliability checks were conducted throughout the study to assess treatment integrity by comparing actual session content to proposed session activities and goals specific to the treatment session in question. Therapy supervisors rated 30% of all ICBT and FCBT sessions. In the case when questions arose regarding whether a specific activity or goal was covered (i.e., could not be determined from the audiotape), all efforts

were made to confirm presence/absence of content by checking all available sources (e.g., videotape, therapist notes, etc.). If, after checking all sources, the occurrence of specific session content remained questionable, it was recorded as not having occurred. Results showed that for ICBT and FCBT respectively, actual session content matched proposed session content 94.0% and 94.5% of the time (average across four reliability checks). No significant pattern emerged regarding the absence of specific manual content.

#### *Independent Observer Reliability*

Interrater reliability for global (i.e., content and process) ratings and for elements of the introductory, preparatory, and processing segments of sessions was established between the investigator of this study and the two observers prior to initiating coding of session tapes from the current sample. All independent observers met a kappa criterion for categorical variables and an ICC criterion for continuous variables of  $\geq .80$  at the outset. Two unannounced reliability checks were conducted, one during the midpoint and one closer to the end of tape review, covering 20% of the 61 cases (i.e., 12 cases, for a total of 36 sessions). Table 1 shows observer reliability scores for global ratings and session elements obtained from the two reliability checks. Notably, all reliability values for global ratings and session components were equal to or above the .80 criterion.

Table 1. Observer Reliabilities for Global Content and Process Ratings and Session Components

ESRF variable	Reliability Time 1		Reliability Time 2	
	ICC	Kappa	ICC	Kappa
<b>Introductory Activities</b>				
Rapport-building		.84		.86
Review of STIC		.98		.97
<b>Preparatory Activities</b>				
Selection of exposure task		.96		.95
Role-play		.90		.91
Practice with therapist		.88		.89
Imaginal exposure (to prepare)		.90		.90
Review of relaxation		.89		.90
Rationale/explanation		.80		.83
Selection of reward		.91		.89
<b>Processing Activities</b>				
Evaluate performance		.83		.80
Discuss features		.84		.81
Discuss SUDS		.86		.85
<b>Closing Activities</b>				
Select exposure task		.88		.87
Assign STIC		.90		.92
Reward for effort		.94		.93
<b>Global Ratings</b>				
Collaboration	.88		.89	
Youth involvement	.85		.82	
Preparation for exposure	.81		.83	
Processing of exposure	.80		.82	

*Note.* ESRF=Exposure Session Rating Form; STIC=“Show that I Can” task; SUDS=Subjective Units of Distress rating; ICC=intraclass correlation coefficient.

## Analyses of Primary Hypotheses

### *Descriptive Analyses*

Average pre- and post-treatment scores and pre- to post-treatment change scores for all dependent measures (i.e., ADIS-C/P CSR, CGAS composite scores, MASC Total and Harm Avoidance scale scores, CBCL, mother and father, and TRF Total and Internalizing scale scores, and CQ-P total scores) are presented in Table 2. Correlations were calculated among the average pre- to post-treatment change scores for the dependent measures. All of the change scores were significantly positively correlated with each other (i.e., absolute value of  $r$  ranged between .34 and .89), with the exception of the MASC Total and Harm Avoidance scale scores, which were not significantly correlated with the average CBCL, mother and father reports, and TRF, teacher report, Total and Internalizing change scores. Values of  $r$  for these measures ranged between .11 and .24.

Descriptive data for the IVs are presented in Tables 3 and 4. Raters recorded the presence/absence (“yes” or “no”) of each session component (e.g., rapport-building, assign STIC, etc.) for each session that was coded. Each session component either took place in the session or did not; multiple instances of each session component were not recorded. As an example, if rapport-building took place at more than one point during the session, the rater marked “yes” and did not record the number of instances of rapport-building that took place during the session. Frequencies of session components were then added across three sessions and ranged from 0 (did not occur at all) to 3 (occurred in each of three sessions). Descriptive analyses of ESRF variables related to session components (Table 3) indicated that each component took place in at least one of the three sessions



rated, with the exception of practice of the exposure task with the therapist ( $M=0.41$ ,  $SD=0.62$ ), review of relaxation techniques ( $M=0.69$ ,  $SD=0.87$ ), and the use of imaginal exposure ( $M=0.21$ ;  $SD=0.45$ ), to prepare for the exposure task. Analyses of time allotment during sessions indicated that, on average, most session time was spent engaging in introductory activities ( $M=13:49$ ) and preparation for the exposure task ( $M=14:39$ ), with less time devoted to engaging in exposure tasks ( $M=9:55$ ), processing exposure tasks (3:08) and closing activities ( $M=9:36$ ).

With regard to global ratings of content variables (Table 4), results indicated that, for the total sample, youth were “somewhat prepared” for exposure tasks ( $M=2.93$ ,  $SD=0.53$ ). Results also indicated that exposure tasks were processed “somewhat well” by the youth and therapist ( $M=2.88$ ,  $SD=0.75$ ). Descriptive analyses of global ratings of process variables yielded results indicating that, for the total sample, therapists and youth were “very” collaborative ( $M=3.85$ ,  $SD=0.64$ ), and youth were “somewhat” involved ( $M=3.46$ ,  $SD=0.76$ ) across three sessions. Between-group analyses of youth assigned to ICBT and FCBT yielded no significant differences. Given that there were no statistically significant differences between the two groups (and both conditions had comparable outcome results, Kendall et al., 2008), data from the total sample were used in the analyses of the primary hypotheses.

Table 2. Descriptive Data for Treatment Outcome Measures

Outcome Measure	Pretreatment		Posttreatment		Change Score (Absolute Value)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Clinician-rated						
ADIS CSR <sup>a</sup>	5.74	0.89	3.93	1.63	1.97	1.91
CGAS <sup>b</sup>	57.61	8.66	68.88	10.31	11.79	10.62
Child self-report						
MASC Total <sup>c</sup>	50.50	21.42	37.51	19.36	13.24	22.83
MASC Harm Avoidance <sup>c</sup>	14.89	5.35	13.46	5.52	1.41	7.00
Mother-report of child						
CBCL Total <sup>d</sup>	62.75	9.65	56.44	9.99	6.29	9.60
CBCL Internalizing <sup>d</sup>	68.49	8.49	61.35	8.64	7.20	10.09
CQ-P <sup>e</sup>	3.55	1.04	4.83	1.27	1.32	1.58
Father-report of child						
CBCL Total <sup>f</sup>	58.15	10.01	49.86	11.50	7.83	9.06
CBCL Internalizing <sup>f</sup>	62.96	10.23	54.40	10.91	8.11	9.46
CQ-P <sup>g</sup>	3.67	1.18	4.57	1.07	0.95	1.03
Teacher-report of child						
TRF Total <sup>h</sup>	57.33	8.23	55.53	8.39	1.91	7.80
TRF Internalizing <sup>h</sup>	63.09	10.31	60.50	9.80	3.29	9.59

*Note.* ADIS CSR=Anxiety Disorders Interview Schedule for Children Clinician Severity Rating; CGAS=Children’s Global Assessment Scale; MASC=Multidimensional Anxiety Scale for Children; CBCL=Child Behavior Checklist; CQ-P=Coping Questionnaire-Parent Version; TRF=Teacher Report Form; <sup>a</sup>*n*=61; <sup>b</sup>*n*=58; <sup>c</sup>*n*=56; <sup>d</sup>*n*=51; <sup>e</sup>*n*=52; <sup>f</sup>*n*=55; <sup>g</sup>*n*=49; <sup>h</sup>*n*=54.

Table 3. Descriptive Analyses: Session Components

ESRF Variable	Total ( <i>n</i> =61)		ICBT ( <i>n</i> =34)		FCBT ( <i>n</i> =27)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<b>Introductory Activities</b>						
Rapport-building	2.25	1.04	2.35	0.95	2.11	1.15
Review of STIC	2.66	0.57	2.71	0.52	2.59	0.64
<b>Preparatory Activities</b>						
Selection of exposure task	2.93	0.31	3.00	0.00	2.85	0.46
Role-play	2.41	0.80	2.47	0.71	2.33	0.92
Practice with therapist	0.41	0.62	0.53	0.66	0.26	0.53
Imaginal exposure (to prepare)	0.21	0.45	0.29	0.52	0.11	0.32
Review of relaxation	0.69	0.87	0.65	0.81	0.74	0.94
Rationale/explanation	1.67	1.04	1.65	1.15	1.70	0.91
Select reward	1.77	0.98	1.97	0.94	1.52	0.98
<b>Processing Activities</b>						
Evaluate performance	2.13	0.97	2.15	0.86	2.11	1.12
Discuss features of exposure task	1.90	0.93	1.94	0.89	1.85	0.99
Discuss SUDS	1.26	0.85	1.21	0.88	1.33	0.83
<b>Closing Activities</b>						
Select exposure task for next session	1.02	1.01	0.88	1.01	1.19	1.00
Assign STIC	2.54	0.79	2.56	0.86	2.52	0.70
Reward for effort	2.46	0.79	2.62	0.74	2.26	0.81

*Note.* ICBT=Individual cognitive-behavioral therapy; FCBT=Family cognitive-behavioral therapy; ESRF=Exposure Session Rating Form; STIC=“Show That I Can” task; SUDS=Subjective Units of Distress Rating. Scores for session components are additive across 3 sessions and ranged from 0 (did not occur at all) to 3 (occurred in each of 3 sessions).

Table 4. Descriptive Analyses: Average Global Ratings of Content and Process Variables

ESRF Variable	Total ( <i>n</i> =61)		ICBT ( <i>n</i> =34)		FCBT ( <i>n</i> =27)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Preparation	2.93	0.53	3.06	0.50	2.77	0.53
Processing	2.88	0.75	2.79	0.66	2.99	0.85
Collaboration	3.85	0.64	4.02	0.71	3.66	0.52
Youth involvement	3.46	0.76	3.55	0.92	3.36	0.54

*Note.* ICBT=Individual cognitive-behavioral therapy; FCBT=Family cognitive-behavioral therapy; ESRF=Exposure Session Rating Form. Scores for all variables ranged from 1 (not at all) to 5 (very much).

#### *Preliminary Analysis*

Prior to testing the primary hypotheses, a Pearson correlation between the IVs, average global ratings of preparation for the exposure task and processing of the task, as well as collaboration and youth involvement, was conducted to screen for potential multicollinearity and to avoid the potential redundancy of predictor variables. Results indicated that values of *r* among the IVs did not meet the criteria for potential multicollinearity as proposed by Tabachnick and Fidell (1996;  $r \geq .90$ ). As a result, all IVs remained in the regression equation.

#### *Linear Regression Analyses*

Tables 5.1 and 5.2 present the results of multiple regression analyses testing the contribution of four predictor variables (i.e., preparation, processing, collaboration, and involvement) to treatment outcome, as measured by pre- to post-treatment change scores on clinician-rated measures (i.e., ADIS-C/P CSR for pretreatment principal diagnosis and composite CGAS rating), child self-reported anxiety (i.e., MASC Total and Harm

Avoidance scale scores), parent-reported anxiety and overall functioning (i.e., CBCL Total and Internalizing scale scores, mother- and father-report) and perceived ability for the child to cope in anxiety-provoking situations (i.e., CQ-P, mother and father report), and teacher-reported anxiety and overall functioning (i.e., TRF Total and Internalizing scale scores)<sup>2</sup>. Tables 6.1 to 6.5 present the overall contribution of each model to the variance accounted for in treatment outcome ( $R^2$ ), the individual contribution of each predictor variable to treatment outcome when the contribution of the other IV is taken out of both the IV and DV (partial  $R^2$ , or  $pr^2$ ), and the relationship size estimates for  $R^2$  and  $pr^2$  (i.e.,  $f^2$ ).

Results indicated that, for clinician-rated outcome measures, the predictor variables accounted for a significant portion of the variance in treatment outcome, as measured by ADIS-C/P CSR change scores but not as measured by CGAS composite change scores. Specifically, content (i.e., preparation for and processing of exposure tasks) and process (i.e., collaboration and youth involvement) variables together accounted for 13% of the variance in ADIS-C/P CSR change scores, with medium relationship size estimates. When considering each of the four predictor variables individually, results indicated that processing of exposure tasks contributed significantly to lower pre- to post-treatment change scores on the ADIS-C/P, indicating greater improvement. The magnitude of this relationship was large ( $f^2=.29$ ). In contrast, preparation for the exposure task, as well as collaboration and involvement during the session, did not contribute significantly to the variance in ADIS-C/P CSR change scores,

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<sup>2</sup> For purposes of comparison, linear regression analyses were also conducted using pre- and post-treatment scores for all dependent measures. Pretreatment scores were found to significantly predict posttreatment scores for all measures. The inclusion of the pretreatment score would have added another predictor variable in regression analyses, which would require a larger sample size than the one included in the present study. Therefore, change scores were used as an indicator of treatment outcome.

although small ( $f^2=.08$ ) to medium ( $f^2=.17$ ) relationship size estimates were observed. Additionally, content and process variables did not account for a significant portion of the variance in treatment outcome as measured by CGAS composite change scores. Specifically, the four predictor variables accounted for a combined 9% of the total variance in treatment outcome as measured by CGAS composite change scores. When considered individually, none of the four predictor variables contributed significantly to pre- to post-treatment change scores on the CGAS composite, although small relationship size estimates (i.e.,  $f^2$  ranged between .05 and .08) were observed for the contribution of each variable to lower CGAS change scores.

Considering child self-report, the predictor variables accounted for a significant portion of the variance in treatment outcome as measured by change scores on the MASC. Content and process variables accounted for 19% of the total variance in total MASC change scores and 18% of the variance in MASC Harm Avoidance scale change scores, with medium relationship size estimates ( $f^2=.23$  and .22, respectively). When considering each of the four predictor variables individually, results indicated that collaboration between the youth and therapist contributed significantly to higher pre- to post-treatment change scores on the MASC Total and Harm Avoidance scale scores, with large relationship size estimates (i.e.,  $f^2=.41$  and .38, respectively), indicating lower levels of improvement. Youth involvement, preparation for the exposure task, and processing of the exposure task did not contribute significantly to treatment outcome as measured by pre- to post-treatment MASC change scores. Relationship size estimates for these analyses ranged from small ( $f^2=.01$ ) to large ( $f^2=.32$ ).

With regard to mother reports of youth functioning and anxiety symptoms, content and process variables did not account for a significant portion of the variance in treatment outcome. Specifically, the four predictor variables accounted for a combined 3% and 9% of the total variance in CBCL Total and Internalizing scale change scores, respectively, with small relationship size estimates ( $f^2=.03$  and  $.10$ , respectively). The four predictor variables also accounted for only 2% of the total variance in total CQ-P change scores. The magnitude of this relationship was small ( $f^2=.02$ ) When considered individually, none of the content or process variables were found to contribute significantly to pre- to post-treatment change scores on the CBCL or CQ-P, although some large relationship size estimates were observed for the contribution of collaboration and youth involvement during the session to lower CBCL Total and Internalizing and total CQ-P change scores, as reported by mothers (i.e.,  $f^2$  ranged from  $.24$  to  $.35$ ).

With regard to father-report of youth symptoms and functioning, results indicated that content and process variables accounted for a significant portion of the variance in treatment outcome as assessed by father-report of youth on the CQ-P but not on the CBCL. Specifically, the predictor variables accounted for 23% of the variance in pre- to post-treatment total CQ-P change scores, with large relationship size estimates ( $f^2=.30$ ). When considering the predictor variables individually, collaboration between the therapist and youth was found to significantly predict higher pre- to post-treatment change scores on the CQ-P, as rated by fathers, indicating improved coping ability. The magnitude of this relationship was large ( $f^2=.32$ ). Preparation for the exposure task, processing of the exposure task, and youth involvement did not contribute significantly to pre- to post-treatment change scores on the CQ-P, although medium to large relationship

size estimates were observed (i.e.,  $f^2$  ranged from .14 to .56). Results also indicated that the four predictor variables did not account for a statistically significant portion of the variance in treatment outcome as measured by father-report on the CBCL Total and Internalizing scales, despite accounting for 14% and 15% of the respective variance in these scales, with medium relationship size estimates (i.e.,  $f^2$  = .16 and .18, respectively). When examining each predictor variable individually, none of the content or process variables were found to contribute significantly to pre- to post-treatment change scores on the CBCL Total and Internalizing scales, although some medium to large relationship size estimates were observed for the contribution of all four variables to lower CBCL Total and Internalizing change scores, as reported by fathers (i.e.,  $f^2$  ranged from .15 to .42).

Considering teacher-report of youth symptoms and functioning, results indicated that content and process variables accounted for a significant portion of the variance in treatment outcome. The predictor variables accounted for 15% of the total TRF change score variance and 26% of the TRF Internalizing change score variance, with medium and large relationship size estimates (i.e.,  $f^2$  = .18 and .35, respectively). When considering the contribution of each predictor variable to total TRF change scores, results indicated that youth involvement contributed significantly to lower pre- to post-treatment scores, indicating greater improvement. The magnitude of this relationship was large ( $f^2$  = .46). In contrast, collaboration between youth and therapist, preparation for the exposure task, and processing of the exposure task did not contribute significantly to pre- to post-treatment total TRF change scores ( $f^2$  ranged from .07 to .14). With regard to the TRF Internalizing scale, results indicated that youth involvement significantly



contributed to lower pre- to post-treatment change scores, with large relationship size estimates (i.e.,  $f^2=.54$  and  $.69$ , respectively), indicating greater change. In contrast, higher levels of collaboration between the youth and therapist contributed to higher change scores on the TRF Internalizing scale, indicating lower levels of improvement. Content variables (e.g., preparation for and processing of the exposure task), in contrast, did not significantly contribute to changes in pre- to post-treatment TRF Internalizing scale scores, and only small relationship size estimates were observed for these analyses (i.e.,  $f^2$  ranged from  $.04$  to  $.08$ ).

Table 5.1. Multiple Regression Analyses of Content Variables in Exposure Task Sessions as Predictors of Treatment Outcome

Outcome Measure	Average Preparation			Average Processing		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Clinician-rated						
ADIS CSR <sup>a</sup>	0.56	0.48	0.15	-0.66	0.32	-0.25*
CGAS <sup>b</sup>	-1.79	2.82	-0.09	1.06	1.98	0.08
Child self-report						
MASC Total <sup>c</sup>	6.03	7.06	0.13	-0.43	4.9	-0.01
MASC Harm Avoidance <sup>c</sup>	1.43	2.17	0.10	0.10	1.15	0.01
Mother-report						
CBCL Total <sup>d</sup>	0.40	3.07	0.02	-2.11	1.89	-0.17
CBCL Internalizing <sup>d</sup>	1.65	3.20	0.08	-2.89	1.97	-0.22
CQ-P <sup>e</sup>	0.10	0.55	0.03	0.12	0.35	0.06
Father-report						
CBCL Total <sup>f</sup>	6.45	4.07	0.29	-4.39	2.01	-0.40

CBCL Internalizing <sup>f</sup>	7.94	4.23	0.34	-4.37	2.09	-0.38
CQ-P <sup>g</sup>	-0.37	0.53	-0.15	0.16	0.27	0.13
Teacher-report						
TRF Total <sup>h</sup>	-2.13	3.19	-0.12	-0.65	1.96	-0.06
TRF Internalizing <sup>h</sup>	-1.38	3.96	-0.07	0.36	2.43	0.03

*Note.* ADIS CSR=Anxiety Disorders Interview Schedule for Children Clinician Severity Rating; CGAS=Children's Global Assessment Scale; MASC=Multidimensional Anxiety Scale for Children; CBCL=Child Behavior Checklist; CQ-P=Coping Questionnaire-Parent Version; TRF=Teacher Report Form; <sup>a</sup>n=61; <sup>b</sup>n=58; <sup>c</sup>n=56; <sup>d</sup>n=51; <sup>e</sup>n=52; <sup>f</sup>n=55; <sup>g</sup>n=49; <sup>h</sup>n=54. \**p*<.05.

Table 5.2. Multiple Regression Analyses of Process Variables in Exposure Task Sessions as Predictors of Treatment Outcome

Outcome Measure	Average Collaboration			Average Involvement		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Clinician-rated						
ADIS CSR <sup>a</sup>	0.33	0.65	0.11	-0.45	0.55	-0.18
CGAS <sup>b</sup>	-2.36	3.48	-0.15	1.88	2.99	0.14
Child self-report						
MASC Total <sup>c</sup>	8.22	3.49	0.34*	0.68	3.58	0.03
MASC Harm Avoidance <sup>c</sup>	2.21	1.05	0.31*	0.99	1.07	0.15
Mother-report						
CBCL Total <sup>d</sup>	6.77	3.09	0.55	-5.16	2.60	-0.50
CBCL Internalizing <sup>d</sup>	7.05	3.60	0.50	-4.63	3.03	-0.39
CQ-P <sup>e</sup>	-0.13	0.18	-0.22	0.07	0.15	0.15
Father-report						
CBCL Total <sup>f</sup>	2.65	4.12	0.20	-3.90	3.00	-0.40

CBCL Internalizing <sup>f</sup>	5.43	3.88	0.42	-4.92	2.83	-0.52
CQ-P <sup>g</sup>	0.22	0.98	0.42*	-0.50	0.39	-0.41
Teacher-report						
TRF Total <sup>h</sup>	1.93	3.07	0.15	-4.99	2.40	-0.50*
TRF Internalizing <sup>h</sup>	7.72	3.29	0.52*	-8.18	2.56	-0.71**

*Note.* ADIS CSR=Anxiety Disorders Interview Schedule for Children Clinician Severity Rating; CGAS=Children’s Global Assessment Scale; MASC=Multidimensional Anxiety Scale for Children; CBCL=Child Behavior Checklist; CQ-P=Coping Questionnaire-Parent Version; TRF=Teacher Report Form; <sup>a</sup>n=61; <sup>b</sup>n=58; <sup>c</sup>n=56; <sup>d</sup>n=51; <sup>e</sup>n=52; <sup>f</sup>n=55; <sup>g</sup>n=49; <sup>h</sup>n=54. \**p*<.05; \*\**p*<0.01.

Table 6.1. Overall Contribution of Models and Individual Contribution of Content and Process Variables in Exposure Task Sessions to Treatment Outcome – Clinician-Rated Measures

Outcome measure	$R^2$	$pr^2$	$f^2$
ADIS CSR <sup>a</sup>	.13*		.15
Preparation		.15	.17
Processing		-.25*	.29
Collaboration		.07	.08
Involvement		-.12	.14
CGAS <sup>b</sup>	.09		.10
Preparation		-.08	.09
Processing		.07	.08
Collaboration		-.05	.05
Involvement		.07	.08

*Note.* ADIS CSR=Anxiety Disorders Interview Schedule for Children Clinician Severity Rating; CGAS=Children’s Global Assessment Scale. <sup>a</sup>n=61; <sup>b</sup>n=58.  $f^2$ =.01, .15, and .35 for small, medium, and large estimates of relationship magnitude. \**p*<.05.

Table 6.2. Overall Contribution of Models and Individual Contribution of Content and Process Variables to Treatment Outcome – Child-Reported Measures

Outcome measure	$R^2$	$pr^2$	$f^2$
MASC Total <sup>a</sup>	0.19*		.23
Preparation		.13	.16
Processing		-.01	.01
Collaboration		.33*	.41
Involvement		.14	.17
MASC Harm Avoidance <sup>a</sup>	0.18*		.22
Preparation		.10	.12
Processing		.04	.05
Collaboration		.31*	.38
Involvement		-.26	.32

*Note.* MASC=Multidimensional Anxiety Scale for Children. <sup>a</sup> $n=56$ .  $f^2=.01$ , .15, and .35 for small, medium, and large estimates of relationship magnitude. \* $p<.05$ .

Table 6.3. Overall Contribution of Models and Individual Contribution of Content and Process Variables to Treatment Outcome – Mother-Reported Measures

Outcome measure	$R^2$	$pr^2$	$f^2$
CBCL Total <sup>a</sup>	.03		.03
Preparation		.02	.02
Processing		-.16	.16
Collaboration		.34	.35
Involvement		-.31	.32
CBCL Internalizing <sup>a</sup>	.09		.10
Preparation		.07	.08
Processing		-.20	.22
Collaboration		.31	.34
Involvement		-.25	.27
CQ-P Total <sup>b</sup>	.02		.02
Preparation		.04	.04
Processing		-.10	.10
Collaboration		.30	.31
Involvement		-.24	.24

*Note.* CBCL=Child Behavior Checklist; CQ-P=Coping Questionnaire-Parent Version; <sup>a</sup> $n=51$ ; <sup>b</sup> $n=52$ .  $f^2=.01$ ,  $.15$ , and  $.35$  for small, medium, and large estimates of relationship magnitude. \* $p<.05$ .

Table 6.4. Overall Contribution of Models and Individual Contribution of Content and Process Variables to Treatment Outcome – Father-Reported Measures

Outcome measure	$R^2$	$pr^2$	$f^2$
CBCL Total <sup>a</sup>	.14		.16
Preparation		.27	.31
Processing		-.36	.42
Collaboration		-.25	.29
Involvement		.13	.15
CBCL Internalizing <sup>a</sup>	.15		.18
Preparation		.32	.38
Processing		-.35	.41
Collaboration		-.32	.38
Involvement		.27	.32
CQ-P Total <sup>b</sup>	.23*		.30
Preparation		-.14	.18
Processing		.11	.14
Collaboration		.25*	.32
Involvement		.43	.56

*Note.* CBCL=Child Behavior Checklist; CQ-P=Coping Questionnaire-Parent Version; <sup>a</sup> $n=55$ ; <sup>b</sup> $n=49$ .  $f^2=.01$ , .15, and .35 for small, medium, and large estimates of relationship magnitude. \* $p<.05$ .

Table 6.5. Overall Contribution of Models and Individual Contribution of Content and Process Variables to Treatment Outcome – Teacher-Reported Measures

Outcome measure	$R^2$	$pr^2$	$f^2$
TRF Total <sup>a</sup>	.15*		.18
Preparation		-.12	.14
Processing		-.06	.07
Collaboration		.12	.14
Involvement		-.39*	.46
TRF Internalizing <sup>a</sup>	.26**		.35
Preparation		-.06	.08
Processing		.03	.04
Collaboration		.40*	.54
Involvement		-.51**	.69

*Note.* TRF=Teacher Report Form; <sup>a</sup> $n=54$ .  $f^2=.01$ , .15, and .35 for small, medium, and large estimates of relationship magnitude. \* $p<.05$ ; \*\* $p<0.01$ .

### Exploratory Analyses

#### *Preliminary Analyses*

Pretreatment demographic and diagnostic differences between treatment responders and nonresponders were examined prior to conducting exploratory analyses. With regard to pretreatment demographic variables, treatment responders and nonresponders did not significantly differ with regard to age,  $t(59)=-0.62$ ,  $p=.54$ ; gender,  $\chi^2(1, N=61) = 3.89$ ,  $p=.23$ ; ethnicity,  $\chi^2(3, N=61) = 5.73$ ,  $p=.20$ ; or estimated total household income,  $\chi^2(7, N=59) = 2.21$ ,  $p=.92$ . Considering diagnostic status, treatment responders and nonresponders did not significantly differ with regard to number of

pretreatment diagnoses,  $t(59)=-0.11, p=0.92$ ; type of pretreatment principal diagnosis,  $\chi^2(22, N=61) = 24.86, p=.30$ ; or severity of pretreatment principal diagnosis,  $t(59)=-2.29, p=.35$ .

#### *Univariate Analysis of Variance (ANOVA)*

Given that there were no significant differences between treatment responders and nonresponders on pretreatment demographic and diagnostic variables, a univariate analysis of variance (ANOVA) was performed to examine potential significant between-group differences on all ESRF variables (i.e., both session components and global ratings of content and process variables). No significant differences were observed between treatment responders and nonresponders on mean global ratings of preparation for the exposure task,  $F(1, 59)=0.10, p=.92$ ; processing of the exposure task,  $F(1, 59)=2.91, p=.09$ ; collaboration between the youth and therapist during the session,  $F(1,47)=0.00, p=.98$ ; and youth involvement during the session,  $F(1, 47)=0.39, p=0.54$ . Similar results were found for ESRF variables related to session components, with two notable exceptions: relative to nonresponders, treatment responders were significantly more likely to have been assigned a STIC task at the end of sessions,  $F(1, 59)=11.96, p<.01, \eta^2=.41$ , and were also significantly more likely to have been rewarded for completing the exposure at the end of sessions,  $F(1, 59)=4.34, p<.05, \eta^2=.26$ .

Additional results indicated that youth with a co-principal anxiety disorder diagnosis (i.e., SAD, SP, or GAD, of equal severity as principal anxiety disorder) were better prepared for exposure tasks,  $F(1, 59)=6.66, p<.01, \eta^2=.32$ , were more likely to receive a rationale/explanation for how exposure-based treatment works to reduce anxiety,  $F(1, 59)=3.94, p<.05, \eta^2=.25$ , and were more likely to practice the exposure task



with their therapist prior to actually engaging in the exposure task,  $F(1, 59)=7.10, p<.01, \eta^2=.33$ . No significant between-group differences were observed for total preparation time for the exposure task.

## **CHAPTER 5 DISCUSSION**

The use of exposure tasks in CBT for anxiety-disordered youth is widely accepted and has even been described as the “key” component of treatment (Kazdin & Weisz, 1998). Anxiety-disordered youth have also acknowledged this: Kendall and Southam-Gerow (1996) found that, even three years after the completion of CBT, 17% recalled in-vivo exposure tasks as being an important aspect of treatment. Given the importance of exposure treatment in CBT for AD youth, this study evaluated sessions in which exposure tasks take place to examine the extent to which process (i.e., collaboration between the youth and therapist and youth involvement in the session) and content (i.e., preparation for and processing of exposure tasks) variables were associated with treatment outcome. This study also explored the structural and technical aspects of sessions in which exposure tasks take place, as a preliminary response to numerous calls for research on the topic (e.g., King, Heyne, & Ollendick, 2005).

### Relationship of Process Variables to Treatment Outcome

Therapeutic alliance has been shown to predict improved treatment outcome (e.g., Horvath, 1994; Shirk & Karver, 2003), and therefore, therapist behavior that may lead to a stronger alliance is an area that has received research attention. Collaboration has previously been identified as a specific therapist-initiated behavior that contributes to treatment engagement with youth (Diamond, Liddle, Hogue, & Dakof, 1999; Diamond, Siqueland, & Diamond, 2003). In these studies, therapists who presented themselves as “allies” and formulated goals meaningful to youth were more successful in forming positive alliances. Similarly, Creed and Kendall (2005) found that therapists who engaged youth in a collaborative manner formed the strongest therapeutic alliance with

their clients as reported by multiple reporters in later sessions. In the present study, increased youth-therapist collaboration during sessions in which exposure tasks take place was found to predict improved treatment outcome on father-reported measures. Collaboration was generally defined as an agreement on treatment goals and an emphasis on teamwork to assist in accomplishing these goals. The definition of collaboration was also made specific to sessions in which exposure tasks take place. For example, if they encountered resistance or opposition, therapists were rated as being “more collaborative” if they offered alternative choices and “less collaborative” if they “told the youth what to do.”

Several explanations exist for why collaboration in the present study and in previous studies may have contributed to improved treatment outcome. First, although youth- or therapist-ratings of therapeutic alliance were not measured in the present study, it is possible that therapist-initiated collaborative behavior led to a stronger alliance, which, in turn, led to improved treatment outcome. Second, therapist-initiated collaborative behavior may have made engaging in anxiety-provoking exposure tasks more “palatable” to youth: given the emphasis on teamwork, youth may have felt that they did not have to “face their fears” alone but rather could do so in the presence of a supportive “coach.” Third, CBT is typically presented as a collaborative model of treatment in which the client and youth work together towards change. Addis and Jacobson (2000) posit that CBT depends on the therapist presenting a treatment model of change that the client would need to find compelling. Karver et al. (2005) consider the ability to do this part of a therapist’s “direct influence skills” and have found that these skills are prominent predictors of treatment outcome. The authors posit that a therapist’s

direct influence skills enhance the credibility of the therapist and the treatment and are likely to lead youth to be willing to form a working relationship with that therapist. Consistent with this notion, in the present study, therapists were rated as being more collaborative if they made more “we,” “us,” or “let’s” statements, indicating their desire to work *with the youth*. The emphasis on treatment being a highly collaborative process from start to finish may have made it easier for youth to “buy in” to the treatment model and may have led to increased engagement in therapeutic tasks.

With regard to youth engagement in treatment, research indicates that greater levels of youth involvement assessed right before the start of the exposure-based portion of treatment are reliably associated with improved treatment outcome, defined as the absence of the primary anxiety disorder or improvement in global impairment ratings at posttreatment (Chu & Kendall, 2004). More generally, youth willingness to participate in treatment is associated with improved outcome (see Karver et al., 2005, for a review). In the present study, youth involvement in session predicted improved treatment outcome on teacher-reported measures. These findings suggest that, in addition to *therapist*-initiated behavior (e.g., collaboration), *youth*-initiated behavior, such as involvement in therapeutic tasks, is important for treatment success. Interestingly, youth involvement did not significantly predict changes in youth- or parent-reports. One possible explanation for this discrepancy is that teachers have access to youth in peer and classroom environments and may be able to observe a decrease in avoidance behavior more than parents or youth themselves.

## Relationship of Content Variables to Treatment Outcome

With regard to session content, to date, only one study has examined the potential contributions of session components and/or exposure task characteristics to treatment outcome in CBT for AD youth (Hedtke, Kendall, & Tiwari, 2009). The authors reported that, on average, only about 10 minutes of a 60-minute session were spent actually engaging in exposure tasks, and that fewer (i.e., approximately one and a half) exposure tasks per session were actually more predictive of treatment gains. The authors suggested that the majority of a session in which exposure tasks take place is likely devoted to other therapeutic activities, including introductory activities, preparation for the exposure, processing of the exposure, and closing activities and reasoned that fewer exposure tasks, prepared for and processed better, are more likely to lead to improved outcome.

The results of the current study indicate that, contrary to expectation, increased preparation for exposure tasks did not significantly predict treatment outcome on youth-, parent-, and teacher-reported measures, despite a large amount of session time (i.e., about 15 minutes or 25%) being allotted to helping the youth prepare for tasks. In contrast, increased processing of the exposure tasks was associated with improved outcome as rated by clinicians using the ADIS-C/P. These findings suggest that an important feature (active ingredient?) of the exposure task is not the preparation, but *actually being presented with feared stimuli and processing the experience* that leads to anxiety reduction. It is possible that therapists conducting exposure-based treatment might be able to devote time to additional exposure tasks, or to other aspects of the psychoeducation or processing of exposure tasks, without being concerned about the child being “insufficiently” prepared for the exposure tasks.

Why would the processing of exposure tasks once completed lead to changes in treatment outcome? Hudson (2005) posited that despite the paucity of empirical research examining the change in cognitive processing that may occur as a result of CBT, it is widely accepted that cognitive distortions are central to anxiety disorders and changes in cognition must occur for treatment to be effective. Hudson (2005) stated that the use of exposure tasks in CBT for AD youth “brings about change in avoidance behavior and ultimately alters the child’s cognition regarding perceived threat, perceived control over the threat, and/or coping ability” (p. 161). Indeed, research has indicated that negative self-statements focused on content oriented to threat and harm are linked to anxious maladjustment and are associated with poorer outcomes (Kendall & Treadwell, 2007; Treadwell & Kendall, 1996).

In the current study, post-completion debriefing of exposure tasks consisted of the following elements, as outlined in the *Coping Cat* therapist manual (Kendall & Hedtke, 2006): (a) evaluation of the youth’s performance during the task (by the youth, therapist, or both); (b) a discussion of features of the exposure task that may have made it easier or more difficult for the youth; and (c) a discussion of the youth’s SUDS ratings before, at several points during, and after the exposure task. Thus, during this portion of the session, therapists are working with youth to examine and actively challenge, and thereby potentially *affect*, cognitions related to perceived threat, perceived control over the threat, and perceived ability to cope with the threat. In other words, youth had to verbalize their fear and negative expectations prior to engaging in exposure, examine and evaluate their ability to cope with the anxiety-provoking situation(s), and have discussions about whether what they feared was going to happen actually happened. It is possible that these

discussions, which often focused on challenging the youth's cognitive distortions, produced "evidence" that the youth was capable of coping with the anxiety-provoking situation(s). Consistent with this, significant results were found for the father-reported Coping Questionnaire-Parent (CQ-P), a measure of parents' perception of their child's ability to help him/herself manage distress in anxiety-provoking situations. These findings support the notion posited by Kendall et al. (2005) that coping skills development may be important to successful exposure-based treatment. Additionally, it is possible that in-session processing of exposure tasks may help to actively challenge cognitive distortions in AD youth.

#### Exploratory Findings Related to Exposure Task Sessions

Do certain AD youth benefit more from increased preparation for exposure tasks or processing of the tasks? Results indicated that pretreatment demographic and diagnostic differences were not associated with either variable. However, post-hoc analyses revealed that youth with a co-principal anxiety disorder (i.e., disorder of equal severity as principal anxiety disorder) were better prepared for exposure tasks relative to youth without a co-principal anxiety disorder. Additionally, youth with a co-principal anxiety disorder diagnosis were more likely to receive or possibly require a rationale for completing the exposure task (e.g., "I know this is hard for you, but remember that it will become easier over time.") and were more likely to practice the exposure task with their therapist prior to actually completing the task. Although previous research has indicated that comorbidity does not ultimately impact treatment outcome for anxious youth (e.g., Kendall, Brady, & Verduin, 2001; Walkup et al., 2008), it is possible that youth with comorbid anxiety disorders may require more extensive preparation for exposure tasks

than their counterparts who do not have multiple anxiety disorder diagnoses. This finding has important clinical implications, especially considering that anxiety disorders in youth often do not present as a single, focused disorder (e.g., Kendall et al., 2010). Therapists working with youth with multiple anxiety disorder diagnoses may want to consider structuring the session such that sufficient time is allotted for the preparation of exposure tasks.

Descriptive results related to time allotment during sessions indicated that, although variable, most of the session was spent engaging in introductory activities, rapport-building or reviewing the STIC task assigned at the end of the previous session (14 minutes), and preparing for the exposure task (15 minutes), while less time was spent engaging in exposure tasks (approximately 10 minutes), processing the exposure task (3 minutes), or engaging in closing activities (10 minutes). The present results replicated those found by Hedtke et al. (2009), indicating that only 10 minutes of each 60-minute treatment session involving exposure was spent actually engaging in exposure tasks. Although the number of exposure tasks conducted was not recorded in the present study, Hedtke et al. (2009) found that 10 minutes usually allowed for an average of one and a half exposure tasks to be completed. Foa and Kozak (1986) stated that for exposure-based treatment to occur, emotional processing, or the modification of the fear structures that underlie negative emotions (i.e., anxiety), must occur. The authors stated that “repeated exposures over time allow a new representation of long-term consequences to replace elements of the preexisting fear memory” (p.28). The evidence cited to support this claim, however, pertains to adults, not youth. To date, no research has examined the widely accepted belief that exposure must be repetitive and massed to be effective with



AD youth. Taken together, results from the study by Hedtke et al. (2009) and the present study challenge theoretical assertions that for exposure-based treatment to be effective, exposure tasks must be repetitive and massed (e.g., Bouchard et al., 2004; Foa & Kozak, 1986). Rather, it appears that *fewer* exposure tasks per session that are *processed well* by the youth and therapist may lead to improved outcome.

With regard to specific components of introductory, preparatory, and processing segments of sessions in which exposure tasks take place, results from the present study indicate that rapport-building, STIC review, selection of the exposure task, role-play, evaluating performance following the exposure, assigning STIC task(s), and rewarding the youth for effort consistently took place; providing a rationale for exposure, selecting a reward prior to the exposure task, discussing features of the exposure task, and selecting an exposure task for the next session took place in at least one out of three sessions; and practicing with the therapist, using imaginal exposure to prepare, and reviewing relaxation techniques rarely took place. Several conclusions can be drawn from these findings. It is evident that therapists largely adhered to the treatment components outlined in the therapist manual. It is also possible that practice with the therapist, the use of imaginal exposure, and/or reviewing relaxation techniques are not entirely essential in helping youth prepare for exposure tasks. An examination of the potential relationship between specific session components and treatment outcome, however, was not an aim of the present study.

Results related to global ratings of content and process variables indicated that, on average, youth were “somewhat prepared” for exposure tasks and exposure tasks were processed “somewhat well” by the youth and therapist. Therapist-youth interactions

during the session were rated as being “very” collaborative, and higher collaboration ratings accounted for a significant portion of the variance in treatment outcome as measured by child-, parent-, and teacher-reports. Thus, this study extends the findings of Creed and Kendall’s (2005) study by demonstrating that ongoing therapist-youth collaboration throughout treatment, not just in the first three sessions, is likely to lead to improvement in outcome. The present findings are also in line with those of Jungbluth and Shirk (2009), who found that greater therapist-initiated collaboration, including a focus on eliciting and attending to client material, was associated with improved outcome in a sample of depressed youth.

Several additional exploratory findings related to significant differences between treatment responders and nonresponders are worth noting. Consistent with previous research (e.g., Kendall et al., 1997; Kendall et al., 2008; Walkup et al, 2008), the present results do not indicate pretreatment demographic and diagnostic differences between treatment responders and nonresponders. Additionally, although no differences were observed between the two groups with regard to overall preparedness for exposure tasks, processing of exposure tasks, collaboration, and/or youth involvement, significant between-group differences did emerge for certain session components that took place during the closing activities segment of the session. Specifically, treatment responders were more likely to be assigned a STIC task to complete during the week and to be rewarded for effort in session than were treatment nonresponders. These findings are consistent with the notion that homework and reward matter in CBT for AD youth. Although no attempts were made to examine the potential predictive effects of these specific session components to treatment outcome given power considerations, it is

possible that assigning of the STIC task allowed for continuity of treatment effects, as youth were being actively encouraged to practice between sessions and in multiple environments. Providing the youth with a reward for effort in session is consistent with the notion that for rewards to be effective in inducing behavioral change, they must be provided *immediately* after the exposure task is completed, as outlined in the *Coping Cat* therapist manual (Kendall & Hedtke, 2006). Although speculative, it is also possible that the provision of a reward in session increased the likelihood that the youth engaged in the next exposure task, or in the STIC task, and also provided a sense of accomplishment and mastery that AD youth often lack. Consistent with Bandura's (1977) formulation, this experience of mastery may have led to a "newfound" sense of self-efficacy, leading to decreased avoidance behavior and, ultimately, decreased anxiety.

#### Limitations, Considerations, and Future Directions

Potential limitations of this research merit consideration. Discrepant findings across different reporters were observed for both content and process variables. Several explanations exist for these discrepancies. De los Reyes and Kazdin (2005) highlight disagreement among various reporters (e.g., clinicians, youth, parents, etc.) as a major challenge faced by child psychopathology researchers. The authors outline a framework to explain informant disagreement, but no guidelines are provided as to the reconciliation of potentially conflicting reports in empirical studies. With regard to youth anxiety, respondent disagreement has been found for self-report measures of anxiety symptoms in youth (Kenny & Faust, 1997), as well as for diagnosis of youth anxiety disorders (e.g., Choudhury, Pimentel, & Kendall, 2003; Comer & Kendall, 2004; Grills & Ollendick, 2003). Given this, it is possible that the results of the present study differed across

measures as a result of the informant disagreement that is commonly observed in youth anxiety research. It is also possible that the use of multiple assessment methods may have contributed to variation in results, as each instrument is designed to measure different symptom clusters and/or problem areas. Notably, preliminary analyses revealed that the youth self-report outcome measure (i.e., MASC Total and Harm Avoidance scale change scores) was not significantly correlated with parent- or teacher-reported measures (i.e., CBCL and TRF). Thus, it is understandable that findings that were significant using the MASC were not observed across measures. Discrepancies on clinician-rated diagnostic measures might be explained by the fact that exposure tasks in this study specifically targeted the youth's presenting anxiety symptoms, which are measured by the ADIS-C/P, whereas the CGAS provides a global rating of the youth's overall functioning and impairment and is not specific to the youth's anxiety disorder(s), which is focus of treatment.

Further explanation may lie in the sensitivity of certain measures to the youth's internal experience and/or observable behavior as reported by others in environments where the behavior is most likely to be observed. Given the internalizing nature of anxiety disorders, Comer and Kendall (2004) suggest that some symptoms may manifest outside of parents' awareness. It is possible that observable symptoms of anxiety may occur in situations outside the home (e.g., at school; in social settings). Anxious youth who are worried about being evaluated negatively may also provide what they perceive to be socially desirable responses, rather than valid self-reports (Dadds, Perrin, & Yule, 1998). It is possible that youth self-report on measures such as the MASC may actually under-represent anxiety symptomatology. Consequently, it is understandable that in the

current study, significant results were found on teacher-reported measures (i.e., involvement and the TRF) and not as uniformly across parent- or youth-reported measures.

Discrepancies in findings between mother- and father-reported measures warrant brief discussion. Parental involvement in treatment has traditionally been synonymous with maternal involvement. Contemporary research has suggested that fathers make unique contributions to the development of youth disorders and may contribute to the success of treatment outcome (e.g., Connell & Goodman, 2002). Preliminary research pertaining to AD youth suggests that father attendance in session, like mother attendance, is associated with improved outcome (Podell & Kendall, 2010). The present results are consistent with those of Podell and Kendall. Significant results were found for father-reported measures, suggesting that fathers may provide a unique perspective on youth improvement as a result of treatment.

With regard to study design, the correlational nature cannot address questions of directionality and causation. Additionally, the generalizability of the results is limited to the sample of AD youth included in this study and to the treatment protocols used. Collaboration and youth involvement may vary in different youth populations (e.g., either very young children or adolescents). Although recent articles have provided support for the use of change scores (e.g., Zimmerman & Williams, 1998), it is possible that the use of change scores may not have adequately captured the change process from pre- to post-treatment.

With regard to assessment, diagnosticians were blind to participants' treatment conditions (i.e., ICBT vs. FCBT), but not to assessment period (i.e., pretreatment vs.

posttreatment). As such, it is possible that change scores for diagnostic measures (i.e., ADIS-C/P; CGAS), were influenced by diagnosticians' knowledge of whether participants were beginning or ending treatment. Also, as mentioned previously in this discussion, independent observers provided global ratings of collaboration, youth involvement, preparation for exposure tasks, and processing of exposure tasks on a 5-point Likert-type scale. Although raters were encouraged to use the full range of responses, the majority of ratings tended to cluster towards the middle of the scale. Ratings of collaboration provided an exception, with raters' responses more likely to cluster towards the higher end of the scale. Not surprisingly, collaboration was found to significantly predict improved treatment outcome as rated by multiple informants.

Future research may benefit from the inclusion of larger age range of AD youth, to determine if special developmental considerations are needed when working with younger children and adolescents. Kendall et al. (2005) highlight the importance of attending to a youth's developmental level (e.g., social, cognitive, physiological, and emotional processes) in every stage of exposure-based treatment, from explaining the need for exposure, to creating the FEAR hierarchy, to rewarding for effort. The authors state, for example, that younger children may benefit from a more simplistic explanation of the need for exposure, whereas adolescents may feel increased ownership over distressing situations if they have more detailed discussions with their therapist about exposure and feel more "mature" as a result. Research has also indicated that in-session involvement can be quite challenging with adolescents (Meeks & Bernet, 2002), and adolescent involvement in treatment may increase when therapists are more collaborative (Jungbluth & Shirk, 2009). The limited age range in the present study did not allow for

the examination of possible associations between content and process variables and the youth's developmental level.

The present study did not examine the possible contribution of specific session components (e.g., assigning a STIC task, rewarding for effort) to treatment outcome, and this may be a focus of future research. Additional questions pertaining to process variables remain. Do youth who perceive themselves as being more involved in session actually fare better than those who do not? If a youth perceives a therapist as being more collaborative, is he/she more willing to engage in exposure tasks? Does a therapist's perception of how involved the youth is affect session content or structure? Whereas the present study included independent observers' ratings of process and content variables, future studies could include therapist and youth ratings, assessed *in session*, to begin to address these questions. Research that examines shifts (either increases or decreases) in collaboration and involvement *within* an exposure session or across exposure sessions may also provide valuable insight into the dynamic and transactional nature of CBT for AD youth.

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## **APPENDICES**



## APPENDIX A EXPOSURE SESSION RATING MANUAL (ESRM)

### *Overview*

This manual provides instructions for rating therapy sessions conducted as part of a manualized CBT program for anxious youth (i.e., *Coping Cat*). Specifically, the sessions to be rated are those in which exposure tasks (i.e., gradual exposure to feared situations or stimuli) take place. Two types of exposure tasks are generally used: *imaginal* and *in vivo*. Imaginal exposure tasks are those in which the youth is asked to imagine the anxiety-provoking stimulus/situation but does not come in contact with actual stimulus/situation. Rather, the youth may be asked to imagine the stimulus by looking at pictures, writing a story, or through guided imagery by the therapist. During *in vivo* exposure, the youth is asked to enact or physically perform actions that lead him/her to come in contact with the anxiety-provoking stimulus/situation. The youth is doing what he/she fears in a “live” situation. Examples include having a conversation with someone, going somewhere new, making quick decisions, and separating from mom or dad.

As a rater, you are being asked to view and closely examine different segments of sessions in which exposure tasks take place for the presence of key components or strategies that are outlined in the therapist’s treatment manual. Additionally, you will be asked to provide general ratings on content (i.e., preparedness for the exposure task, processing the exposure task) and process (i.e., level of collaboration between the youth and therapist, level of involvement displayed by the youth during the session) variables during the session.

### *General Instructions*

Sessions in which exposure tasks take place typically consist of several segments: (a) general introductory activities, (b) preparation for the exposure task, (c) conducting the exposure task, (d) processing the exposure task, and (e) closing activities. During each individual segment, therapists are instructed to implement several components or strategies as outlined in the therapist’s manual. A description of each segment of the session is now provided.

#### Introductory Activities

The initial portion of the session generally consists of rapport-building activities, such as general conversation on how the youth has been feeling during the past week, if anything new or exciting has happened, and/or to follow-up on any activities that the youth had mentioned that he/she would be participating in or attending during the last session, such as a friend’s birthday party, a baseball game, or a family vacation. The therapist may also choose to play a game with the youth to engage him/her.

The introductory portion of the session also involves more structured activities outlined in the therapist’s manual, such as reviewing the youth’s take-home assignment (i.e., STIC task assigned the previous week) and providing the youth with stickers or points for completion of the STIC, as needed.

### Preparing for the Exposure Task

Once the introductory activities have been completed, the therapist begins preparing the youth for the task at hand during the current session: engaging in an exposure task. The therapist works with the youth to select an exposure task, usually by examining the youth's FEAR ladder – an already completed list of feared situations hierarchically ranked from least to most anxiety-provoking. The exposure task may also have been agreed upon during the previous week's session.

When the exposure task has been selected, the therapist helps the youth prepare for the task using a variety of methods, including *imaginal* exposure, role-play (e.g., reviewing the FEAR plan), and/or rehearsal/practice with the therapist.

### Conducting the Exposure Task

When the youth feels prepared for the exposure task, the actual task itself takes place. Exposure tasks might take place in the therapy room or the therapist might take the youth to another location (e.g., a food truck or a classroom) to allow for practice that more closely resembles a “real-life” situation. To determine the length of the exposure task, the therapist might obtain Subjective Units of Distress (SUDS) ratings from the youth at several points before, during, and after the exposure. It is recommended that the youth remain in the anxiety-provoking situation until his/her anxiety is reduced by at least 50%. If the youth becomes distressed, it is important for the therapist to encourage the youth to remain in the situation until his/her anxiety is reduced.

### Processing the Exposure Task

Following the exposure task, the therapist and youth evaluate the youth's performance during the anxiety-provoking situation. In this process, SUDS ratings can be useful in providing feedback. For example, the therapist and youth may graph SUDS data and discuss the youth's corresponding anxious feelings before, during, and after the exposure task. The youth and therapist might discuss features of the exposure task, including how the youth was feeling, what the youth was thinking, and how the youth chose to manage his or her anxiety. Additionally, the two can discuss any obstacles that were encountered, what specific aspects of the task made it easy or difficult, and what, if anything, the youth might do differently in the future.

### Closing Activities

Prior to the end of the session, it is important for the therapist to praise the youth for his/her effort and provide the youth with a reward of his/her choosing as positive reinforcement, increasing the likelihood that the youth will engage in future exposure tasks and also providing the youth with a sense of success and competence. During this time, the therapist and youth may also select a STIC task (i.e., an exposure task) to be completed prior to the next session. The therapist may also play a game with the youth as a reward for the exposure task or as a way to build rapport.

## *Rating Instructions*

Please complete an *Exposure Session Rating Form (ESRF)* for each session that you view. Please note that it is not uncommon for more than one exposure task to take place during a given session. In the case where there is more than one exposure task, a therapist might choose to prepare the youth for and process each individual exposure task or more generally prepare the youth for several exposure tasks that will be taking place in a given session and then do a joint processing of all exposures that have been completed. If the session you are viewing involves multiple exposure tasks, *please complete the ESRF only for the first exposure task of the session*. If processing of the exposure task does not happen immediately following the exposure task (e.g., the therapist has the youth engage in another exposure task right away), please cue the tape to a later point in the session to rate the processing segment.

The ESRF is divided into two parts: the first assesses the presence of components of individual segments of the session, while the second is designed to obtain global ratings of content and process variables. Instructions for rating each section are as follows:

### PART I: Session Components

1) Please note the duration, in minutes, of each component of the session as listed on the ESRF: introductory activities, preparation for the exposure task, exposure task, processing the exposure task, and closing activities. With the exception of the introductory section, the beginning of each segment will be the end of the previous segment. Please follow these specific instructions when timing:

a) For the introductory section, begin timing as soon as the therapist and youth enter the room. This section will usually conclude with the therapist providing the youth with stickers or points for completion of the STIC task. In case the STIC was not completed, the therapist might discuss why the task was not completed with the youth and may or may not reward with stickers/points.

b) For the preparation section, start timing as soon as the therapist begins discussing the current session. The therapist might transition from the previous section by making statements such as, “So, let’s talk about what we’re practicing today” or “Last time, you said that you wanted to practice [exposure task] today,” indicating a shift to a discussion about the current session. Continue timing until the start of the exposure task.

c) Please record how much time is spent engaging in the exposure task(s).

d) For the processing section, start timing as soon as the exposure task(s) ends, and the therapist begins talking to the youth (e.g., “Wow, you did a great job”) or vice versa. Once it is clear that the therapist and youth have stopped processing the exposure task, stop timing.

e) The remainder of the session will likely consist of closing activities. Do not continue timing if the therapist asks the youth to complete a post-session measure and the youth stays in the room to do so. In this case, stop timing once the therapist leaves the room. If the therapist and the youth play a game to end the session, you can fast forward to the end of the session and note the amount of time elapsed.

2) Please record the presence (Y) or absence (N) of key components of each segment of the session. Additional details relating to these components are provided below to facilitate proper identification.

### Introductory Activities

a) *Rapport-building*: involves any activity related to developing or maintaining the relationship between the therapist and youth. It can range from playing a game with the youth, following up with him/her on a previously mentioned trip or activity, general conversation relating to the youth's likes/dislikes, etc. It is not uncommon for therapists to engage in rapport-building activities at other times in the session. However, you are only being asked to rate whether or not rapport-building took place at the beginning of the session.

b) *Reviewing STIC*: involves discussion of the previous week's take-home assignment and can be done with or without the youth's workbook. If the task was not done, the therapist might check in with the youth about why he/she did not complete the task and problem-solve ways that the youth can remember STIC assignments. Stickers or points for completion are generally awarded for effort.

### Preparation for Exposure Task

a) *Selection of exposure task*: the first step in the preparation process involves the youth and therapist selecting an exposure task to complete during the session. The therapist may refer to the youth's already-completed FEAR hierarchy or "ladder" to determine which task is next on the list. The therapist and youth may also repeat an exposure task from the previous session or choose an exposure task that relates to the youth's experiences during the past week.

b) *Role-play/FEAR plan*: following the selection of the exposure task, the therapist might help the youth "role-play" the situation by reviewing the FEAR steps in the context of the anxiety-provoking situation. The therapist might write the FEAR acronym on the board or on a piece of paper and have the youth go through each step of the plan using the situation selected for the exposure task. Using the FEAR plan, the youth may come up with relaxation strategies or "coping thoughts" to use during the exposure task. The youth may also problem-solve ways that he/she can make the exposure task more manageable. For example, a youth engaging in conversation with someone new may choose to write a short list of questions on an index card to glance at during the exposure task. In short, role-play is designed to help the youth anticipate somatic and cognitive reactions and determine ways in which he/she can effectively manage his/her anxiety during the exposure task.

c) *Practice*: prior to the exposure task, the youth may choose to practice, rehearse, or "act out" the situation with the therapist. For example, a youth preparing to give a short speech in front of a small group of people may read the speech a few times in front of the therapist. The therapist and youth might use props while practicing so that the situation more closely resembles a "real-life" anxiety-provoking situation.

d) *Review relaxation*: the therapist and youth may engage in a brief relaxation exercise prior to the start of the exposure task(s). For example, the therapist might lead the child in deep breathing or progressive muscle relaxation exercises (e.g., “squeezing lemons,” clenching fists, etc.).

e) *Imaginal exposure*: the therapist might ask the youth to imagine being in the exposure task situation **as part of the preparation process**. *Imaginal* exposure is often initiated by statements such as “Let’s pretend that...” and “Close your eyes and imagine that...” Please note that you are only being asked to record the presence of *imaginal* exposure that is used to help the youth *prepare* for the upcoming *in vivo* exposure task. If the therapist obtains SUDS ratings from the youth during the *imaginal* exposure or helps the youth prepare *for* the *imaginal* exposure, then the *imaginal* exposure is likely an exposure task in its own right.

f) *Rationale/explanation*: the therapist might review the rationale or explanation behind the use of exposure tasks in CBT during the session. For example, if the youth begins to question the duration of an exposure, the therapist might explain that it is important for the youth to stay in an anxiety-provoking situation until his/her anxiety begins to decline. The therapist might also explain why an exposure task is being repeated (e.g., “We want you to keep practicing until it gets boring and is not scary anymore”) or explain the need for hierarchically-based exposure tasks (e.g., “We start practicing in situations at the bottom of the FEAR ladder so that we can feel good about ourselves, and then we slowly work our way up”).

g) *Selecting a reward*: to encourage the youth to engage in an exposure task, the therapist might also have the youth pick out a reward that he or she will enjoy once the exposure is completed. Occasionally, the therapist or youth might choose to have the reward physically present in the therapy room as a source of motivation. With youth who are oppositional, it is especially likely that the therapist will need to negotiate the reward in advance of the exposure task.

### Exposure Task

Please document the total number of *imaginal* or *in vivo* exposure tasks occurring during the session as viewed on the tape.

### Processing the Exposure Task

a) *Evaluate performance*: following an exposure task, the therapist and youth evaluate the youth’s performance during the task. With younger children, this can be accomplished by using the Feelings Barometer, which asks the youth to rate his/her performance. The therapist might also prompt the youth using questions such as “So, how do you think you did?” The therapist can relay feedback to the youth about his/her observations of the youth during the exposure and use that as a discussion point. For example, the therapist might say, “I noticed that you became much more relaxed as the conversation progressed. What do you think helped you become more comfortable?”

b) *Discuss features of the exposure task*: the youth and therapist might discuss features of the exposure task, including how the youth was feeling, what the youth was thinking, and how the youth chose to manage his or her anxiety. Additionally, the two can discuss any obstacles that were encountered, what specific aspects of the task made it easy or difficult, and what, if anything, the youth might do differently in the future.

c) *Discuss SUDS ratings*: SUDS ratings can be useful in providing feedback when processing the exposure task. For example, the therapist and youth may graph SUDS data on the board or a piece of paper and discuss the youth's corresponding anxious feelings before, during, and after the exposure task. The therapist may also mention SUDS ratings from previously completed exposure tasks to help the youth see that his/her anxiety level is decreasing with repeated practice.

### Closing Activities

a; b) *Select exposure task for next session/Assign STIC*: as part of processing the exposure task, the youth and therapist might plan the exposure task(s) to be completed in the next week's session and/or select a take-home (STIC) task(s) for the youth to practice during the week.

c) *Reward*: the therapist provides the youth with a reward for effort. If the reward was not selected prior to the exposure task, the therapist might lead the youth to the Rewards Closet to select one, or might accompany the youth to the vending machine or snack closet, game room, or his/her favorite "food truck," depending on the nature of the agreed-upon reward. Some youth prefer to "collect" points or stickers for a bigger reward – this would still be considered a reward for effort, even though it is not immediate. The therapist and youth may also choose to play a game as a way of rewarding the youth.

### PART II: Global Ratings

During this section, you are being asked to provide an overall (i.e., global) rating of several aspects of each session that you observe. The first two questions relate to the content of the session (preparedness for the exposure and processing after the exposure), and the next two relate to process variables (collaboration and youth involvement).

### Content

1) Using the following anchors, please rate how *prepared* the youth was for the exposure task:

a. **Not at all**: no preparation for the exposure task takes place. It might appear that the youth is being asked to or chooses to "jump right into" the exposure task.

b. **Minimally**: the youth is minimally prepared for the exposure task, meaning that he/she receives the basic information needed to be able to take part in the task. For example, the therapist might help the youth come up with a list of questions to ask someone during a conversation, but there is little discussion of the youth's feared consequences. In other words, there might be some discussion of the FEAR plan or rehearsal with the therapist, but it is minimal at best. A reward may or may not be selected or discussed ahead of time.

c. **Somewhat:** the youth is somewhat prepared for the exposure task. The youth and therapist discuss the FEAR plan in some detail but no practice occurs. The therapist might have the youth generate some coping thoughts and/or relaxation techniques to use during the exposure task, or the therapist might have the youth problem-solve ways that he/she can cope with anxiety during the exposure task. A reward is selected or discussed ahead of time.

d. **Mostly:** the youth is mostly prepared for the exposure task. The youth and therapist discuss the FEAR plan in detail and the youth practices with the therapist (e.g., reading a speech in front of the therapist) prior to the actual exposure task(s). Coping thoughts and problem-solving strategies are discussed. A reward is selected or discussed ahead of time. (Note to rater: in your judgment, it appears that the youth could benefit from a little more preparation).

e. **Very much:** the youth is very much prepared for the exposure task. The therapist reviews the FEAR plan, and the youth might practice several times with the therapist prior to actually completing the task. The youth and therapist might engage in some relaxation exercises prior to the exposure task, or the therapist might have the youth prepare using imaginal exposure. Coping thoughts and problem-solving strategies might be written down for the youth to have in view while doing the exposure task. A reward is selected or discussed ahead of time.

2) Using the following anchors, please rate how well the exposure task was *processed* by the youth and therapist:

a. **Not at all:** the therapist and youth do not process the exposure task at all well.

b. **Slightly:** the therapist and youth process the exposure task slightly well. Following the exposure, there is little discussion of the youth's experience during the exposure task. The youth may be rewarded for his/her effort but there is little conversation regarding how he/she felt during the task or how he/she would rate her performance during the task. This may happen at times when the exposure task runs longer than the therapist expected, and there is little time left to process the youth's experience during the task.

c. **Somewhat:** the therapist and youth process the exposure somewhat well. The therapist asks the youth how he/she felt during the exposure task, discusses SUDS ratings, and asks the youth to rate his/her performance during the exposure task. The therapist might also discuss how a related future exposure task or STIC task can further help the youth. The therapist asks the youth about how he/she would like to be rewarded for the task.

d. **Very:** the therapist and youth process the exposure very well. The therapist and youth discuss and/or chart SUDS ratings before, during, and after the exposure task. The therapist and youth discuss features of the exposure task that made it easier or more difficult for the youth. The therapist asks the youth to rate his/her performance during the exposure task and asks the youth how he/she would like to be rewarded for the task. The therapist and youth might discuss related future exposure tasks.

e. **Extremely:** the therapist and youth process the exposure task extremely well. The therapist and youth discuss and/or chart SUDS ratings before, during, and after the exposure task and also discuss how the current SUDS ratings compare to those obtained during prior exposure tasks. The therapist and youth discuss features of the exposure task

that made it easier or more difficult for the youth, as well as the strategies (cognitive, relaxation, etc.) that the youth used to manage his/her anxiety during the exposure task. The therapist might ask the youth to make comparisons between the exposure task situation and “real-life” and/or discuss generalization of effects. The therapist asks the youth to rate his/her performance during the exposure task and asks the youth how he/she would like to be rewarded for the task. The therapist and youth discuss related future exposure tasks or STIC tasks.

### Process Ratings

1) *Collaboration*: in the context of the therapeutic relationship, collaboration can be defined as an agreement on treatment goals and an emphasis on teamwork to assist in accomplishing those goals. Consistent with this definition, during sessions in which exposure tasks take place, the following behavior is indicative of a collaborative relationship:

- The therapist and youth work together to determine which exposure task(s) will be conducted during the session.
  - If the youth demonstrates opposition or resistance, the therapist does not tell the youth which tasks will be completed but rather offers the youth several choices of tasks and encourages the youth to select one.
- The therapist actively consults with and negotiates with the youth throughout the session, from the selection of the task to the processing after the exposure task.
- Throughout the session, the therapist encourages the youth’s participation and involvement and encourages specific feedback from the child.
- The therapist fosters a sense of togetherness by using words such as “we,” “us,” and “let’s.”

### Rating Anchors

Using the above definitions and the following descriptions, please assess the degree to which the therapist and youth collaborate during each segment of the session: introductory activities, preparation for the exposure, and processing the exposure.

- a. **Not at all:** The therapist and child do not collaborate during the segment.
- b. **Minimally:** The relationship between the youth and the therapist is minimally collaborative. The therapist rarely consults with the youth during the selection, execution, or processing of exposure task(s) and may tell the youth what the exposure task will be, instead of soliciting the youth’s opinion. The therapist uses few “we,” “us,” or “let’s” statements.
- c. **Somewhat:** The relationship between the youth and the therapist is somewhat collaborative. The therapist may ask the youth to select the exposure task to be completed but may not actively consult with the youth during the remainder of the segment. The therapist uses some “we,” “us,” or “let’s” statements.
- d. **Mostly:** The relationship between the youth and therapist is mostly collaborative. The therapist consults with and negotiates with the youth during most of the



segment. The therapist also encourages the youth's participation and involvement and encourages specific feedback from the youth during most of the segment. There is a sense of togetherness or teamwork between the youth and therapist. The therapist often uses "we," "us," or "let's" statements.

- e. **Very Much:** The relationship between the youth and therapist is very collaborative. The therapist frequently consults with and negotiates with the youth. Also, the youth's participation is encouraged during every part of the segment. The therapist frequently encourages the youth to provide feedback and makes modifications to session activities or content based on the youth's feedback. There is a strong sense of togetherness or teamwork between the youth and therapist.

**When rating collaboration, it may be helpful to think of this as a therapist-initiated behavior. In other words, how much does the therapist "check in" with the youth throughout each segment of the session?**

- 2) *Involvement:* defined as the youth's willingness to behaviorally participate in therapy tasks and to self-disclose, ask questions, and mentally engage the therapeutic material, youth involvement is indicated by the following behavior:

- The youth initiates discussion or introduces new topics.
- The youth makes suggestions to change the task suggested by therapist.
- The youth offers information about him or herself (self-disclosure).
- The youth demonstrates enthusiasm in therapy-related tasks.
- The youth asks the therapist questions or for further explanations.
- The youth elaborates on points made by the therapist and demonstrates understanding of session content.

In contrast, the following behavior can be indicative of negative involvement:

- The youth is withdrawn, passive, or nonresponsive to the therapist.
- The youth is inhibited or avoidant in participation (e.g., not fully participating).
- The youth attempts to distract activities away from therapy-related tasks, either verbally or behaviorally.
- The youth is oppositional to the therapist's suggestions and treatment activities.

### Rating Anchors

Using the above definitions and the following descriptions, please assess the level of the youth's involvement during each segment of the session: introductory activities, preparation for the exposure, and processing the exposure.

- a. **Not at all:** The youth is not at all involved during the segment.
- b. **Minimally:** The youth is minimally involved during the segment. He/she appears withdrawn, passive, or nonresponsive to the therapist (e.g., might refuse to talk). The youth rarely participates in therapy-related tasks and might instead attempt to

- distract activities away from these tasks. The youth might also be oppositional to the therapist's suggestions and treatment activities and refuse to take part in the activities.
- c. **Somewhat:** The youth is moderately involved during the segment. The youth initiates discussion or introduces new topics and self-discloses after being prompted by the therapist. The youth demonstrates enthusiasm during the segment but is easily distracted and attempts to engage in non-therapy related tasks. The youth might be slightly oppositional in response to the therapist's suggestions but is able to perform the exposure task after making suggestions to change the task offered by the therapist.
  - d. **Mostly:** The youth is mostly involved during the segment. The youth initiates discussion or introduces new topics and self-discloses during the segment. The youth demonstrates enthusiasm during most of the segment and asks the therapist questions or for further explanation. There might be one or two times when the youth appears distracted or attempts to distract activities away from therapy-related tasks but the therapist is able to redirect the youth to the task at hand with ease. The youth is not oppositional in response to the therapist's suggestions.
  - e. **Very Much:** The youth is very much involved during the segment. The youth initiates discussion or introduces new topics and makes suggestions to change the task suggested by therapist. The youth offers information about him or herself (self-disclosure). The youth demonstrates enthusiasm in therapy-related tasks. The youth asks the therapist questions or for further explanations. The youth elaborates on points made by the therapist and demonstrates understanding of session content. The youth remains focused on the task for the entire segment.

**Please note that you can rate a session as “high” on collaboration and “low” on involvement if you feel that the therapist is making an effort to reach out to the child and keep him/her involved but the youth is less motivated and/or more distractible.**

**APPENDIX B  
EXPOSURE SESSION RATING FORM (ESRF)**

Subject #:

Session #:

Rater:

**PART I: Session Components**

<b>Introductory Activities</b>	<b>Duration (minutes):</b>
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Rapport-building	Y/N
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Reviewing STIC task(s)	Y/N
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<b>Preparation for Exposure Task</b>	<b>Duration (minutes):</b>
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Selection of exposure task	Y/N
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Role-play (i.e., FEAR plan)	Y/N
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Practice with therapist	Y/N
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Review relaxation	Y/N
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Imaginal exposure (to prepare)	Y/N
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Rationale/Explanation	Y/N
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Select reward(s)	Y/N
------------------	-----

<b>Exposure Task(s)</b>	<b>Duration (minutes):</b>
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<b>Processing the Exposure Task</b>	<b>Duration (minutes):</b>
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Evaluate performance	Y/N
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Discuss features of the exposure task	Y/N
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Discuss/chart SUDS ratings	Y/N
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<b>Closing Activities</b>	<b>Duration (minutes):</b>
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Select exposure task for next session	Y/N
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Assign STIC (in vivo) Y/N

Reward for effort Y/N

**PART II: Global Ratings**

**Content Ratings**

**Preparation:**

How prepared was the youth for the exposure task?

1	2	3	4	5
Not at all	Minimally	Somewhat	Mostly	Very Much

**Processing:**

How well did the youth and therapist process the exposure task?

1	2	3	4	5
Not at all	Slightly	Somewhat	Very	Extremely

**Process Ratings**

**Collaboration:**

How much did the therapist and youth collaborate during each segment of the session?

1	2	3	4	5
Not at all	Minimally	Somewhat	Mostly	Very Much

Introductory activities:  
Preparation for exposure:  
Processing the exposure:

**Youth Involvement:**

How involved was the youth during each segment of the session?

1	2	3	4	5
Not at all	Minimally	Somewhat	Mostly	Very Much

Introductory activities:  
Preparation for exposure:  
Processing the exposure: