NOTE TO USERS

COGNITIVE BEHAVIORAL THERAPY FOR CHILDHOOD ANXIETY DISORDERS:
INDIVIDUAL DIFFERENCES IN RESPONSE TO TREATMENT

by

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ABSTRACT

The objectives of this study were to determine (i) if child characteristics of internalizing distress (i.e., social anxiety, depression, negative self-statements, self-esteem, locus of control, maladaptive coping style, poor social skills) were predictive of outcome in children with anxiety disorders receiving cognitive-behavioral treatment, (ii) whether anxiety and these child characteristics were correlated before treatment and if a subgroup of higher distress children could be discerned, (iii) whether child characteristics of distress improved following treatment, and (iv) whether higher and lower distress subgroups of children responded differentially to treatment. One hundred and ten children, aged 8 to 12 years (M = 9.9, SD = 1.3), with Axis I anxiety disorders participated. Parents and children completed measures assessing children's general anxiety, social anxiety, depression, negative self-statements, self-esteem, locus of control, coping style, and social skills before and after treatment. Outcome measures included clinician-rated functioning, and child- and parent-rated anxiety. Results demonstrated that lower pre-treatment social anxiety was the best predictor of child- and mother-rated improvement in anxiety following treatment. Clinician-rated improvement in child functioning was best predicted by children's pre-treatment reported use of active coping strategies. Numerous child characteristics of internalizing distress improved following treatment. Child-rated anxiety was correlated with several measures of internalizing distress characteristics before treatment. An exploratory cluster analysis produced two subgroups of children substantially differing on measures of internalizing distress before treatment, but the higher and lower distress subgroups did not differ in their response to treatment. In conclusion, some child characteristics of internalizing distress appear to be related to less favorable treatment outcome in children with anxiety disorders.

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CHAPTER 1

Introduction

Anxiety disorders, one of the most common categories of childhood mental health problems, affect three to ten percent of school-aged children, causing these youth to experience substantial distress and impaired functioning (Bernstein & Borchardt, 1991; Costello, 1989; Kashani & Orvaschel, 1988). Childhood anxiety disorders have been linked to a host of impairing characteristics and difficulties, including low self-esteem, peer relationship problems, academic difficulties, social isolation, and depression (Allugander & Lavori, 1991; Ollendick & King, 1994; Strauss, Frame, & Forehand, 1987). Moreover, anxiety disorders in childhood tend to have a chronic course, often being associated with anxiety problems and other psychopathologies in adulthood (Keller et al., 1992; Last, 1988). Anxiety, and these other related impairments, are believed to be related to children's constitutional and biological traits (e.g., inhibitory temperament, personality), family experiences (e.g., parent-child attachment), or environmental stressors (Ehrler, Evans, & McGhee, 1999; Manassis & Bradley, 1994).

Given the prevalence of childhood anxiety and its related cognitive and emotional difficulties, it is important that treatments be available to effectively treat anxious youth (Kearney & Silverman, 1998). Up until recently, treatments for childhood anxiety disorders had not been well-studied or had demonstrated mixed outcomes. Medication trials have often provided conflicting results and are only recommended for selected children (Reiter, Kutcher, & Gardner, 1992; Walkup, Labellarte, & Ginsburg, 2002). Only a single, large randomized controlled medication trial has been conducted for childhood anxiety disorders (Walkup et al., 2001). Psychodynamic psychotherapy has

been found to be helpful only when practiced intensively (e.g., four or more sessions per week; Heinicke & Ramsey-Klee, 1986; Target & Fonagy, 1994). Recent studies have shown, however, that cognitive-behavioral therapy (CBT) treatments are effective in terms of reducing children's anxiety levels and improving their general functioning, and thus tend to be the treatment of choice for childhood anxiety disorders (Barrett, 1998; Kendall, 1994; March, Mulle, & Herbel, 1994; Mendlowitz et al., 1999; Silverman et al., 1999; Southam-Gerow, Kendall, & Weersing, 2001).

Some anxious children, however, respond more favorably than others to CBT treatment (Mendlowitz et al., 1999). Research examining factors related to children's treatment response or non-response is sparse (Crawford & Manassis, 2001). Such factors include child characteristics and experiences, demographic factors, or parental and family characteristics. Although the influences of parental, family, and demographic characteristics on treatment outcome for anxious children have been explored in this regard (Crawford & Manassis, 2001; Manassis & Hood, 1998), particular child characteristics rarely have. It is crucial that child socio-emotional factors (e.g., levels of depression, self-esteem) be investigated in order to understand how they may interact with children's development of anxiety, better guide interventions for childhood anxiety disorders, and influence children's treatment outcomes and functioning (March & Curry, 1998; Manassis & Bradley, 1994). The relationship between these characteristics and CBT treatment outcome is the current focus.

This paper first reviews the definition and prevalence of childhood anxiety disorders. It then provides a cognitive-behavioral framework explaining the development and maintenance of childhood anxiety and related internalizing distress. Within this

framework, it briefly describes early indicators of child anxiety and internalizing difficulties, and examines the associations among children's general anxiety and other cognitive, affective, and behavioral symptoms of psychopathology (e.g., social anxiety, depression, avoidant coping style). The paper then describes interventions, most notably CBT, which have been applied to treat childhood anxiety, with special attention given to the examination of predictors of treatment outcome in anxiety reduction interventions. Finally, the CBT outcome study upon which the current investigation is based is described.

The present investigation aims to elucidate which pre-treatment child characteristics of internalizing psychopathology (i.e., depression, social anxiety, low self-esteem, negative self-statements, external locus of control, maladaptive coping, poor social skills) are related to child anxiety, which of these child characteristics help predict children's responses to the cognitive-behavioral treatment of anxiety, which characteristics improve from before to after treatment (whether directly targeted by the intervention or not), and whether subgroups of children with varying pre-treatment levels of internalizing distress respond differentially to the treatment. Specific investigation of children's internalizing symptoms in these ways has received little empirical attention in the treatment literature. Identification of, and knowledge concerning, these characteristics would enable clinicians to potentially address them prior to therapeutic interventions, and could consequently improve children's treatment outcomes. Moreover, in addition to anxiety itself, improvement of several of these characteristics over the course of treatment would demonstrate further advantages of the CBT program.

Childhood Anxiety Disorders

Definition and Categories of Childhood Anxiety Disorders

In the *Diagnostic and Statistical Manual - 4th edition* (*DSM-IV*; APA, 1994), anxiety disorders encompass a range of categories, including social phobia, specific phobia, generalized anxiety disorder, obsessive compulsive disorder, and post traumatic stress disorder. The latter two disorders are somewhat distinct from the others in that they require more specific psychological interventions, so children with these disorders were not included in the present investigation. All of the aforementioned disorders are defined as adult disorders and, based on a developmental continuum, are amended to apply to children and adolescents. Separation anxiety disorder is classified as a distinct disorder of childhood and adolescence.

The essential feature of separation anxiety disorder (SAD) is extreme anxiety about separating from parents, significant others, or the home (APA, 1994; Bernstein & Borchardt, 1991; Bernstein, Borchardt, & Perwien, 1996). The distress is beyond what would be expected for children's current developmental level, and must last for a period of four weeks which begins before the age of 18 years. Criteria include unrealistic worry about harm to self or the attachment figures when separated, signs of emotional distress and complaints of physical symptoms in anticipation or at the time of separation, and avoidance of being alone and refusal to go places or to sleep because of fear of separation from caregivers (APA, 1994). The mean age of presentation of symptoms in children with this disorder is approximately 9.1 years (Last, Hersen, Kazdin, Finkelstein, & Strauss, 1987).

The main feature of social phobia is a fear of humiliation or embarrassment in social or performance situations, with exposure to those situations inciting an anxiety response severe enough to impair relationships and significantly interfere with life functioning (APA, 1994). Often, the feared social situations are avoided or else experienced with extreme distress. In children, the anxiety in response to unfamiliar people or expected observation by others is often represented by crying, freezing, or tantrums. Children often refuse to participate in, or typically remain on the periphery of, group or social activities, refuse to attend school, or cling to familiar adults. Although adults with this disorder may recognize that their fear is excessive, children often do not. Social phobia is not equivalent to shyness (which is less extreme and impairing as compared to social phobia) or to stranger anxiety (which would typically occur prior to age 2½ years; Bernstein & Borchardt, 1991). Social phobia often has a lifelong course, starting in childhood or mid-adolescence and continuing through adulthood. For social phobia to be diagnosed in youth, the duration must be at least six months, and children must have the capacity for social relationships with familiar persons (APA, 1994).

Specific phobia refers to the marked, persistent, unreasonable fear of a defined object or situation, where the avoidance or fear is linked to extreme distress or functional impairment (APA, 1994; Bernstein et al., 1996). Although mild fears are relatively common, specific phobias are less prevalent (Anderson, Williams, McGee, & Silva, 1987). Often, the feared stimulus is avoided or else is endured with profound anxiety. This may be demonstrated by crying, tantrums, freezing or clinging in children. For youth, the unreasonable fear must persist for at least six months (APA, 1994). Due to

their cognitive developmental level, children may not recognize the irrational nature of their phobias (Silverman & Nelles, 1990).

Generalized anxiety disorder (GAD) is characterized by children's excessive anxiety which is not focused on any specific object or situation. Children with GAD are worriers, with distinct, unrealistic, or exaggerated anxiety or apprehensive expectations regarding a range of situations or activities for a period of at least six months (APA, 1994; Bernstein & Borchardt, 1991). Additional criteria for this disorder include difficulty controlling the worry and various somatic symptoms (e.g., muscle tension, sleep disturbance), with the worry causing significant distress or impairment in various areas of functioning. There is an older age of presentation in GAD as compared to children with SAD, but there is often a high comorbidity of these two disorders in childhood (Last et al., 1987; McGee et al., 1990). In children and adolescents, the anxieties often concern their competence at school or their performance in sporting events. They may also worry about catastrophic events (e.g., floods, nuclear war), be perfectionistic, and require excessive reassurance and approval (APA, 1994).

Youth with one anxiety disorder often meet criteria for other anxiety disorders. This is hypothesized as being due to one anxiety disorder acting as a risk factor for other anxiety disorders, different forms of anxiety having similar underlying origins, and symptoms of various anxiety disorders overlapping (Kashani & Orvaschel, 1990). As a result of this high comorbidity, mixed anxious samples of children are often studied in treatment outcome research (e.g., Walkup et al., 2001).

Epidemiology

Overall, anxious distress is prevalent in childhood (Last, 1988). Fears and worries are a common part of development, but they become critical concerns when their frequency, intensity, and duration adversely impact children's typical developmental challenges (Kendall et al., 1992). Based on findings from epidemiological research, anxiety disorder prevalence rates range anywhere from 2% to 20%, with the majority ranging from 5.7% to 17.7% (APA, 1994; Costello & Angold, 1995; Eisen & Kearney, 1995; Kashani & Orvaschel, 1988; Manassis, 2000).

Several specific epidemiological studies have demonstrated the pervasiveness of anxiety disorders in children (Bernstein et al., 1996). Anderson et al. (1987) studied close to 800 eleven-year-old children and found that 3.5% of them met criteria for SAD, 2.9% had overanxious disorder (now referred to as GAD), 2.4% of the children had simple phobia, and 1% experienced social phobia. Costello (1989) found, in another sample of close to 800 7-11 year old children, that 8.9% met criteria for at least one anxiety disorder, including 4.1% with SAD, 4.6% with overanxious disorder, 9.2% with simple phobia, and 1% with social phobia. Finally, Benjamin, Costello, and Warren's (1990) study of a pediatric sample of 300 7-11 year old children showed a one-year prevalence rate of anxiety disorders of 15.4%. Overanxious disorder, SAD, and simple phobia were the most prevalent.

Measurement

Anxiety assessment and measurement formats are not specific to types of anxiety disorders. Most often, symptoms and difficulties of childhood anxiety are assessed using a combination of structured (or semi-structured) clinical interviews, standardized rating

scales or symptom checklists, and behavioral observations. These evaluate indications of

anxiety as well as comorbid diagnoses and environmental factors (e.g., family situations;

Kendall & Flannery-Schroeder, 1998; Manassis, 2000). For instance, one well-validated

semi-structured interview is the Anxiety Disorders Interview Schedule for Children

(ADIS-C; Silverman & Nelles, 1988). In this instrument, children and their parents are

asked open-ended and closed-ended questions such as, "What kinds of things do you

worry about?" and "Do you feel really scared or worried when you are away from your

mom or dad and do you do whatever you can to be with them?" A commonly used

standardized rating scale is the Multidimensional Anxiety Scale for Children (MASC;

March, 1997). It provides children with statements such as "I'm afraid that other kids will

make fun of me" and "I feel sick to my stomach" and asks them to rate the truth of these

statements using a Likert-type scale.

Data are also often gathered from more than one informant (DiBartolo, Albano,

Barlow, & Heimberg, 1998; Kendall & Flannery-Schroeder, 1998; Manassis, 2000). This

is to increase validity and reliability of information, as well as to address the often poor

agreement between children's self-reported anxiety ratings and child anxiety ratings

provided by other respondents such as clinicians, parents, and teachers. Although there

tends to be a high degree of agreement among clinicians in assigning anxiety diagnoses,

parent-child agreement tends to be low when it comes to anxiety disorders (Edelbrock,

Costello, Dulcan, Conover, & Kala, 1986; Rapee, Barrett, Dadds, & Evans, 1994). Some

studies have found that anxious children report more intense anxiety symptoms than their

parents (Bird, Gould, & Staghezza, 1992; Edelbrock et al., 1986), whereas other findings

point to parents endorsing greater degrees of child anxiety than do their children

(DiBartolo et al., 1998). Discrepant results may be due to a range of factors, including children's self-presentational concerns (i.e., social desirability; DiBartolo et al., 1998), age of the reporting children (i.e., parent-child variance is reduced when older children are reporting; Rapee et al., 1994), parental awareness of child difficulties, and parental psychopathology (Tarullo, Richardson, Radke-Yarrow, & Martinez, 1995). This variability often leads to differing diagnoses (Kendall & Flannery-Schroeder, 1998; Manassis, 2000).

Some research demonstrates parent-child concordance regarding symptoms of anxiety. Ginsburg, La Greca, and Silverman (1998), for instance, found that children who reported high levels of social anxiety were viewed by their parents as having poor social skills. It may be that the level of parent-child agreement is higher for more observable, behavioral child tendencies (e.g., social skills) than for emotions and cognitions (e.g., depressive feelings, worry thoughts). Parent-child reporting discrepancies with respect to anxiety become important when it is unclear under which circumstances the reported symptoms are valid and thus useful for treatment planning and interventions (DiBartolo et al., 1998). Researchers have addressed this dilemma by examining treatment-related changes in anxiety symptoms separately for each informant, including clinicians (e.g., Crawford & Manassis, 2001).

Overall, as demonstrated by the number of anxiety disorders, prevalence of child anxiety, and different methods used to assess anxiety disorders, anxiety is associated with considerable psychosocial distress and internalizing problems in children (Bernstein et al., 1996). It is valuable to have a conceptual framework with which to understand this anxious distress.

Theoretical Framework: A Cognitive-Behavioral Approach

Anxiety is a complex phenomenon that can be examined from a number of different perspectives (Eysenck, 1992). This is because three different response systems are involved in anxiety: cognitive, behavioral, and physiological/affective (Lang, 1985), with anxiety-provoking situations typically having effects on all systems. Most theories of anxiety fall short of comprehensively explaining the intricate and dynamic interrelationships among all three systems (Eysenck, 1992). However, there are several reasons why a cognitive-behavioral approach is particularly important to the study of internalizing disorders, more specifically childhood anxiety, and is used as a theoretical framework for the current study.

Cognitive-behavioral therapies, representing the application of cognitive-behavioral theory of psychopathology to individual cases (Alford & Beck, 1997), developed from traditional behavior therapy at the end of the 1960s and early part of the 1970s (Kazdin, 1978). At the time, it appeared as though traditional behavioral explanations were not sufficient to account for emotional difficulties such as anxiety (Mahoney, 1974). In contrast to behavior therapy, CBT addresses internal processes of cognition that are thought to mediate behavior change. Cognitive theorists challenged behavioral models to incorporate cognitive processes, given the influence of cognitions on affect and behavior in anxiety, as described below (Dobson & Block, 1988).

First, anxiety often arises in response to circumstances in the environment. A central issue has been whether these stimuli need to be cognitively processed prior to affective reactions. Although some researchers believe that the cognitive system is not necessarily required to emotionally assess environmental stimuli (e.g., through

recognition and memory; Zajonc, 1984), no definitive support for this view has proved possible. It is probable that some level of cognitive processing and appraisal of meaning precedes affective responses to stimuli (Beck, 1976; Lazarus, 1982). For anxiety, cognitive processes involve appraising situations as threatening as opposed to non-threatening. These processes include operations which determine how incoming information is encoded, stored, and modified with respect to information and knowledge already stored in memory and consciousness (Eysenck, 1992; Hollon & Kriss, 1984).

Second, the main function of anxiety is to assist in the detection of danger in potentially threatening situations (Eysenck, 1992). The threat-detection systems of clinically anxious children are often exaggerated so that they are hyperaware of potential peril and inflate the severity of environmental danger. If the anxiety system is designed to perceive threat, then cognitive processes involved in such perception should be considered (Eysenck, 1992).

Third, anxiety often involves anticipating the future. The functioning of the cognitive system is often demonstrated by anxious youth worrying about social interactions, personal goals, performance, and coping ability (Beck & Emery, 1985). Worry is predominant in anxiety and involves the cognitive system, supporting a cognitive orientation to the understanding of anxiety within a cognitive-behavioral context (Eysenck, 1992).

Given the role of cognitive processes in behavioral and affective aspects of anxiety described above, cognitive-behavioral theory (and therapy) is a useful framework with which to examine the many facets comprising anxiety. A pictorial paradigm can most clearly demonstrate how cognitive processing relates to anxious affect and behavior

(and internalizing difficulties in general). Figure 1 helps describe why these multiple

factors ought to be involved in the conceptualization and treatment of anxiety, as well as

the evaluation of anxiety treatment effectiveness (Ingram & Kendall, 1986).

Figure 1 Schematic Cognitive-Behavioral Framework of Childhood Anxiety
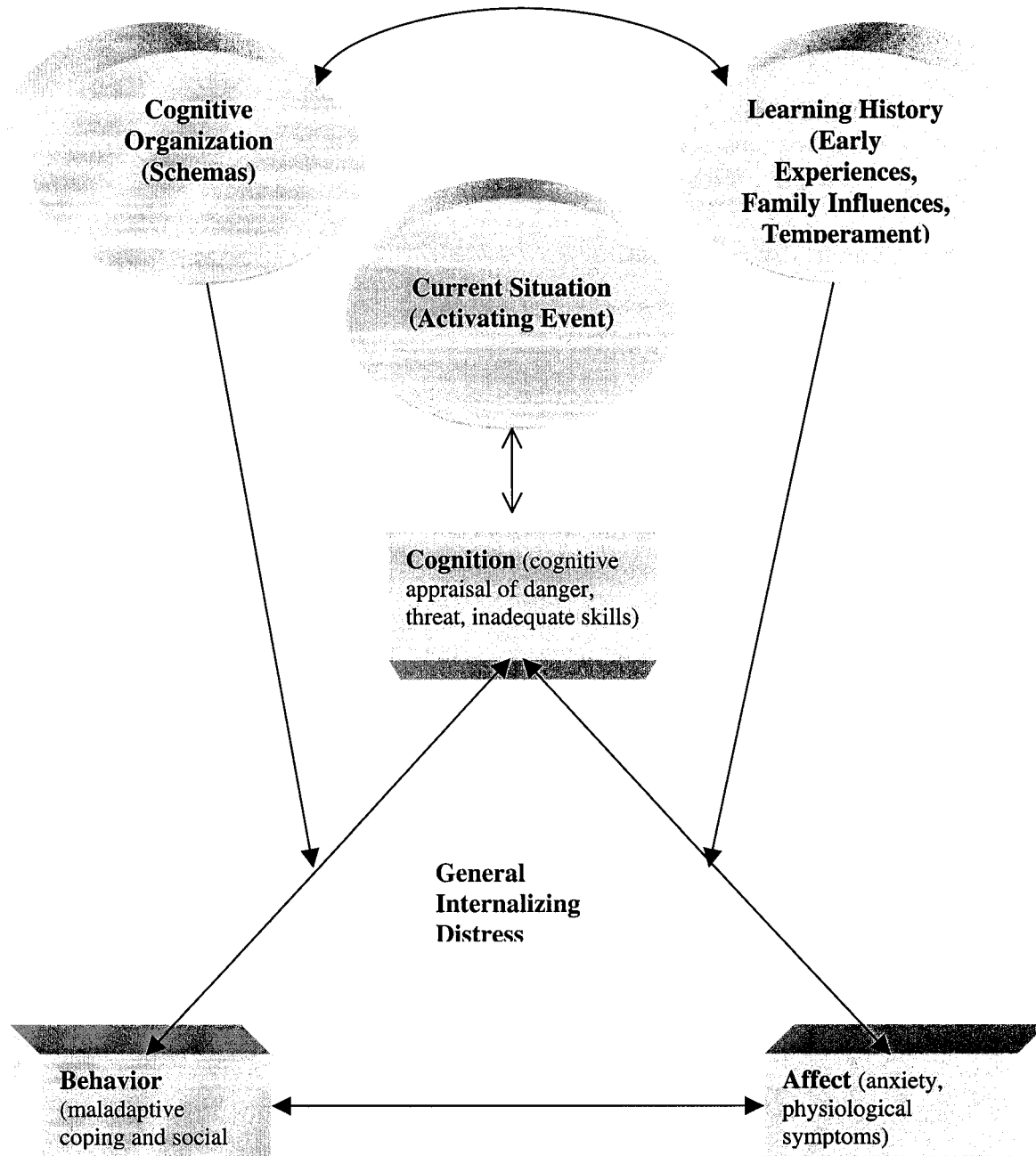
(Alford & Beck, 1997; Beck, 1976; Beck & Emery, 1985; Ellis, 1962)

Based on models from cognitive theorists such as Beck and colleagues (Alford &

Beck, 1997; Beck, 1976; Beck & Emery, 1985; Weishaar & Beck, 1987) and Ellis

(1962), a cognitive-behavioral framework representing a triangle (bottom of Figure 1) is

employed to demonstrate the interactive relationships among cognitions, affect, and

behaviors in response to an activating event. In general, when there is a perceived

threatening event, children cognitively appraise the situation and their available coping

resources, and this sets in motion a sequence of affective, physiological, and behavioral

systems (Beck & Emery, 1985).

Cognitive System

Environmental or activating events occur for children in their everyday lives (e.g.,

having to present a speech in front of a group of peers at school; Figure 1). Such events

do not per se determine children's affect and behavior. Rather, with a cognitive-

behavioral framework, cognitions are considered to be critical mediators in the

experience of emotion and behaviors (Wessler, 1987). Children's cognitively-encoded

representations of external events determine their emotional and behavioral responses

(Beck, 1976; Wessler, 1987). These cognitive representations refer to different mental

activities, such as ideas, meanings, images, beliefs, attributions, and expectations

(Wessler, 1987).

Anxious children tend to cognitively appraise innocuous stimuli and events as

threatening or dangerous (see Figure 1; Beck, 1976; Weishaar & Beck, 1987). These

inaccurate cognitive appraisals reflect cognitive distortions, which can be defined as

intrinsic biases in processing, dysfunctional ways of thinking, or misperceptions in

cognitive content and processing (Alford & Beck, 1997; Beck, 1963; Kendall, 1985;

Kendall & Ingram, 1989). Cognitive-behavioral theory suggests that anxious children's emotional and behavioral problems are essentially due to these cognitive distortions of reality, which originate from temperament and erroneous learning and experiences during early cognitive development (Beck, 1976). Thus, cognitions are unrealistic because they are based on fallacies from early learning, and behavior and emotions are subsequently maladaptive and self-defeating because they are based on these erroneous cognitions (Beck, 1976).

In the example, anxious children may exaggerate the threat to them of performing in front of a group of peers. Their negative self-talk may consist of beliefs that they will make fools of themselves and that, overall, they are unable to do anything right (i.e., negative self-statements). They may fear negative evaluation from peers, such as worrying about being teased in response to their performance (i.e., social and interpersonal anxiety). They may underestimate their competence in a number of areas, including believing they are not as smart as their peers, that their peers do not like them and, globally, wishing they were someone else (i.e., low self-esteem). Anxious children may also expect failure with their speech, and perceive a lack of control over this failure (Bandura, 1977). They may believe that it does not pay to even attempt to do the speech in front of the class because they cannot control the perceived inevitable negative outcomes (i.e., external locus of control).

These mistaken and maladaptive meanings about the self (i.e., inadequate due to perceived deficient skills), the environment (i.e., dangerous), and the future (i.e., uncertain; Alford & Beck, 1997) often add stress for children in the situations or events

(see Figure 1; Kendall et al., 1991), resulting in feelings of anxiety and sadness and

difficulty coping in challenging circumstances.

Affective/Physiological System

Due to anxious children's distorted cognitive appraisals of threat and danger in

response to an event, they tend to experience unpleasant feelings of nervousness and fear

(Weishaar & Beck, 1987). Feelings of anxiety within the affective system may also

include symptoms of physiological arousal such as increases in heart rate, blood pressure,

pulse, sweating, dizziness, and faintness (Beck & Emery, 1985). Children who

experience fear are very likely to report feeling sad as well (Watson & Kendall, 1989).

This may be due to the presence of functional relationships between anxiety and

depression (overlap of some negative affectivity; Watson & Clark, 1984). Moreover, if

anxious children maintain negative self-views and automatic thoughts, dysfunctional

beliefs, and heightened self-focused attention (e.g., inaccurate cognitive appraisals such

as believing they are not liked and are unable to adequately perform in front of their

peers), it is reasonable that feelings of depression, in addition to anxiety, result (Clark &

Beck, 1999; Kendall & Ingram, 1989).

Although cognitive processing often precedes emotional experience, the influence

is not always unidirectional. It is best to think of cognitions and emotions, as well as

behavior, as interdependent because cognitions may be influenced by emotions (and

actions; Wessler, 1987). Extreme states of emotional arousal can interfere with reasoning

and thinking (Kendall, 2000). Children's intense anxious affect and physiological

symptoms may lead to the cognitive interpretation that they are not functioning well and

lack control over their circumstances, also producing maladaptive behaviors (e.g., avoidant coping mechanisms; Beck & Emery, 1985).

In essence, the triangular model in Figure 1 (p. 12) demonstrates how anxious children's cognitive misinterpretations of situations (i.e., beliefs about impending threat, perceptions of low self-esteem and personal control, worries about negative evaluation) can generate, and be influenced by, anxious affect (i.e., feelings of fear and humiliation) and physiological symptoms (Beck, 1976), as well as by behavioral difficulties.

Behavioral System

Behavioral symptoms are often derived from negative cognitive patterns (Alford & Beck, 1997; Beck, 1976; Weishaar & Beck, 1987). More specifically, when anxious children perceive circumstances as threatening and anxiety-provoking, distressful emotional reactions are generated. Feelings of anxiety distract children and interfere with their abilities to adaptively cope with environmental stimuli (Beck, 1976; Beck & Emery, 1985). The frequent resulting behavior is avoidance of or fleeing from the situation, flaws in performance (e.g., social interactions with peers), or inhibition (i.e., freezing; Weishaar & Beck, 1987). In the example of giving a speech in front of the class, behaviors may include children avoiding giving their speech (pretending to be ill), failing to problem-solve or restructure the situation to make it appear less stressful, isolating themselves, or demonstrating social difficulties (e.g., lack of assertive, responsible, and cooperative social skills). These behaviors may also lead to further cognitive interpretations of catastrophe, more anxious affect, and increased impaired functioning as part of the vicious cycle (Alford & Beck, 1997; Beck & Emery, 1985; Weishaar & Beck, 1987). This is demonstrated by the interdependence among the three systems. Not only does

cognition influence behavior, but behavior may be considered an indirect manifestation of cognition (Dobson & Block, 1988).

General Internalizing Distress

The interrelated erroneous cognitive perceptions (i.e., negative cognitions, social and interpersonal anxiety, low self-esteem, low perceptions of control), feelings of general anxiety and depression, and behavioral difficulties (i.e., avoidance, poor social skills) described above can be considered to reflect a wide-ranging factor of general internalizing or psychological distress (see Figure 1, p. 12; Watson & Kendall, 1989). Although each affective, cognitive, and behavioral characteristic is an expression of a distinct construct, anxious children may have differing degrees of overall internalizing distress. Some children may experience or report more negative cognitions, including self-statements of self-doubt and worry, interpersonal anxiety, low self-esteem, lower perceptions of personal control in situations, as well as anxious and depressive affect, and more maladaptive actions, than others.

Evidence for a general factor of internalizing distress is supported by the construct of neuroticism. Neuroticism is considered one of the five major dimensions of personality (along with extraversion, agreeableness, conscientiousness, and openness to experience). At the core of neuroticism is the general tendency to experience negative affect such as fear, sadness, and anger, and increased susceptibility to psychological distress (Ehrler et al., 1999). Due to disruptive emotions, reflecting activity of the autonomic nervous system, individuals high on neuroticism also tend to cope more poorly with stress (Ehrler et al., 1999; Richman, Sallee, & Folley, 1996). Moreover, as measurements of neuroticism and anxiety constructs often correlate .80 or more, there is

support for the link between neuroticism and affective distress (Claridge, 1997; Muris, 2002). In particular, results with children have shown that youth who display more neuroticism (emotional instability) also experience social problems and internalizing distress consistent with anxiety and depression (Ehrler et al., 1999; Richman et al., 1996). Whereas high extraversion and low agreeableness are strong predictors of externalizing problems in children, neuroticism predicts internalizing problems (Huey Jr. & Weisz, 1997). Therefore, there is support for the relationship between anxiety and other cognitive, affective, and behavioral difficulties, supporting a general sense of internalizing distress.

Despite interrelatedness among affective, cognitive, and behavioral child characteristics within this general internalizing distress, this is not intended to imply the existence of a single construct. Rather, a dominant factor of general psychological distress is suggested to exist in anxious children. However, aspects of this distress, and measures of these aspects, are viewed as separate and distinct, due to imperfect correlations and varying cognitive and affective mechanisms associated with each construct (Ingram, Kendall, Smith, Donnell, & Ronan, 1987; For substantiation of the distinctness of measures and constructs, see page 72).

Early Indicators of Anxiety and Internalizing Distress: Learning History and Cognitive Organization

Children's anxiety and internalizing distress, represented by their distorted belief structures, anxious affect, and maladaptive behaviors, may stem from a number of components early in children's lives, ranging from temperament to parental influences (see Figure 1, p.12). For instance, children's fears regarding peers' negative responses to

their speech, or their beliefs about being unable to adequately perform in front of their class, may stem from early behaviorally inhibitive temperamental traits. Their belief structures and negative affect may also have generated from past insecure relationships with caregivers who were not responsive to them, or from being raised in a family environment with little autonomy, opportunity to attempt new activities, or the chance to cope with stress. The cognitive-behavioral model acknowledges the impact of early temperament and experiences, and the family and other social contexts, on childhood anxiety and distress (Kendall, 1985). Although not directly evaluated in the current study, it is important to acknowledge these early indicators, and the developmental stability of anxiety, in order to comprehend the effects of these indicators on anxious children's cognitions, feelings, and behaviors (Dumas, LaFreniere, & Serketich, 1995; Kagan, Reznick, & Snidman, 1987; Manassis & Bradley, 1994).

Behavioral inhibition. Behavioral inhibition has been recognized as one early indicator of anxiety disorders and general distress in childhood (Biederman et al., 1990). This temperamental trait is depicted by the tendency to be unusually shy, fearful, and withdrawn, and restrict exploration in novel or unfamiliar situations in the toddler years (Kagan, Reznick, Clarke, Snidman, & Garcia-Coll, 1984; Kagan et al., 1990). Longitudinal studies examining behaviorally inhibited and uninhibited children during a five-year period have found striking stability in children's initial classification at 21 months and behavioral and physiological responses at five years of age, such as withdrawal in the presence of unfamiliar peers and adults, limited school social interactions, and high sympathetic nervous system arousal (Beidel & Stanley, 1993; Bernstein et al., 1996; Garcia-Coll, Kagan, & Reznick, 1984; Kagan et al., 1984; Kagan

et al., 1987; Kagan, Reznick, Snidman, Gibbons, & Johnson, 1988). Moreover, prospective research has determined that behaviorally inhibited children are increasingly likely to have anxiety disorders such as SAD and social phobia, as well as increased depressive symptomatology (Biederman et al., 2001). This is due to their lack of exposure to unfamiliarity, failure to develop active coping strategies or a sense of mastery, resulting in emotional distress and avoidance (Biederman et al., 1993; Caspi, Henry, McGee, Moffitt, & Silva, 1995; Hirshfield et al., 1992; Manassis & Bradley, 1994).

The trajectory between behavioral inhibition and anxiety disorders, however, is not straightforward, given numerous other genetic and environmental mechanisms at play and the role of other temperamental factors (e.g., anxious children's high levels of emotionality and pervasive rigidity/lack of adaptability; Eisen & Kearney, 1995; Garland & Weiss, 1996; Kelvin, Goodyer, & Altham, 1996). Nevertheless, an innate physiological predisposition to behavioral inhibition seems to be an early indicator of the later development of childhood emotional distress (Bernstein et al., 1996; Kagan et al., 1984).

Insecure caregiver-child attachment relationship. Recent prospective research has shown that insecure child-caregiver attachment relationships relate to anxiety in childhood (Warren, Huston, Egeland, & Sroufe, 1997). Moreover, insecurely attached youth report more depression, greater levels of alienation (e.g., feelings of interpersonal isolation), and lower levels of spoken communication (e.g., expressing their problems to others) than do securely attached children (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990; Kobak, Sudler, & Gamble, 1991; Muris, Meesters, van Melick, &

Zwambag, 2001). Insecure mother-infant bonds are also often associated with children's maladaptive cognitive appraisals, and subsequent behavioral and emotional problems, whereas secure attachment is linked to positiveness of self and increased skill competence (Ainsworth, Blehar, Waters, & Wall., 1978; Del Carmen, Pedersen, Huffman, & Bryan, 1993; Hirschi, 1969; Main, Kaplan, & Cassidy, 1985; Shaw & Vondra, 1995; van IJzendoorn, Juffer, & Duyvesteyn, 1995). Taken together, these findings support associations between early general insecure attachment and the development of anxiety and other aspects of internalizing distress.

One type of insecure attachment pattern is ambivalent-resistant, which has been linked prospectively to anxiety in youth, even after partialling out the effects of temperament (Warren et al., 1997). An ambivalent attachment pattern involves infants and children making inconsistent efforts to use their caregivers (i.e., mothers) when in distress (Muris et al., 2001). More specifically, although they object to their mothers' departures, children show conflict between desire for contact and resistance of interaction with them upon their return. They manifest diffuse anxiety even in the mothers' presence (Ainsworth et al., 1978; Goldberg, 1991). Often this is because responses of mothers to ambivalent/anxious children's distress are inconsistent, insensitive, or not contingent on the children's needs (due to mothers' own states of mind; Cassidy & Berlin, 1994; Isabella, 1993; Manassis & Bradley, 1994). Consequently, insecure attachment continues, and infants and children often learn to either increase their negative affect and demanding behavior to elicit maternal attention and more consistent responses to their needs, or develop extreme self-reliance and avoidance of others (Ainsworth et al., 1978; Goldberg, 1991; Tarabulsy, Tessier, Gagnon, & Piche, 1996).

The early attachment relationship thus influences children's approaches to interpersonal situations. In the case of ambivalent attachment, the conditioned manifestation of negative affect and needy behavior (or low interpersonal contact) may lead to later anxiety and internalizing problems (Manassis & Bradley, 1994). As this association is not always the case, however, the presence of protective factors (e.g., later relationships, learning of new skills) and other constructs in the development of affective problems has been suggested (Bowlby, 1980; Goldberg, Corter, & Lojkasek, 1990; Manassis & Bradley, 1994; Sroufe, Egeland, & Kreutzer, 1990).

Parental influences. Parent characteristics, attitudes, and behaviors may influence early temperament and attachment or may promote early signs of childhood internalizing distress on their own (see Figure 1, p. 12). For instance, parental psychopathology is often associated with increased risk of insecure caregiver-child attachment and a greater likelihood of psychological difficulties in children. Parents' own inhibited temperament may result in overprotection of their children, preventing children from learning adaptive coping strategies. In relation, parental expectations and child-rearing may affect parents' responses to children's anxiety; Parents may shield children from potentially threatening situations, such as interacting with peers, which would normally ameliorate children's social skills and reduce avoidant behavior (Klein, Mannuzza, Chapman, & Fryer, 1992; Manassis & Bradley, 1994; Manassis & Hood, 1998; Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985; Rubin, 1982). Indeed, parents of anxious children do tend to inadvertently reinforce children's avoidant coping strategies (Barrett, Rapee, Dadds, & Ryan, 1996).

A study by Kohlmann, Schumacher, and Streit (1988) of 12 to 14 year old youth who completed measures of trait anxiety and perceived childrearing practices found that youth anxiety was significantly correlated with reported inconsistent childrearing practices. Parents may also fail to grant children the autonomy to manage challenging circumstances (Rapee, 1997). Retrospectively, adults with anxiety disorders tend to perceive their parents as having been more rejecting and controlling than non-anxious adults (Bruch & Heimberg, 1994; Silove, 1986; Stravynski, Elie, & Franche, 1989). All of these family dynamics, in addition to external stressors, may interact with children's temperament, personality, and attachment relationships with their caregivers, to develop early beliefs that the world is dangerous and threatening. Along a time continuum, these beliefs may later manifest themselves as childhood anxiety disorders and general psychological distress (Klein, Mannuzza, Chapman, & Fryer, 1992; Manassis & Bradley, 1994; Manassis & Hood, 1998; Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985; Rubin, 1982).

Overall, these early indicators of anxiety (i.e., behavioral inhibition, insecure attachment, parental difficulties) underscore the multidimensional nature and developmental stability of anxiety and internalizing difficulties (Bell-Dolan & Wessler, 1994). They comprise children's personal and family experiences and learning histories, which contribute to their core schemas often revolving around themes of fear, danger, and worry.

Schemas. Schemas refer to internal cognitive structures which store aspects of stimuli or experience and meaningfully organize new information so as to establish how phenomena are recognized and conceptualized by individuals (Beck, 1967). They are the

structures of cognition which assign meaning and interpretation to a given context in relation to each child's self, and thus underlie children's beliefs, emotions, and behavior (see Figure 1, p.12; Alford & Beck, 1997; Meichenbaum, 1977; Thorndyke & Hayes-Roth, 1979). Schemas influence what children pay attention to, perceive, remember, and consider important, providing guidelines for information processing and problem-solving (Anderson, 1980; Kendall, 1985). In the example of fear regarding a class presentation, children's schemas may reflect representations of a lack of social and interpersonal acceptance, or an inability to succeed, which would be expected to play a crucial role in inaccurate cognitive processing of events, anxious and sad affect, and maladaptive behavior (Clark & Beck, 1999).

Summary of Theoretical Framework

Overall, anxiety is not solely an emotional, cognitive, physiological or behavioral disorder. Rather, it is a multidimensional construct incorporating aspects of numerous systems. It can be examined with other characteristics of internalizing distress from a cognitive-behavioral standpoint (Kendall, 1991; Kendall, Chu, Pimentel, & Choudhury, 2000). Cognitive-behavioral therapy for anxiety integrates strategies for change which are affective, social, cognitive, and behavioral by addressing the relationships between cognition and behavior with children's emotional (i.e., anxious) state, and their functioning in the broader social context (Kendall, 1991). More specifically, by examining, pinpointing, and subsequently correcting erroneous and unrealistic beliefs and thinking (cognitive appraisals of situations) with CBT treatment, and learning more adaptive beliefs through cognitive processes of reality testing and restructuring

cognitions, children can feel better (i.e., affect) and act in more adaptive ways (i.e., behavior; Beck, 1967, 1976).

Given the cognitive-behavioral framework, the related concept of internalizing distress, and the bidirectional influences between cognitive distortions, anxious and sad affect, and maladaptive behavior (see Figure 1, p. 12), the following notions should hold true. First, measures of the affective, cognitive, and behavioral systems should be highly correlated. Second, a disturbance in any one of the systems should adversely affect how children respond to CBT treatment. Third, targeting children's anxious cognitions in treatment should also influence changes in their emotional and behavioral aspects of anxiety, and overall internalizing distress[1]. The cognitive, affective and behavioral constructs related to anxiety are described in more detail in the following section, and are examined in the present study.

Child Characteristics Linked to Childhood Anxiety Disorders

As implied above, anxiety in children rarely exists in isolation. More often, childhood anxiety disorders co-occur with depressive symptoms, negative self-talk, social anxiety or interpersonal sensitivity, poor social skills, fewer perceptions of personal control, low self-esteem and avoidant coping strategies (Kendall, Kortlander, Chansky, & Brady, 1992a; Ollendick & King, 1994; Ronan & Kendall, 1997). Each of these distinct child characteristics related to anxiety is discussed below.

Depression

Comorbidity between child anxiety disorders and other forms of psychopathology is common, with comorbid depression being a highly studied area in the general

population and in clinic samples (Anderson et al., 1987; Bernstein, 1991; Manassis,

2000). The rate of overlap between child anxiety and depression varies, often due to

divergent samples, informants, and methodological factors (Kendall et al., 1992a). Recent

comorbidity estimates for anxiety and depression in children have been found to range

from 15.9% to 61.9% (Anderson et al., 1987; Bernstein, 1991; Brady & Kendall, 1992;

Carey, Finch, & Imm, 1989; Kovacs, Gatsonis, Paulauskas, & Richards, 1989; Strauss et

al., 1987). Youth who present with both sets of symptoms tend to be older at presentation

than children with anxiety disorders alone (Strauss, Lease, Last, & Francis, 1988). The

anxiety disorders comorbid with depression most often include social phobia and SAD

(Bernstein, 1991; Kovacs et al., 1989; Manassis & Menna, 1999).

Numerous explanations exist for the co-occurrence of childhood depressive and

anxious symptoms beyond any measurement artifact (i.e., common items on anxiety and

depression measures; Manassis & Menna, 1999; Manassis et al., 2002). First, there is a

possible genetic explanation (Kendler, Heath, Martin, & Eaves, 1987). This is supported

by twin studies, where most of the covariation between mother-rated child anxiety and

depression is explained by a common set of genes (Thapar & McGuffin, 1995). Second,

there is the possibility of a temporal progression, whereby anxiety predisposes to later

depression and, thus, the early management of anxiety may help prevent depression

(Brady & Kendall, 1992; Dobson, 1985; Kendall & Ingram, 1987; Manassis, 2000).

Third, both groups of symptoms may be predicted by children's environments. For

instance, families of children with mood or anxiety disorders are characterized by lower

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[1] The measures used in the current study were linked to the cognitive, emotional, and behavioral aspects of anxiety and internalizing distress, as will be described further below.

than average levels of cohesion and greater than average levels of conflict, parental control and rejection, and family life dissatisfaction (Rapee, 1997; Stark, Humphrey, Crook, & Lewis, 1990).

Fourth, some researchers propose that comorbid anxiety and depression make up a distinct unitary disorder represented by negative affectivity (Breier, Charney, & Heninger, 1985; Ollendick, Yule, & Ollier, 1991; Stavrakaki & Vargo, 1986; Watson & Clark, 1984). Only limited support has been found for this notion of a single disorder (Cole, Truglio, & Peeke, 1997; King, Ollendick, & Gullone, 1991; Watson & Clark, 1984; Wolfe, Finch Jr., Saylor, & Carek, 1987). Moreover, it is critical to note that not all anxious children become depressed, or vice-versa (Kendall et al., 1992a).

Many researchers and clinicians who study anxiety and depressive disorders believe that there is a basic distinction between the disorders and that they represent relatively discrete entities with different cognitive mechanisms (Akiskal, 1985). For instance, individual cognitions exist which differentiate depressed from anxious children (Stark, Humphrey, Laurent, Livingston, & Christopher, 1993). Children with both disorders report experiencing more negative automatic cognitions and frustrated behaviors in social situations, as compared to control children. However, depressive affect is most closely associated with self-criticizing, past-oriented cognitions and statements of failure, sadness, loss, and humiliation (i.e., negative proclamations). By contrast, anxiety is most directly linked with future-oriented, questioning cognitions concerning danger (e.g., "Will something bad happen to me?" Beck, Brown, Steer, Eidelson, & Riskind, 1987; Kendall & Ingram, 1987; Stark et al., 1993). Taken together, children with different disorders tend to process information in manners consistent with

those disorders. Research provides some support for this content specificity hypothesis, which proposes that each mental health disorder may be depicted by unique distortions in cognitive processing (i.e., different schema structures accompanying different affective difficulties; Beck, 1967; Kendall & Ingram, 1989; Stark et al., 1993). This explanation appears contradictory to the negative affectivity hypothesis.

Accordingly, a tripartite model of depression and anxiety has been suggested (Clark & Watson, 1991). This model suggests that depression and anxiety share a common underlying, nonspecific, general distress factor (e.g., negative affect), but can also be discriminated based on the absence of positive affect (anhedonia which is specific to depression) versus the presence of autonomic arousal (physiological hyperarousal which is specific to anxiety; Clark & Watson, 1991; Dozios & Dobson, 2001). This tri-level description implies that affective distress should involve a comprehensive consideration of both the shared and unique aspects of anxiety and depression (Clark & Watson, 1991). This theory may help explain why treatment interventions targeting anxiety or depression tend to demonstrate improvements in both disorders (Kendall, 1994; Treadwell & Kendall, 1996).

In summary, an overlap between anxiety and depressive disorders in children appears to exist, although it is variable as a result of different samples, methodological issues, and unique contributing affective and cognitive elements (Clark & Watson, 1991; Kendall et al., 1992a). Moreover, the two disorders can be differentiated based on the existence of distinct subgroups of children (e.g., anxious only, depressed only) within each disorder, subjective and physiological features unique to each of depression and anxiety (e.g., REM sleep disturbance and anhedonia often only with depression,

physiological hyperarousal with anxiety; Akiskal, 1985), and different cognitive

mechanisms associated with each disorder (Ingram et al., 1987). Continuing to examine

aspects of depression in children with anxiety, understanding the mechanisms of

improvement in both disorders despite only one being targeted in treatment, and

determining the ability of one disorder to potentially predict improvement of the other in

treatment would be valuable clinical objectives.

Negative Self-Statements

The function of self-talk in psychological well-being has been explained by

several rival hypotheses (Treadwell & Kendall, 1996). First, negative self-statements

may be related to poor psychological health and, accordingly, an increase in such

statements would be related to decreased psychological well-being (Kendall, 1984).

Second, it may be positive, rather than negative, self-talk which impacts psychological

adjustment level (Peale, 1956). Third, an optimal proportion of negative to positive self-

statements may exist, with dysfunction occurring when the ratio is off-balance (Schwartz

& Garamoni, 1986). Findings in the child literature have been similar to those in the adult

literature: In general, more negative, rather than fewer positive, self-statements are

related to higher levels of anxiety and fear in children (Prins, 1986; Zatz & Chassin,

1985).

Recent studies of children with anxiety disorders support this finding. Treadwell

and Kendall (1996) randomly assigned children diagnosed with an anxiety disorder, and

control children, to a 16-week cognitive-behavioral treatment or a wait-list condition.

The children completed pre- and post-treatment measures of anxiety and negative and

positive self-statements. Only anxious children's negative (as opposed to positive) self-

talk was significantly related to their pre-treatment anxiety. Children with less anxiety had fewer negative self-statements (e.g., "I am going to make a fool out of myself"), yet not a greater number of positive self-statements (e.g., "I feel good about myself;" Treadwell & Kendall, 1996).

The cognitive content of negative self-statements has been investigated in anxious children across a range of situations (Kendall, 1994). Zatz and Chassin (1983, 1985) found that highly anxious children, in both natural and laboratory-based test-taking settings, demonstrated more task-impairing cognitions during testing (i.e., more negative self-evaluations and more off-task thoughts) than less anxious children. Prins (1986) found that children's self-talk in a natural fear-provoking situation (jumping off high diving boards) was significantly associated with their self-reported level of fear. Specifically, children's mental preoccupation with fear, harm, and negative task expectations related to their high anxiety levels. Threat-related biases in anxious children's attention, memory, as well as dichotic listening and interpretation of ambiguous stimuli, have also been discovered (Daleiden, 1998; Hadwin, Frost, French, & Richards, 1997; Manassis, 2000; Manassis, Tannock, & Masellis, 1996; Taghavi, Neshat-Doost, Moradi, Yule, & Dalgleish, 1999; Vasey, Daleiden, Williams, & Brown, 1995).

Overall, children with anxiety, as compared to non-anxious children, have a higher frequency of negative self-statements and cognitions (i.e., focused on worry and danger), especially when exposed to perceived threatening stimuli (Chansky & Kendall, 1997). This negative self-talk appears to be associated with internalizing symptomatology such as negative affect and interferes with performance of cognitive activities and behaviors (Kindt, Brosschot, & Everaerd, 1997).

Social Anxiety and Competence

Past research has demonstrated a relationship between anxiety disorders and psychosocial difficulties, although it is unclear whether it is children's general, or social, anxiety which is linked more highly with their compromised social adjustment (Ginsburg et al., 1998; Manassis, 2000). Similar to the anxiety-depression relationship, it is important to note that not all socially or generally anxious children have difficulties with interpersonal relationships (Ginsburg et al., 1998). It is also challenging to obtain a comprehensive picture of children's social skills as, other than peers and children themselves, other raters (e.g., parents) may not always have the opportunity to accurately discern children's competence in social situations (Mesman & Koot, 2000).

A study by Ginsburg and colleagues (1998) found that children's high self-rated social anxiety levels were significantly associated with their low levels of social acceptance and more negative peer interactions (e.g., being teased, having enemies). Girls with high self-reported social anxiety were also rated by their parents as having poor social skills (e.g., assertion and responsibility). Ratings of children's general anxiety levels were not collected (Ginsburg et al., 1998).

A study by Strauss et al. (1987) found that teacher-identified anxious grade 2-5 children were rated higher on immaturity, inattention, and academic performance deficits than less anxious children. Peers also rated anxious children as significantly less popular, shyer, and more socially withdrawn than non-anxious children. In addition, the anxious children self-reported higher levels of depression and poor self-concepts. Children's self-reported social anxiety, however, was not evaluated. In another study by Strauss and colleagues (Strauss, Lease, Kazdin, Dulcan, & Last, 1989), clinic-referred clinically

diagnosed anxious children were also rated as shy, socially withdrawn, lonely, and lacking in appropriate social skills (e.g., looking at people when speaking with them, initiating conversations, joining in activities; Matson Evaluation of Social Skills with Youngsters; Matson, Rotarori, & Helsel, 1983) relative to non-referred children.

Finally, Chansky and Kendall (1997) compared anxiety-disordered (e.g., overanxious disorder, SAD, and avoidant disorder) to control children on social anxiety (child and parental reports), social expectancies (expectations of acceptance and performance in new social situations), and perceived social competence (children's thought listing in anticipation of joining a game with peers; parent and teacher perceptions of children's sociability). Findings indicated that children with anxiety disorders self-reported higher levels of social anxiety, more negative social expectancies, and lower self-competence than control children. Social anxiety was the best predictor of social expectancies with respect to joining the peer game for all children. Parents and teachers rated anxious children as significantly more socially maladjusted. These findings support those of Strauss and colleagues (1987, 1989) and again illustrate the relationship between anxiety-disordered children's socially anxious affect, cognitive expectations of threat and rejection, and compromised behavioral social competence (Chansky & Kendall, 1997). These relationships are supported by the cognitive-behavioral framework described earlier (see Figure 1, p. 12).

It is often difficult to determine a causal relation between social anxiety and social difficulties. There is strong evidence that negative peer interactions promote feelings of social anxiety in children. However, social anxiety may also be a marker for impaired social functioning in clinically anxious youth (Ginsburg et al., 1998). Overall,

children's anxiety often relates to their negative social expectations, compromised social skills and social relations, and overall psychosocial maladjustment (Berenson, 1996).

Perceptions and Locus of Control

Anxious children tend to maintain negative attributional styles and report little perceived control over their environments (i.e., helplessness; Bell-Dolan & Wessler, 1994; Messer & Beidel, 1994). Attribution theories generally propose that individuals differ in how they describe the causes of events and situations (Anderson & Arnoult, 1985; Weiner, 1974). Attributions may differ in terms of internal-external (personal versus extrinsic locus), global-specific (across, or limited to, situations or events), and stable-unstable (persistent over time or short-lived) dimensions. A negative attributional style refers to the attribution of negative events to internal, global, and stable causes (Abramson, Seligman, & Teasdale, 1978; Anderson & Arnoult, 1985). Attributional style has been related to children's levels of depression, achievement motivation, as well as self-esteem (Dweck & Elliott, 1983; Kaslow, Rehm, Pollack, & Siegel, 1988), although the literature is scarcer with anxiety. Most often, anxiety is associated with an external locus of control for positive events, and internal, stable attributions for negative events, and perceiving these negative events to be personally uncontrollable (Bell-Dolan & Wessler, 1994; Kendall & Brady, 1995).

Locus of control can be considered an attributional style, and refers to the perception of events being under either personal or non-personal control (Kendall, 2000; Loeb, 1975; Nowicki & Strickland, 1973). With an internal locus of control, children are more apt to believe they have personal control over situations, whereas a more external locus of control indicates a belief that non-personal outside sources (e.g., luck, parents,

and peers) have greater control over life circumstances. It is generally considered positive for children to have an internal locus of control. Research suggests that internality is associated with high achievement and self-esteem (Roberts, 1971), whereas perceiving events as uncontrollable increases feelings of hopelessness and helplessness (Kendall & Brady, 1995). Developmental level, however, tends to affect locus of control, with younger children typically having a more external locus of control (LaMontagne & Hepworth, 1991).

Anxious children maintain an external locus of control regarding their successes, and an internal locus of control with respect to their failures (Bell-Dolan & Wessler, 1994). This variation is proposed to be a way for anxious children to manage their low outcome expectancies (i.e., lack of success expectations; Cheek & Melchior, 1990). Anxious children often need to present themselves in a manner that protects them from external negative evaluation (Bell-Dolan & Wessler, 1994). More specifically, anxious children tend to expect and worry about failure (even in the face of disconfirming evidence), and they would rather personally acknowledge this failure before it occurs rather than worry about how others will perceive or judge them. Anxious children also rarely expect success, especially under perceived threatening situations, so they externalize their accomplishments and simultaneously prevent others from expecting them to experience future success (i.e., it is too threatening for them; Bell-Dolan & Wessler, 1994). Overall, there is incongruity between the type of people anxious children wish they were (i.e., able to achieve positive outcomes) and the belief that they cannot sustain such identities (Bell-Dolan & Wessler, 1994). Such cognitions tend to lead to increased worry and sadness.

There is little research examining child anxiety as it relates to the cognitive construct of locus of control. There is some evidence that parents of children with anxiety disorders grant less psychological autonomy to their children and are less democratic in decision-making than parents of non-anxious children, so that children have little opportunity to control aspects of their lives (Siqueland, Kendall, & Steinberg, 1996; Stark et al., 1990). This suggests that family factors may contribute to children's perceptions of control, with greater anxiety being associated with higher levels of parental control (Rapee, 1997). Chorpita, Brown, and Barlow (1998) suggest that children's perceived control mediates the relationship between a controlling family environment and degree of negative affect (i.e., anxiety). Children's external locus of control has also been shown to be positively correlated with low self-reported self-esteem scores and high self-reported depression in children of alcoholic parents, supporting the relationship between few perceptions of personal control and negative affect (McNeill & Gilbert, 1991).

Overall, individuals tend to be motivated to control their environments, and perceptions of personal control are related to psychological well-being (Zuckerman, Knee, Kieffer, Rawsthorne, & Bruce, 1996). Lacking these perceptions and experiences, through an external locus of control for positive situations and internal and stable attributions for failure, could lead to problem-solving deficits and various forms of anxiety (Bell-Dolan & Wessler, 1994; Stark et al., 1990).

Self-esteem

Children with anxiety disorders are reported to have lower self-esteem levels relative to non-anxious children (Messer & Beidel, 1994), although studies examining

this relationship are fairly sparse. Several early studies found inverse relationships between children's anxiety or phobia levels and their levels of self-esteem (Coopersmith, 1967; Edelbrock, 1985; Hersov, 1960; Nichols & Berg, 1970). Consistent with these results, Strauss et al. (1987), in their study of teacher-identified anxious children, determined that anxious children reported lower levels of self-esteem when compared to non-anxious children. Highly socially anxious children have also been found to report lower self-perceptions of social acceptance and global self-worth (Ginsburg et al., 1998). Given the high rate of comorbidity between anxiety and depression in children, with feelings of worthlessness and low self-esteem being symptomatic of the latter (Stark, Rouse, & Livingston, 1991), it is not surprising that low self-esteem also tends to be associated with anxious symptoms.

Children's self-concept and personal self-efficacy relate to their self-esteem levels. Self-concept refers to children's fairly stable composite perceptions of themselves in given domains of functioning (e.g., academic, social; Rosenberg, 1979; Shavelson, Hubner, & Stanton, 1976), and often involves evaluations of their skills and abilities (e.g., "I am competent at jumping six feet in the air"). Self-efficacy refers to children's beliefs that they can successfully carry out behaviors needed to produce outcomes (e.g., "I believe I can jump six feet in the air;" Bandura, 1977), and is less concerned with actual skills and abilities. Both self-beliefs involve perceptions of competence and are presumed to influence children's emotions, thoughts, motivation, and performance (Bong & Skaalvik, 2003). Self-esteem reflects the evaluative component of children's self-

concept (Guindon, 2002) and refers to children's self-regard or attitudes towards the self which includes self-satisfaction, self-worth and self-acceptance (Wylie, 1974)[2].

Self-esteem tends to begin with self-efficacy (White, 1963), and children's high levels of self-esteem often, albeit do not always, reflect high self-efficacy (Rosenberg, 1985). In particular, self-efficacy convictions tend to impact whether or not, and to what degree, children cope with difficult situations (e.g., approaching feared stimuli), and feel good about themselves as a result. The stronger their perceived self-efficacy (i.e., beliefs about their competence), the more likely children are to feel worthy and capable and effective at making changes in their lives (i.e., high self-esteem and domain-specific self-concepts; Rogers, 1961; Tafarodi & Swann Jr., 1995). Such high self-esteem levels produce positive self-concepts in various areas, lead children to exhibit confidence in their judgments and believe that they can manage challenging situations through their own efforts (Coopersmith, 1967). When children consider themselves ineffectual in achieving outcomes and influencing events, they often become depressed and anxious (Bandura, 1997), and see themselves in an unfavorable light. Hence, low levels of self-esteem relate to, and may predict, greater anxiety levels.

Coping Style

Anxious children tend to avoid many activities, especially those they perceive as threatening. As long as they continue to do so, they often fail to overcome their anxiety and remain distressed (Kendall et al., 1997). Children with anxiety disorders seem to have a lower threshold of response to unfamiliar situations, where they experience extreme discomfort, and consequently flee from or evade these situations (Kagan et al.,

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[2] Self-esteem and self-concept are often measured similarly and are used interchangeably in this paper.

1987; Kagan et al., 1988). Such consistent withdrawal from novelty becomes routine, unfortunately decreasing anxious children's opportunity to learn effective coping strategies, such as cognitive restructuring and approaching feared stimuli (Kagan et al., 1990).

Studies support that children with anxiety are more likely than non-anxious children to avoid perceived threatening situations, deny their existence, or distract themselves, as opposed to effectively engaging in direct problem-solving, decision-making, and positive cognitive restructuring (although the latter techniques may be unsuccessfully attempted; Manassis, Mendlowitz, & Menna, 1997). For instance, anxious youth have been found to interpret ambiguous scenarios as threatening and use more wishful thinking, denial, fantasy, and avoidant solutions in such stressful circumstances (Barrett et al., 1996; Kashani & Orvaschel, 1988). These maladaptive coping styles tend to support anxious children's distorted cognitions (e.g., that they are unable to manage stress) and promote further anxiety.

Manassis et al. (1997) also found that children who reported greater use of avoidant, active, and support-focused coping techniques appeared to overreport symptoms of anxiety, whereas children who endorsed less use of these coping strategies – but greater use of distraction relative to the other coping styles – tended to minimize (i.e., underreport) their symptoms. Rather than signifying a sophisticated coping repertoire, this assortment of coping strategies reported by the highly anxious children may have been a sign of their inability to use one strategy really well or these children trying to gain some sense of control over their environments (Kendall & Brady, 1995; Manassis et al., 1997).

Clearly, the relationship between anxiety and coping behavior is an intricate one. Children who are more anxious have more difficulty coping with arousal and fearful situations than do less anxious children, and often avoid perceived anxiety-provoking circumstances as a result (Manassis & Bradley, 1994). By contrast, avoidance of perceived threatening stimuli may also impair children's interpersonal relationships, lead to a sense of helplessness and insecurity, and promote the development or maintenance of anxiety (DiBartolo et al., 1998; Manassis & Bradley, 1994). These bidirectional influences support the cognitive-behavioral framework. Given the overall relationship between anxiety and coping style, however, addressing only emotional anxiety in treatment, without coping strategies, may make anxious youth more susceptible to future intensified symptoms (Mendlowitz et al., 1999). Fortunately, coping strategies can be modified with treatment, decreasing avoidant behaviors and increasing active management of negative emotional arousal (Mendlowitz et al., 1999).

Summary of Child Characteristics Linked to Childhood Anxiety

Given the cognitive-behavioral framework of anxiety and internalizing distress, and the description of child characteristics related to anxiety, several points are important to review. First, some level of association has been found between general anxiety and depression, negative self-statements, social difficulties (i.e., social anxiety and social skill deficits), low self-esteem, external locus of control, and maladaptive coping strategies with different samples of children. It is important to confirm which of these cognitions, emotions, and behaviors are associated with anxiety in the current study and whether certain anxious children have greater levels of these characteristics of internalizing distress prior to any treatment intervention targeting anxiety reduction.

Second, little research exists as to which of the aforementioned child characteristics predict levels of children's anxious affect and behavioral functioning following a CBT program designed to reduce anxiety. As the cognitive-behavioral framework (p. 12) suggests that distress in one area would influence treatment response due to high interrelatedness among distress characteristics, this is worthy of examination. Moreover, as CBT aims to correct children's inaccurate cognitive appraisals and teach them coping and problem-solving skills in order to increase adaptive coping behavior and social skills and decrease anxious affect, it is critical to examine whether characteristics such as negative self talk, self-esteem, social anxiety, locus of control, general anxiety, social skills, coping style, and related depression improve from before to after treatment. Before focusing on CBT treatment studies, other anxiety treatment interventions are described.

Treatments for Childhood Anxiety Disorders

Numerous interventions have been applied to treat anxiety disorders in children and adolescents. Many of these modalities attempt to address some of the cognitive, behavioral, and physiological/emotional systems described earlier. As the present study focuses on CBT treatment as well as using a cognitive-behavioral framework, this treatment modality is reviewed in greater detail than are the others.

Pharmacotherapy

Pharmacotherapy studies of child and adolescent anxiety disorders are limited (Eisen & Kearney, 1995). Medications such as monoamine oxidase inhibitors, benzodiazepines, tricyclic antidepressants and, more recently, selective serotonin reuptake inhibitors (SSRIs), have demonstrated efficacy in treating social phobia in

adults (Davidson, Hughes, George, & Blazer, 1993; Liebowitz et al., 1992). However, with the exception of several studies which have reported the efficacy of drug therapy for children mostly with obsessive compulsive disorder (OCD; Labellarte, Ginsburg, Walkup, & Riddle, 1999; March et al., 1998), there has been relatively little empirical data to support the administration of particular pharmacological agents to non-OCD anxious youth. Data based on pharmacotherapy studies for children with more common anxiety disorders have not often provided consistent evidence for medication efficacy (Eisen & Kearney, 1995). Some very recent studies, however, are pointing in a positive direction.

A recent randomized controlled trial by The Research Unit of Pediatric Psychopharmacology Anxiety Study Group (Walkup et al., 2001), examined over 125 children who met criteria for SAD, GAD, or social phobia and who had received psychotherapeutic interventions for three weeks without improvement. They were randomized to receive fluvoxamine or a placebo for eight weeks and were assessed by measures of anxiety and impairment both pre- and post-treatment. Results showed that the self-reported anxiety levels of children who received fluvoxamine decreased significantly more than the placebo group, and children in the former group were also rated by clinicians as significantly more improved (responding to treatment) as compared to the placebo group.

Two open trials for non-OCD anxiety disorders have provided some recent evidence for initiating larger clinical trials for SSRIs targeting childhood anxiety disorders (Walkup et al., 2002). Birmaher et al. (1994) looked at a small sample of 21 mixed anxious youth administered fluoxetine for 10 months, and ascertained subsequent

improvement in child, parent, and clinician ratings of anxiety in 81% of children, with minimal side effects of the medication. With another sample of 16 anxious youth, fluoxetine was also administered for nine weeks. Post-treatment clinical global impression improvements were revealed in all 10/10 SAD children, 8/10 children with social phobia, 4/6 children with specific phobia, 3/5 children with panic disorder, and 1/7 of the GAD children.

In a meta-analysis, a total of eight small sample studies (1-17 participants) showed a mean rate of improvement of 43% from various forms of drug therapy in children with overanxious disorder, OCD, and panic disorder (Kearney & Silverman, 1998). However, these treatments often included secondary procedures, such as supportive behavioral components which were administered with little control, unclear description, and unknown integrity. Combined with small sample sizes, short drug periods and, often, lack of placebo controls, these particular pharmacological study conclusions were clearly compromised (Kearney & Silverman, 1998).

Despite the beginning of some promising results with medication for anxiety, there is uncertainty about the long-term impact of medication on children's developing brains. Thus, further studies are critical in order to determine the best long-term medication approaches in anxious youth. Moreover, since parents often find drug treatments unacceptable for their children, research distinguishing the independent contributions of medication and other psychological interventions is warranted (Eisen & Kearney, 1995; Isaacs, 2001; Walkup et al., 2002).

Psychodynamic Play Therapy

The premise of play therapy is that play is an intrinsically gratifying activity that provides a safe environment for youth to work through emotional difficulties. It has been used to treat a variety of emotional disorders in children and adolescents (Erikson, 1963; Erikson, 1972). From a behavioral view, it has been conceptualized as a type of systematic desensitization where play, rather than relaxation, is employed as an opposing response to combat anxiety (Wolpe, 1958). In psychodynamic play therapy, a therapeutic alliance is formed, interpretations are made to make the child feel understood, and the therapist allows the child to play spontaneously and helps the child to understand the origin, history, and meaning of defenses in order to address unconscious activity (Cangelosi, 1995).

Unfortunately, play therapies for anxious children have not been empirically or rigorously studied (Eisen & Kearney, 1995), and many consist of case reports (e.g., Boersma, Moskal, & Massey, 1991; Lush, Boston, & Grainger, 1991). Moreover, psychodynamic psychotherapy has been found to be helpful with young anxious children only when practiced intensively (e.g., four or more sessions per week; Heinicke & Ramsey-Klee, 1986; Target & Fonagy, 1994), which resource limitation and family time restrictions may preclude. Further research is therefore needed to determine the effectiveness of play therapy for anxious youth when practiced less intensively.

Peer-based Interventions

Anxious youth, especially those with social anxiety, are less likely to initiate and take part in social activities, or be involved in peer relationships (La Greca & Stone, 1993). Consequently, social skills interventions have been developed to improve anxious

children's peer status and encourage social interactions (Eisen & Kearney, 1995). These often include modeling of appropriate social behavior, coaching in how to act with peers, corrective feedback, behavioral rehearsal of social skills through role-plays, and reinforcement of appropriate social skills (La Greca & Fetter, 1995). These treatment strategies may be used independently or as part of a more comprehensive treatment program (such as CBT; La Greca & Santogrossi, 1980).

Social skill intervention studies exist more for children with externalizing disorders who are having peer difficulties (e.g., Bierman, 1989), as opposed to children with internalizing problems. The latter literature is often limited to case reports. For instance, Kirby and Toler (1970) found that peer exposure and reinforcement of appropriate social skills by parents and teachers were effective in increasing the social interactions of anxious youth. With anxious children, social skill improvement strategies are often combined with other techniques. More empirical, scientific research is needed to investigate not only the relationship between anxiety and social relations, but distinct treatment strategies for improving peer interactions of anxious youth (Eisen & Kearney, 1995).

Cognitive-Behavioral Therapy

CBT, as described in detail earlier, is the application of cognitive-behavioral theory to individual cases (Alford & Beck, 1997). It is important to recognize the core principles of CBT approaches, as well as studies which have demonstrated the effectiveness of CBT with anxious youth.

CBT is a purposeful approach incorporating children's cognitive processes and the positive effects of exposure and performance-based strategies to bring about

therapeutic change in children's social and interpersonal difficulties (Kendall et al.,

1992). There are a number of core principles central to CBT interventions: (i) children

respond mainly to cognitive representations of the environment, rather than to the

environment itself; (ii) children's learning is mostly cognitively mediated; (iii) thoughts,

feelings, and behaviors are causally interrelated; (iv) children's attitudes, attributions, and

expectations are critical to developing therapeutic interventions; (v) cognitive treatment

processes can be combined with behavioral paradigms to treat children and adolescents

with emotional difficulties; and (vi) the role of cognitive-behavioral therapists is to work

with children to develop learning situations that help to restructure distorted cognitions,

as well as the behaviors and affect with which they are associated (Mahoney & Arnkoff,

1978).

Given the cognitive component of anxiety, one of the goals of CBT for anxious

children is to facilitate treatment experiences related to children's cognitions in ways that

challenge their anxiety-related beliefs, so that they develop new, less distorted cognitive

structures which will positively impact their future experiences and enable active,

adaptive coping in the face of fear (Kendall et al., 1992). Elements of CBT used to

achieve this goal include exposure to anxiety-evoking experiences, relaxation, imagery,

problem-solving, correction of maladaptive self-talk, and provision of rewards (Kendall

et al., 1992). Such strategies may be applied in individual or group formats, and

interventions have been demonstrated to be effective with anxious adults, adolescents,

and children (Feske & Chambless, 1995; Gould, Buckminster, Pollack, Otto, & Yap,

1997; Kendall et al., 1992; Manassis, 2000; Mendlowitz et al., 1999; Taylor, 1996).

Three principal groups of CBT researchers have examined treatment effects of CBT with children (Barrett, 1998; Kendall et al., 1997; Manassis et al., 2002).

Kendall (1994) conducted a study of CBT treatment for 9 to 13 year old children with a range of anxiety diagnoses. Children received 16 weeks of individual CBT, and were compared to a wait-list condition. Pre-post treatment changes, and one-year follow-up maintenance, were examined using child, parent, and teacher reports, as well as behavioral observations. Results demonstrated that children's self-reported symptoms of anxiety, depression, and negative/anxious self-talk decreased significantly following the CBT intervention and in comparison to the wait-list condition, and their abilities to cope effectively with anxiety-provoking situations increased. Parents also reported their children's internalizing difficulties and anxiety as having decreased with the intervention. This progress was maintained at one-year follow-up. In addition to these beneficial changes, clinically significant improvement was demonstrated by 64% of the treated children no longer meeting diagnostic criteria for an anxiety disorder. Taken together, these results point to the effectiveness of CBT in substantially decreasing children's anxiety and related internalizing psychopathology.

Kendall et al.'s (1997) second major randomized study of anxious children again found significant pre-post treatment improvements in children's self-reported anxiety, depression, negative self-talk, and active coping strategies following individual CBT treatment sessions. Parents also reported significant improvements in their children's general internalizing difficulties, anxiety, and ways of managing difficult situations. Over 50% of the children were free of their primary anxiety disorder at post-treatment and, for those whose diagnoses remained, there were significant decreases in the severity of their

symptoms. Treatment outcome was not impacted by children's age or by the presence of

comorbidity with another anxiety disorder or with a non-anxiety disorder. These positive

findings across a range of internalizing distress measures encourage a broader focus in

measuring and treating children's internalizing psychopathology (Kendall et al., 1997).

Kendall and Southam-Gerow (1996) examined the long-term effects of individual

CBT for anxious children by reassessing children (i.e., using diagnostic phone interviews

and child- and parent-rated instruments) who had completed treatment an average of

three years earlier (Kendall, 1994). Findings demonstrated that child and adolescent

clients maintained the treatment gains they had made at 1 year follow-up in terms of

improvements in self- and parent-rated anxiety, depression, negative self-talk, coping, as

well as absences of anxiety diagnoses. However, because initial control children in the

wait-list condition eventually received treatment, alternative explanations for the positive

results (e.g., maturation) could not be ruled out.

It is only recently that the effectiveness of group CBT for children with anxiety

disorders, including a parent component, has been demonstrated. Barrett (1998)

evaluated a group CBT family-based intervention for children with separation anxiety,

overanxious disorder, and social phobia. Children were randomly assigned to group CBT,

group CBT plus family management, or a wait list. Treatment effectiveness was assessed

post-intervention and at twelve months follow-up. Results showed that across the two

treatment conditions, over 60% of children no longer fulfilled diagnostic criteria for an

anxiety disorder, versus 25% of children on the wait list. Their self-reported fear scores

also decreased. This was maintained at follow-up. There were only marginal benefits to

the addition of the familial treatment component, as compared to child-only group CBT.

Children receiving the family intervention had a greater likelihood of remission from anxiety at the one-year follow-up, but this was only if parents were initially high in anxiety. Overall, the study demonstrated the effectiveness of using group CBT procedures with anxious youth.

Another study by Barrett and colleagues (Shortt, Barrett, & Fox, 2001) examined the effectiveness of a ten-session family-based group cognitive-behavioral treatment (FGCBT) versus a wait-list condition for anxious children (GAD, SAD, social phobia). FGCBT involved a 10-minute conjoint meeting with children and parents followed by a 50-60 minute group child session. Parents were then invited into the room for five minutes to discuss ideas for practicing strategies at home and then parents had a 30-40 minute session. Over 65% of the FGCBT children were diagnosis-free at post-treatment (versus 6% of children in the wait-list condition) and at 1-year follow-up. Treatment effects were also determined for children's self-rated anxiety symptoms and mothers' ratings of their children's internalizing difficulties. This study demonstrated the effectiveness of group CBT for childhood anxiety in the short-term. However, the study was limited by measures of symptoms other than anxiety not being used (e.g., depression, coping), the same two therapists running all treatment groups, and not being able to compare treatment versus no treatment effects at follow-up (due to wait-list children eventually receiving treatment).

Mendlowitz et al. (1999), using the Coping Bear Workbook (Scapillato & Mendlowitz, 1993), also compared cognitive-behavioral group interventions to a wait-list control group for children who met criteria for one or more *DSM-IV* (APA, 1994) anxiety disorders. The effect of parental involvement on treatment outcome was also examined

by participants being randomly assigned to either a parent and child intervention, child-only intervention, or parent-only intervention. (Participants who waited for treatment for two to six months served as the waitlist control group, and were subsequently entered into treatment). Although children across all treatment groups reported fewer anxiety and depression symptoms and less use of avoidant and distraction coping strategies following the interventions, only children in the combined child and parent intervention reported using significantly more active coping strategies (e.g., direct problem-solving, cognitive restructuring). Parents in this combined group also reported significantly greater improvement in their children's emotional well-being as compared to the other two treatment interventions on the Global Improvement Scale (National Institutes of Health, 1985). Results suggest that group CBT for anxiety is effective in treating child anxiety disorders, as well as managing depressive symptoms, with few adverse effects. Moreover, parental involvement appears to contribute to increasing children's active, adaptive coping strategies (Mendlowitz et al., 1999). Comparison individual CBT was not examined, and there was no short-term or long-term follow-up of children to assess maintenance of treatment gains.

Manassis et al. (2002) compared the efficacy of group and individual CBT, both with parental involvement, in 8-12 year old children with anxiety disorders (e.g., GAD, SAD, social phobia, specific phobia, panic disorder), using the Coping Bear Workbook (Scapillato & Mendlowitz, 1993) described above. Outcome measures included child- and parent-reports of anxiety, and clinician-rated child global functioning. Children also completed measures of social anxiety and depression, and parents completed a measure

of their children's internalizing and externalizing symptoms. A subset of families was contacted one year post-treatment to see whether treatment gains were maintained.

Results showed significant decreases in anxiety and improvements in global functioning irrespective of treatment modality, although clinicians favored individual treatment. Children's social anxiety and depression scores also decreased. Follow-up results also showed gains, but the findings were not significant due to small numbers. The child sample was then dichotomized into high and low mother-rated hyperactivity levels. No significant effects of this characteristic on treatment were determined. The child sample was also dichotomized into low and high social anxiety, with high socially anxious children self-reporting a greater response to individual treatment. Children with high, versus low, social anxiety also endorsed significantly more depression and general anxiety, supporting a general distress level amongst anxious children. Overall, children's anxiety improved in both treatment modalities. However, findings pointed toward a high socially anxious subgroup that appeared to be more vulnerable to depression and general anxiety and benefited more from individual treatment. Long-term follow-up interviews were not conducted.

As a vital next step, Barrett, Duffy, Dadds, and Rapee (2001) evaluated the long-term effectiveness of group CBT, versus group CBT plus family management, versus a wait-list condition for childhood anxiety disorders an average of 6.2 years following the initial intervention, compared to the 1 year follow-up. Diagnostic interviews, clinician ratings, and self- (anxiety, depression) and parent- (internalizing difficulties) reports were used. Results showed that treatment gains (e.g., anxiety) were maintained over the time period following both treatment conditions, with over 84% of clients no longer meeting

diagnostic criteria for an anxiety disorder. Statements regarding clients' overall

adjustment could not be made, however, due to assessments only for anxiety disorders.

Nevertheless, long-term beneficial effects of CBT for childhood anxiety disorders were

suggested.

As demonstrated by the above studies, CBT aimed at decreasing children's

anxiety has been effective, as compared to control groups, and has also resulted in the

improvement of depressive symptoms, negative self-statements, and coping strategies as

reported by children and, often, parents. CBT has also been shown to effectively improve

child characteristics of internalizing distress in other child population samples.

Studies examining the effects of CBT on youth with depression have found that

participants' self-reported depressive symptoms decrease, as does their anxiety. Self-

esteem and social functioning ratings also tend to improve (Vostanis, Feehan, Grattan, &

Bickerton, 1996; Wood, Harrington, & Moore, 1996). Spence, Donovan, and Brechman-

Toussaint (2000) provided group CBT (e.g., social skills training, graded exposure,

cognitive challenging), or CBT plus a parental component, to children specifically with

social phobia. At post-treatment and twelve-month follow-up, significantly fewer

children in both treatment conditions maintained social phobia diagnoses, as compared to

a control condition. Moreover, they showed significantly greater reductions in social and

general anxiety, and there was a significant increase in parents' ratings of children's use

of social skills.

Overall, CBT interventions aimed at reducing children's symptoms of anxiety

have been effective. In addition to improving anxiety, this type of psychosocial treatment

has demonstrated positive effects on anxious children's depressive symptoms, negative

self-talk, and coping strategies (Barrett, 1998; Kendall et al., 1997; Mendlowitz et al.,

1999), with CBT for non-anxious samples of children showing positive effects on self-

esteem and social competence levels as well (Vostanis et al., 1996). However, few

studies have identified predictors of CBT treatment outcome for youth with anxiety.

Moreover, many CBT studies examining childhood anxiety disorders have

methodological limitations that ought to be addressed.

Predictors of treatment outcome. Although numerous studies point to the

effectiveness of CBT in improving anxiety and other related symptoms of internalizing

distress, little research has examined which of these related child characteristics may help

predict anxious children's response or non-response to CBT treatment (Manassis &

Hood, 1998). This area is critical to examine given that 30-50% of children who receive

CBT interventions continue to meet diagnostic criteria for anxiety disorders post-

treatment (Barrett, 1998; Kendall, 1994; Kendall et al., 1997).

Predictors of anxiety treatment outcomes have been studied with adults. Schiebe

and Albus (1997) found that pre-treatment comorbid GAD, duration of illness, and

phobic avoidance behaviors were the best predictors of more panic symptoms in panic

disorder patients two years post-treatment. Durham, Allan, and Hackett (1997) found that

the type of treatment received (cognitive therapy, versus analytic therapy or anxiety

management training), marital status (married versus single), marital conflict (better

social adjustment), and comorbidity (fewer diagnoses) predicted less anxiety and overall

psychopathology in a group of adults with GAD following treatment.

Predictors of treatment outcome have also been studied with non-clinical child

populations. In a general study of *DSM-IV* (APA, 1994) disorders (e.g., oppositional

defiant disorder, conduct disorder, attention deficit hyperactivity disorder, overanxious disorder), Cohen et al. (1993) followed an epidemiological sample of children aged 9 to 18 years. They discovered that the children's chances of having the same disorder diagnosed two and a half years after an initial diagnosis was higher if symptoms of that disorder at the initial assessment were more severe. This demonstrated the persistence of the disorders.

With depressed adolescents, another study (Jayson, Wood, Kroll, Fraser, & Harrington, 1998) found that children's older age, increased severity of depression prior to treatment, and increased psychosocial adversity (e.g., psychosocial stressors, adverse family environments) predicted lower post-treatment functioning. Social impairment was the best predictor of depression remission.

Last, Hansen, and Franco (1997) prospectively investigated the functioning in young adulthood of youth with anxiety disorders by assessing the educational, occupational, residential, marital, and psychological status of 18-26 year old young adults who had histories of anxiety disorders, comorbid anxiety and depression, or no history of psychiatric illness (i.e., controls). Type of treatment received was not evaluated. Anxious participants without depression histories were less likely than controls to be living on their own. Anxious-depressed participants were less likely than controls to be working or on school, more likely than anxious-only youth to use mental health services, and more likely than both other groups to say they had psychological problems (e.g., depression). Overall, this study suggested that children who had only anxiety disorders in childhood were fairly well-adjusted in young adulthood. However, a history of comorbid depression

in children seemed to be predictive of increasingly negative psychological outcomes. Other child characteristics of internalizing distress were not examined.

With anxious children, Crawford and Manassis (2001) examined whether family factors were predictive of outcome (self- and parent-rated child anxiety, clinician-rated child functioning) following a CBT intervention for 8-12 year old children using the Coping Bear Workbook (Scapillato & Mendlowitz, 1993). Results demonstrated that children's lower ratings of family dysfunction (i.e., family members relating to each other less poorly) and children's lower frustration with their families predicted greater clinician-rated child improvement following CBT treatment. Parental reports of less family dysfunction and mothers' lower parenting stress levels predicted greater mother-rated child improvement (i.e., decreased anxiety), and lower father-rated somatization and child-rated family dysfunction and frustration ratings also predicted more improvement in child-rated anxiety outcome.

Although this study concluded that family dysfunction related to less favorable CBT treatment outcome for anxious children, child characteristics of internalizing distress were not examined. Other studies (e.g., Mesman & Koot, 2001) have suggested that once child characteristics (e.g., internalizing problems in preschool) are accounted for, most environmental factors (i.e., harsh parenting, mothers' negative attitudes, family psychopathology) do not independently contribute to the prediction of psychopathology, such as anxiety, in later youth. It is therefore important to examine characteristics of children (e.g., self-esteem, negative self-talk, and depression levels) which may impact treatment response. For instance, Treadwell and Kendall (1996) found that anxious

children's pre-treatment negative self-statements not only related to their pre-treatment anxiety, but predicted the severity of their anxiety symptoms after treatment.

Apart from pre-treatment anxiety severity and negative self-statements, child characteristics (i.e., other aspects of internalizing distress) have rarely been considered as predictors of treatment outcome for therapeutic interventions for childhood anxiety disorders. It is reasonable to infer that child cognitions (e.g., self-esteem, interpersonal worry thoughts) might influence the effectiveness of CBT on children's anxious affect and behavioral functioning given their strong associations with anxiety within a cognitive-behavioral framework (see Figure 1, p. 12). Knowledge gained from such findings would provide insight into child characteristics which could be addressed before treatment, in order to prevent a percentage of children from not improving from CBT (Barrett, 1998; Jayson et al., 1998).

Methodological limitations. As research on CBT and childhood anxiety disorders has expanded, so have methodological considerations (Kendall & Flannery-Schroeder, 1998). It is important to acknowledge these and attempt to address them in the current study and in future research. These broadly include the assessment of anxiety and related distress, and treatment integrity.

Many studies of childhood anxiety interventions rely almost exclusively on children's self-report measures, with clinical interviews used only to establish diagnoses (Stark et al., 1993). However, as a result of their lower levels of introspective and cognitive competencies, it has been suggested that children may not always be capable of accurately reporting negative emotions and cognitions until adolescence (Kovacs, 1986; Nurcombe, 1992; Rutter, 1986). Conversely, children may be the optimal evaluators of

their own internalizing distress. Moreover, since CBT is deemed appropriate for latency-aged children (Hirshfield-Becker & Biederman, 2002; Lumpkin, Silverman, Weems, Markham, & Kurtines, 2002), these children should presumably have cognitive and linguistic abilities which permit them to sufficiently report their cognitive and affective symptoms of internalizing distress. Nevertheless, it is important to use other methods and informants, aside from child self-reported questionnaires, to assess anxiety (Brady & Kendall, 1992). The complexity of clinical problems may need more comprehensive assessment measures such as structured interviews and ratings from additional informants (Chansky & Kendall, 1997; Durham et al., 1997; Stark et al., 1990). The current study addresses many of these issues by using structured interviews, as well as numerous paper-and-pencil measures from different raters.

In accounting for changes due to treatment, some child anxiety studies combine intervention procedures, making it difficult to determine which components explain the treatment outcomes (Bernstein & Borchardt, 1991). This can occur with CBT, when such interventions encompass relaxation, cognitive restructuring, and enactive exposure to anxiety-provoking stimuli (although the latter has often been found to be the crucial element; Kendall et al., 1997). In the current study, the main component of treatment consisted of approaching feared stimuli. This CBT intervention was also manualized, promoting treatment integrity.

Overall, although CBT outcome studies for children with anxiety disorders are increasing in number and scientific rigor, improvements are consistently needed in terms of short-term and long-term follow-up data, employing manualized treatments, diverse samples, multiple assessment tools from a range of informants, and measurements that go

beyond the targeted anxiety. This increases confidence in research conclusions (Kendall & Flannery-Schroeder, 1998). The current study addresses many of these concerns with its use of a treatment manual, questionnaire ratings from children and parents regarding a host of symptoms, and pre- and post-treatment interviews with clinicians. Some limitations still remain, however, and are addressed later in the paper.

Summary and Hypotheses

Clearly, a range of anxiety disorders exist in children, with the prevalence rates being relatively high (Costello & Angold, 1995). Anxiety may be assessed using a range of measures by several informants, but the rate of agreement between them often varies. Childhood anxiety disorders rarely exist in isolation. Rather, children often suffer from symptoms such as depression, as well as accompanying negative self-talk, social maladjustment, perceived lack of control, low self-esteem, and maladaptive coping strategies. These interdependent relationships between affect, cognitions, and behavior can be recognized within a cognitive-behavioral framework, pointing to a general factor of internalizing distress. Discrete symptoms of this overall distress have been proposed to begin early, through behavioral inhibition, early insecure parent-child attachment, and parental influences.

Numerous intervention methods exist to target constructs subsumed within anxious children's internalizing distress, including pharmacotherapy, play therapy, and peer-based work. CBT, applying the cognitive-behavioral framework described earlier, is one modality which has been determined to be extremely effective and accepting to children and their parents (Kendall et al., 1997). The influence of parental and family characteristics on children's treatment response following a CBT anxiety reduction

intervention have been examined (Crawford & Manassis, 2001). However, empirical

work is still needed in exploring the best child-related predictors of outcome for CBT

treatment for child anxiety.

In the current study, specific hypotheses are therefore proposed given the

cognitive-behavioral framework for anxiety described above, and the relationships that

exist among child characteristics of internalizing distress including cognitions (e.g.,

negative self-statements), affect (e.g., anxiety), and behavior (e.g., avoidant coping, poor

social skills):

1A.   Based on the anxiety literature and a cognitive-behavioral framework, it is predicted that children with high levels of pre-treatment general anxiety will also have high levels of pre-treatment negative cognitions such as negative self-statements, social anxiety (i.e., interpersonal worry thoughts), a more external locus of control, and low levels of self-esteem, as well as high levels of depressive affect and avoidant coping behavior, and low levels of appropriate social skills.

1B.   If this prediction of correlating internalizing distress measures holds true, an exploratory analysis will be performed to see if the associations among the affective, cognitive and behavioral characteristics are linked to the existence of a subgroup of children endorsing more severe levels of internalizing distress. No a priori hypothesis is made in this regard.

2.   Based on the interdependence among thoughts, emotions, and behaviors illustrated in the cognitive-behavioral framework, it is hypothesized that higher levels of pre-treatment negative cognitions (i.e., negative self-statements, social anxiety, xternal locus of control, and lower self-esteem levels), depressive affect, and avoidant coping style will predict less improvement in general anxiety and behavioral functioning (i.e., treatment outcomes) following the CBT intervention. Given the strong mediating role of cognitions, however, the pre-treatment negative cognitions are hypothesized to be the most salient treatment outcome predictors.
If lower and higher internalizing distress subgroups of anxious children are determined to exist in the sample, it will be queried as to whether different child characteristics predict their treatment outcomes.

3.   Consistent with the interrelationships among systems in the cognitive-behavioral framework, and following CBT treatment targeting children's distorted cognitive appraisals and impacting their internalizing affect and behavior, it is predicted that children's negative self-statements, social anxiety, sense of personal control, and self-esteem (i.e., cognitions) will improve from pre-treatment to post-treatment, as will their general anxiety and depressive symptoms (i.e., affect). Children's behavioral functioning is hypothesized to improve over time, as are children's active coping strategies and social skills. It is predicted that children's avoidant coping behavior will decrease (i.e., behaviors).

If lower and high internalizing distress subgroups of anxious children exist in the sample, it will be queried as to whether the subgroups benefit similarly or differentially from pre- to post-treatment.

CHAPTER 2

Method

Participants

Participants were 110 children (57 males, 53 females) aged eight to twelve years

(M = 9.9, SD = 1.3) and their parents. There were with 22 8-year-old, 14 9-year-old, 37

10-year-old, 25 11-year-old, and 12 12-year-old children. Of the children participating in

this study, primary diagnoses included: generalized anxiety disorder (66%), separation

anxiety disorder (20%), simple phobia (5%), social phobia (4%), and other (such as panic

disorder, depression, OCD, and oppositional defiant disorder; 5%). Forty-two percent of

children had a secondary anxiety disorder diagnosis, 2% of children had a comorbid

depression diagnosis, and 34% of children had a comorbid non-anxiety, non-depressive

diagnosis (i.e., ADHD, ODD, OCD, panic disorder, other). All children with a non-

anxiety primary diagnosis had a secondary anxiety diagnosis. The majority of the sample

was Caucasian (85%); the rest were of African American or Asian descent (15%).

All 110 mothers and 79 fathers participated in the study. Eighty percent of the

couples lived together at the time of the study. Ninety-two percent of the mothers, and

88% of the fathers, had some post-secondary education. Ninety-five percent of the

families had an annual income of over $30,000.

The families were referred by physicians and mental health professionals for

treatment to a tertiary care Anxiety Disorders Clinic at a large children's hospital through

consecutive intakes. All children participating in treatment met the criteria for at least

one *DSM-IV* (APA, 1994) anxiety disorder. Children having psychotic disorders, a

medical condition which would interfere with treatment, an IQ of less than 80 (based on

two subtests of the WISC-III; Wechsler, 1991), or who were not proficient in the English language, were excluded from participation in the study. Eight children receiving psychoactive medication (e.g., selective serotonin reuptake inhibitors) were included, but maintained a constant dosage throughout treatment to minimize the effects of the medication on outcome.

Procedure

Children and parents were interviewed separately by psychiatrists as part of a psychiatric assessment. Psychiatrists administered a semi-structured diagnostic interview to all child and parent participants using questions from the Diagnostic Inventory for Children and Adolescents-Revised (revised to meet *DSM-IV* criteria; Reich & Welner, 1988). Mothers also completed a structured, computerized version of this instrument (DICA-IV; Reich, Welner, Herjanic, & Multi-Health Systems Staff, 1997) to confirm clinical diagnosis. No disagreements between the two assessment methods occurred. On rare occasions, an additional diagnosis was made. In such circumstances, all diagnoses were included to maintain comprehensiveness. The treatment processes, and information regarding the research study, were explained to children and parents. If interest was expressed in the research, and children met study criteria, the parents provided consent and the children provided assent.

Children and parents then completed questionnaires assessing a variety of internalizing symptoms. The order of the presentation of the questionnaires was counterbalanced. All children, and the majority of parents, completed these measures at the Anxiety Disorders Clinic following the assessment interview. Questionnaires were administered to children by qualified psychologists or psychology interns. Clinicians also

completed a measure of children's functioning level. To obtain more objective ratings, three clinicians (e.g., psychiatrists, psychologists) who were not involved in the study estimated child participants' global functioning before (as well as after) treatment based on detailed pre-treatment assessment notes (and follow-up appointment notes, respectively). The agreed-upon consensus rating reflected the global functioning score.

After the initial assessment, children were randomly assigned to either individual or group manual-based treatment conditions. Fifty-three percent (n=58) of the children received group treatment, and 47% (n=52) received individual treatment. Children in both conditions received 12 weekly sessions of CBT treatment, and parents received a similarly structured 12 week program which educated them about their children's anxiety and provided them with behavior management strategies in relation to their children's anxiety. With group treatment, child sessions were 90 minutes and parent sessions were 90 minutes (concurrently). Groups were facilitated by one experienced and one less experienced therapist. With individual treatment, content was identical to the group sessions. Forty-five minutes were spent with the child and 45 minutes with the parent(s) per session, by the same therapist. Individual therapists had a broad range of experience, including some senior staff (psychiatrists, psychologists) and some supervised trainees (psychiatry residents, psychology interns), to parallel the facilitator balance in the group condition. It was felt that 45 minutes for an individual child and 45 minutes for a single family was all that was required. Ninety minute one-to-one sessions would have been too exhausting for children in this age range (given the lack of opportunity for turn-taking and being the focus of attention).

Assignment of children to group versus individual treatment was addressed in the current study only to ensure proper randomization of children. No hypotheses were proposed relating to the different formats. The effects of treatment modality on aspects of treatment outcome have been evaluated elsewhere (as detailed earlier; e.g., Manassis et al., 2002). However, if significant main effects or interactions involving treatment assignment are determined in the statistical analyses, they are discussed accordingly.

Following the treatment program, children, parents, and clinicians completed the same questionnaires as those given prior to treatment at the Anxiety Disorders Clinic. Treatment attendance was excellent for children and parents attending both group and individual treatment, with an average of 10.5 out of 12 sessions attended. The group and individual conditions had 10% and 7% treatment attrition, respectively. There were no significant differences between those children who dropped out of the study and those who remained in the study sample in terms of demographics (e.g., child age, gender) or severity of distress characteristics (e.g., anxiety, depression, self-esteem, coping style) at pre-treatment, as demonstrated through t tests and chi-square analyses.

There was no comparison waitlist control group used in this study. This is because significant treatment effects for this particular intervention, for several of the measures used in the current study (as detailed below), have been demonstrated in previous studies as compared to a waitlist period (e.g., no treatment; Mendlowitz et al., 1999). Moreover, other research studies of similar group and individual CBT treatment programs for child anxiety corroborate such improvements in treatment outcome as compared to waitlist conditions (e.g., Barrett, 1998; Kendall, 1994; Kendall et al., 1997; Shortt et al., 2001), further demonstrating its efficaciousness.

Treatment Manuals

The *Coping Bear Workbook* (Scapillato & Mendlowitz, 1993) used in this research study was an adaptation of the *Coping Cat Workbook*, developed by Kendall (1990), for group therapy for anxious children. The *Coping Bear Workbook* was more conducive to group work and was based on fewer sessions than the *Coping Cat Workbook*. Moreover, the *Coping Cat Workbook* did not include a parent component, whereas the *Coping Bear Workbook* was tailored to take a parent intervention into account. The treatment program consisted of 12 sessions designed to educate children as how to identify their physical reactions to anxiety, how to relax, how to modify maladaptive cognitions, and how to use and self-reinforce adaptive coping responses. Teaching, activities, and discussion were used to achieve these goals.

Group therapy for parents was modeled after the book *Keys to Parenting Your Anxious Child* (Manassis, 1996). The parent group emphasized psychoeducation and focused on children's anxiety-related behaviors to help parents better manage these behaviors at home. Parents learned strategies to understand and manage their children's anxiety and help their children cope with anxiety provoking situations (e.g., encouraging their children to think about how they would handle potential stressful circumstances before they occurred and what kind of coping self-talk they could implement in response). Again, content was similar when parents were seen individually. The content of the parent portion roughly paralleled the content of the children's program in both group and individual modalities. Both child and parent group treatment conditions included homework assignments, group exercises, and group problem solving to

reinforce strategies introduced in the manuals. Participants in the individual modality also

received homework assignments involving problem-solving.

Measures

All measures described in the following section were completed both before and

after the CBT treatment intervention.

Outcome measures

Multidimensional Anxiety Scale for Children (MASC; March, 1997). The MASC

is a 39-item measure designed to assess a broad range of anxiety symptoms in 8 to 19

year old youth. The MASC uses a four-point, Likert-style format in which respondents

are asked to rate each item (from "0" for "never true about me" to "3" for "often true

about me") according to their own experience. Four robust basic scales are measured

(physical symptoms, social anxiety, harm avoidance, and separation/panic – three of

which have subscales), as well as a total anxiety scale and two major indexes (anxiety

disorder and inconsistency). Higher scores indicate increasing emotional problems. Full-

scale and subscale scores can be converted into T scores. A T score above 60 is

considered "above average" in terms of anxiety and is commonly used as a cutoff point

for clinical anxiety. This is because a T score of 70 tends to be too conservative,

especially given that anxious children often underreport their symptoms (March, 1997)[3].

The MASC is also regularly combined with responses from other measures and clinical

interviews in order to make a formal diagnosis of childhood anxiety disorders. In the

current study, the diagnosis was formed based on diagnostic interviews with parents and

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[3] This was a parent-referred sample, thus not all children considered themselves anxious. Moreover, as the MASC is multidimensional, children may have a T score greater than 70 on one subscale but not be intensely anxious on other subscales, leading to a lower overall T score.

children. The MASC was provided to participants to report changes in child anxiety from

before to after treatment and to test the specific hypotheses described.

Item examples from the MASC include the following, "I avoid going to places

without my family" (separation/panic scale), "I feel restless and on edge" (tense and

restless subscale of the physical symptoms scale), and "I stay away from things that upset

me" (anxious coping subscale of harm avoidance scale)[4]. The MASC was chosen as the

main measure of child-reported, mother-reported, and father-reported anxiety as it covers

a broader range of anxieties than other measures (e.g., Revised Children's Manifest

Anxiety Scale [RCMAS]; Reynolds & Richmond, 1985) and uses a Likert-type scale,

rather than a forced choice response system, which results in a better ability to

discriminate symptom severity (Manassis et al., 1997).

The current sample had internal consistency reliability coefficients of .87 for

child, .90 for mother, and .88 for father ratings. Psychometric properties of the MASC,

and all other measures, are detailed in Appendix B.

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

provides clinician ratings of 4 to 16 year old children's adaptive functioning during the

previous month. It is rated on a 100 point scale, with 1 representing the most functionally

impaired child and 100 representing the healthiest (Shaffer et al., 1983). Scores above 70

tend to be designated as indicating normal functioning. Written behaviorally-oriented

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[4] Appendix A contains the CGAS (Clinician's Global Assessment Scale), NASSQ (Negative Affective
Self-Statements Questionnaire), NSLOC (Nowicki-Strickland Locus of Control Scale), CCSC-R
(Children's Coping Strategies Checklist-Revised), and SASC-R (Social Anxiety Scale for Children-
Revised) measures used in this study. The other measures, including the MASC (Multidimensional Anxiety
Scale for Children), CDI (Children's Depression Inventory), SPPC (Self Perception Profile for Children),
RCMAS (Revised Children's Manifest Anxiety Scale), and SSRS (Social Skills Rating Scale) are not
catalogued in the Appendix Cue to copyright reasons.

descriptors are given for each 10-point interval/anchor point (see Appendix A).

Clinicians choose the interval that best describes children's current functioning, and

subsequently assign an exact rating within that interval. In the present study, as

mentioned, to obtain more objective ratings, three clinicians who were not involved in

the study estimated children's global functioning before and after treatment. They were

blind to treatment condition and, whenever possible, blind to whether their ratings were

of children's pre- or post-treatment condition. Detailed data from assessment notes was

sufficient to make ratings.

Child-rated Measures of Child Symptomatology

Children's Depression Inventory (CDI; Kovacs, 1982). The CDI, based on the

Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), is a 27-

item self-report survey designed to measure 7 to 17 year old children's overt symptoms

associated with a state of depression. Each item refers to one symptom, assesses its

severity during the last two weeks prior to testing, and is scored on a 3-point scale

yielding a total score ranging from 0 (non-depressed) to 54 (extremely depressed). This

score can be converted into a T score. The CDI also yields subscale scores and T scores

for negative mood, interpersonal problems, ineffectiveness, anhedonia, and negative self-

esteem. The full-scale internal consistency reliability coefficient in this sample was .81.

Negative Affect Self-Statement Questionnaire for 7-10 year olds (NASSQ: 7-10;

Ronan, Kendall, & Rowe, 1994). The NASSQ assesses anxious and depressive self-

statements in children. Children endorse these self-statements on a scale ranging from

"1" ("not at all") to "5" ("all the time"), representing the frequency with which each

thought occurred during the past week (Ronan et al., 1994). Fourteen negative self-

statements comprise the NASSQ: 7-10, with eleven anxiety-specific cognitions (e.g., "I thought I would fail") and three depression-specific self-statements (e.g., "Life is terrible;" see Appendix A). Internal consistency reliability for this measure in this sample was .85.

The Self-Perception Profile for Children (SPPC; Harter, 1985). This measure assesses third through sixth grade children's self-reported judgements of self-adequacy and competence across scholastic, athletic, physical, behavioral, social, and global self-worth domains. These six dimensions of children's self-esteem or self-concept are each assessed by six questions, for a total of 36 items. A structured alternative format requires children to first decide which kind of child they think they are most like (the children described on the right or the left side of the page of the measure). Second, children decide whether the selected description is sort of true or really true for them (Harter, 1985). Each item is scored on a 4-point scale yielding subscale scores ranging from 6 (i.e., low in domain-specific perceived competence) to 24 (i.e., high in domain-specific perceived competence), with mean scores ranging from 1-4. Some examples of questionnaire items include the following: "Some kids wish that more people their age liked them BUT Other kids feel that most people their age do like them" (social acceptance scale), "Some kids behave themselves very well BUT Other kids often find it hard to behave themselves" (behavioral conduct), and "Some kids are very happy being the way they are BUT Other kids wish they were different" (global self-worth). The full-scale internal consistency reliability coefficient was determined to be .93 for this sample of children.

Nowicki-Strickland Locus of Control Scale (NSLOC; Nowicki & Strickland,

1973). The NSLOC consists of 40 forced-choice questions, designed for children in grades 3 to 12. The items describe reinforcement situations across interpersonal and motivational realms (e.g. achievement, dependency), and children respond yes or no to each question, indicating internal or external control orientation (see Appendix A). Scores range from 0 (i.e., high internal locus of control) to 40 (i.e., high external locus of control). A sample of 1,017 "normal" school children was used to construct the NSLOC scale across four different communities. The mean score for the grade 3 to 6 boys and girls was 16.87 (Nowicki & Strickland, 1973). Accordingly, the cut-off score between an externally- and internally-oriented locus of control for anxious children in this study was 16, with lower scores indicating a more internal locus of control and higher scores considered a more external locus of control. The internal consistency Cronbach alpha reliability coefficient was .61 for this child sample.

Children's Coping Strategies Checklist-Revised (CCSC-R; Sandler & Ayers, 1990). The CCSC-R is a 57-item, self-report inventory designed to assess coping strategies used by children when they experience a problem. The instrument was standardized using a community sample of 225 elementary school children in the Southwest United States (Sandler & Ayers, 1990). Items are scored using a 4-point Likert scale ranging from "1" for "never" to "4" for "most of the time." Higher scores indicate greater use of coping strategies. The checklist yields four relevant coping factors: active (direct problem-solving, positive cognitive restructuring), avoidant (avoidant actions, cognitive avoidance), distraction (distracting actions, physical release of emotions), and support (problem-focused, and emotion-focused, support). Items from the CCSC-R include "When I have a problem, I try to make things better by changing what I do"

(direct problem-solving) and "When I have a problem, I try to put it out of my mind" (cognitive avoidance; see Appendix A). The internal consistency coefficient for the overall scale was .90.

Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985). The RCMAS (subtitled "What I Think and Feel") is a 37-item, self-report measure designed to evaluate the level and nature of trait anxiety (i.e., predisposition to experience anxiety in a number of settings) in children and adolescents aged 6 to 19 years. Youth respond to each statement by circling a "yes" (i.e., descriptive of children's feelings and actions) or "no" (i.e., not descriptive) response. The RCMAS yields a total anxiety score (i.e., total number of "yes" responses), as well as four subscales measuring physiological symptoms, worry/oversensitivity, social concerns/concentration, and social desirability (i.e., a lie subscale). Higher scores indicate higher levels of anxiety or lie on the subscales.

Only the lie scale as reported by children was used in this study. Examples from this subscale include "I like everyone I know" and "I am always nice to everyone." Lie scores could range from 0 to 9. Higher scores (i.e., greater than a standard score of 13) indicate an inaccurate self-report. One correlate of this inaccuracy may be children's intentions to "fake good" to convince the assessor that they are more "ideal people" than what is really true. This does not necessarily mean children are deliberately deluding the assessors but, rather, expressing a high need for social acceptance and desirability (Reynolds & Richmond, 2000). Internal consistency reliability of the present sample was .82 for child-reported anxiety.

Parent-rated Measures of Child Symptomatology

Social Skills Rating System - Parent Form Elementary Level (SSRS; Gresham &

Elliott, 1990). The SSRS assesses parents' perceptions of the frequency of a wide range

of social behaviors for children in kindergarten through sixth grade. Each item is rated on

a 3-point scale from "0" ("never") to "2" ("very often") in terms of frequency and "0"

("not important") to "2" ("critical") in terms of importance. Only the frequency

dimension was of interest in the present study. Two domains of social behavior were

measured in this study: Social Skills (cooperation, assertion, responsibility, and self-

control subscales; 38 items) and Problem Behaviors (internalizing, externalizing, and

hyperactive; 17 items). Higher scores reflected greater display of skills and problems.

Overall, although full-scale psychometric properties such as internal consistency,

and content, criterion-related, and construct validity are good for the SSRS, social skills

subscale reliabilities are typically lower and lower levels of validity are illustrated (see

Appendix B). Accordingly, only the full-scale social skills score was used in the current

study, along with the full-scale problem behaviors score (and its three subscales). Internal

consistency reliability coefficients for the present sample were .91 for mothers' ratings of

children's social skills, .88 for mothers' ratings of children's problem behaviors, .90 for

fathers' ratings of children's social skills and .82 for fathers' ratings of children's

problem behaviors.

Child- and Parent-rated Measures of Child Symptomatology

Social Anxiety Scale for Children-Revised (SASC-R; La Greca & Stone, 1993.

The SASC-R is a measure of children's anxiety in relation to peers and social situations,

which consists of 22 items using a 5-point Likert scale from "1" for "not at all" to "5"

for "all the time." Eighteen items are summed to yield three factors/subscales: The first subscale is fear of negative evaluation (eight items reflecting fears, concerns, or worries regarding negative evaluation from peers). An example is "I worry about what other kids think of me." The second subscale is specific social anxiety (six items reflecting social avoidance and distress with new social situations or unfamiliar peers). An example is "I get nervous when I meet new kids." The third subscale is general social anxiety (four items reflecting more generalized or pervasive social distress, discomfort, and inhibition). An example is "I feel shy even with kids I know well." Four items are filler items. (See Appendix A). Internal consistencies for the current sample were .90 for child reports, .91 for mother reports, and .92 for father reports.

Differentiation of Constructs Measured in the Study

The strong intercorrelations among children's ratings of affective, cognitive, and behavioral difficulties, using the measures described above, can be considered to represent an overall factor of general internalizing distress (Watson & Clark, 1984; Watson & Kendall, 1989). Each construct measured in the study, however, can still be considered as distinct from the others. This can be supported by means of two examples. First, the two discrete disorders of anxiety and depression, despite being highly correlated, maintain unique features. Second, child characteristics measured on two different but related questionnaires, the MASC and SASC-R, can be differentiated based on items specific to each measure.

The strong correlation between anxiety and depression can be explained by numerous theories. The disorders have been viewed as: (a) different points along the same continuum, (b) alternate expressions of a common underlying subjective distress,

(c) heterogeneous syndromes that are related due to some shared characteristics, (d)

separate phenomena, one of which may develop into the other and (e) conceptually

different disorders (Clark, 1989). Although each of these viewpoints is supported by

some research, the current classification system (i.e., *DSM-IV*; APA, 1994) largely points

to a categorical view. Other findings support this perspective.

First, many researchers and clinicians support the basic distinction between

anxiety and depression given the existence of anxious only or depressed only children

(Akiskal, 1985). Second, features unique to each of depression and anxiety have been

suggested by a tripartite model, with the relative absence of positive mood and

pleasurable experiences (i.e., lack of positive affect) being specific to depression, and

physiological hyperarousal occurring more often with anxiety (Akiskal, 1985; Watson &

Clark, 1991). Third, different cognitive mechanisms distinguish the two disorders, with

depressed children focusing on themes of failure and personal degradation and anxious

children more likely to focus of themes of danger and harm (Kendall & Ingram, 1989).

Fourth, anxiety and depression are distinguished by a predominant emotion: In anxiety it

is fear, whereas in depression it is sadness (Blumberg & Izard, 1986). Although high

levels of various internalizing difficulties and some nonspecific symptoms may be

manifestations of general internalizing distress which will almost always be present in

anxious children, there are core sets of symptoms specific to anxiety (and depression, and

likely other internalizing distress child characteristics) which are separate from general

negative affectivity. Therefore, each disorder, and features and measures of each

disorder, can be considered distinct (Clark & Watson, 1991).

Items on different questionnaires of related distress symptoms, such as the MASC

(general anxiety) and SASC-R (social anxiety), can also substantiate the measurement of

different constructs. Due to the strong correlation between child reports on the MASC

and SASC-R, it would be tempting to presume that the two measures are assessing a

similar construct and that it is inappropriate for one measure to be used to predict

another. However, item overlap between the two measures exists only in one area. Five

of the items on the Social Anxiety subscale of the MASC overlap with five items on the

SASC-R. More specifically, three items of the Humiliation/Rejection aspect of the

MASC Social Anxiety subscale are similar to three items on the Fear of Negative

Evaluation subscale on the SASC-R. Two items from the Performing in Public portion of

the MASC Social Anxiety subscale are similar to the SASC-R subscale representing

General Social Avoidance and Distress. In total, 13% of MASC items overlap with 23%

of SASC-R items, leaving the remainder of items evaluating distinct aspects of children's

anxiety. For purposes of this study, the two measures can be considered as assessing

separate aspects of anxiety.

Table 1

Similarity of Items on the MASC and SASC-R

Item Similarity: **MASC items**	**SASC-R items**
10. I'm afraid that other kids will make fun of me	17. I feel that other kids are making fun of me.
16. I'm afraid other people will think I'm stupid.	3. I worry about being teased.
22. I worry about what other people think of me.	8. I worry about what other kids think of me.
37. I have trouble asking other kids to play with me.	19. I'm afraid to invite other kids to the house because they might say no.
39. I feel shy.	21. I feel shy even with kids I know well.

CHAPTER 3

Results

Prior to any analyses, child anxiety (as rated by children, mothers, and fathers),

clinician-rated child functioning, child-rated measures (e.g., depression, negative self-

statements, locus of control, self-esteem, social anxiety, coping), and parent-rated

measures (e.g., children's social skills and social anxiety) were examined for accuracy of

data entry, missing values, outliers, distributions and other assumptions of multivariate

analysis. Missing value rules are shown in Appendix C. To improve pairwise linearity

and to reduce extreme skewness and kurtosis, several variables were transformed, as

listed in Appendix D. None of the transformations affected the direction of effects, except

for the transformation of the self-esteem variable. Due to the reflection function prior to

the logarithm transformation, scores were reversed. This caused lower scores to indicate

greater, rather than lower, levels of self-esteem and to result in opposite directions of

effects (i.e., positive self-esteem/anxiety correlation) from what would be expected (i.e.,

negative self-esteem/anxiety correlation). For purposes of reporting results, although the

self-esteem numbers reveal the reflection function, this variable is discussed with a non-

transformed direction of effects (i.e., no reflection). Before transformations, MASC and

CDI values were reported as T scores, NASSQ, SASC-R, and LOC values were reported

as sums, and all other measures were represented as mean scores (due to the

unavailability of T-score conversion tables). Transformed variables are used and

discussed in all statistical analyses unless otherwise noted.

T-tests (for age) and chi-square (χ^2) tests (for gender and primary diagnosis) were

performed to ensure that children assigned to group and individual treatment modalities

were comparable. Gender and primary diagnosis, with treatment assignment, were independent of each other. There was a significant difference for age, where older children were more often assigned to group treatment (M = 10.2 years), and younger children to individual treatment (M = 9.7 years). There were 32 boys and 26 girls in group treatment and 25 boys and 27 girls in individual treatment.

Hypothesis 1A: Pre-treatment Correlations of Child Internalizing Distress Characteristics

The first hypothesis of the study predicted that children with high levels of pre-treatment general anxiety would also have high levels of pre-treatment negative self-statements, social anxiety (i.e., interpersonal worry thoughts), depressive affect, avoidant coping behavior, a more external locus of control, as well as low levels of self-esteem and active coping strategies.

Pearson product-moment correlations and intercorrelations were determined for all pre-treatment child characteristics, including outcome measures of child-, mother-, and father-rated MASC, and clinician-rated CGAS, and other characteristics including child-rated CDI depressive symptoms, NASSQ negative self-talk, CCSC-R coping strategies, LOC locus of control, SPPC self-esteem, parent-rated SSRS social competence, and child- and parent-rated SASC-R social anxiety. Age was also included in the correlations.

Table 2

Significant Correlations between Age and Pre-Treatment Predictor and Outcome Variables

Measure	Age
MASC – Child	-.167*
CGAS - Clinician	-.242*
LOC	-.180*

* p < .05 (1-tailed)   **p < .01 (1-tailed)
Note: *MASC* = Multidimensional Anxiety Scale for Children; *CGAS*=Children's Global Assessment Scale; *LOC* = Locus of Control Scale.
♦ The informant name (i.e., child, mother, father, clinician) indicates the group of raters who responded to the measure. When no informant name is present, this indicates the measure was child-rated.

Age Variable

Table 2 demonstrates the significant one-tailed correlations between age and pre-treatment full-scale outcome measures and other (i.e., predictor) measures. Children's age was significantly correlated with CGAS scores, and children's LOC and MASC scores. More specifically, older children were rated by clinicians as functioning less well than younger children before treatment, although they were shown to possess a more internal locus of control as compared to younger children. Older children also reported less anxiety than younger children before the intervention. (This age-related MASC correlation did not exist after the treatment intervention, as illustrated in Appendix E).

Child Reports of Child Anxiety

Children's pre-treatment general anxiety (MASC) levels were significantly associated with their ratings of social anxiety (SASC-R), depressive feelings (CDI), negative self-statements (NASSQ), more external locus of control (LOC), and avoidant and support-focused coping strategies (CCSC-R) in a positive direction, and with their

reports of overall self-esteem (SPPC) in a negative direction (all p's <.01). These one-tailed correlation results are displayed in Table 3 (p. 79).

A supplementary correlational analysis (see Appendix F) was performed to explore the association between child-rated MASC anxiety and CDI depressive symptoms according to children's primary diagnosis. This was done to explore the anxiety disorders most likely to be comorbid with depression, as some studies have found SAD and social phobia to be most likely in this regard (Bernstein, 1991; Kovacs et al., 1989; Manassis & Menna, 1999). The only significant MASC-CDI correlation for this sample was for children with GAD (r=.263, p<.05). The largest correlation, however, was for children with social phobia, partially supporting the research. Inadequate statistical power, due to small sample sizes, in the social phobia, SAD, and specific phobia groups may account for these non-significant correlations.

Pearson product-moment correlations were also examined between subscales of predictor variables (SASC-R, CDI, CCSC-R, SPPC) and pre-treatment outcome variables (MASC, CGAS). Results in Table 4 (p. 80) show that children's reports of general anxiety before treatment were significantly and positively associated with their fears of negative evaluation and social anxiety in specific and general situations (SASC-R), their reports of negative mood and anhedonia (CDI), and with a wide range of coping strategies (e.g., avoidant actions, cognitive avoidance, direct problem-solving, and emotion- and problem-focused support). High child anxiety ratings were also negatively correlated with child reports of self-esteem (SPPC) in the areas of social acceptance, scholastic competence, athletic competence, physical appearance, and global self-worth.

Table 3

Significant Correlations Between Pre-treatment Outcome Variables and Predictor Variables

Pre-treatment Predictor Measure	**Pre-treatment Outcome Measure**
	MASC-Child
1. SASC-R	.554[**]
2. CDI	.297[**]
3. NASSQ	.479[**]
4. SPPC	.367[**]
5. LOC	.347[**]
6. CCSC-R Avoidant Coping	.345[**]
7. CCSC-R Support-focused Coping	.276[**]
	MASC-Mother
1. SSRS-PT-Mother	.299[**]
2. SASC-R-Mother	.484[**]
	MASC-Father
1. SASC-R-Father	.306[*]
	CGAS-Clinician
1. SPPC	-.199[*]
2. SSRS-PT-Mother	-.234[*]

* p < .05 (1-tailed)   **p < .01 (1-tailed)

Note: MASC = Multidimensional Anxiety Scale for Children; CGAS=Children's Global Assessment Scale; *SASC*-R: Social Anxiety Scale for Children – Revised; CDI = Children's Depression Inventory; *NASSQ* = Negative Affect Self-Statements Questionnaire; *SPPC* = Self-Perception Profile for Children – Total mean score; *LOC* = Locus of Control Scale; *CCSC-R* = Children's Coping Strategies Checklist (Revised); *SSRS* = Social Skills Rating Scale (*PT* = total problem behaviors [internalizing, externalizing, hyperactive]).

Table 4

Significant Correlations Between Pre-Treatment Outcome Measures and Predictor
Subscale Measures

Pre-treatment Predictor Subscale	Pre-treatment Outcome Measure MASC-Child
1. SASC-R-S	.529**
2. SASC-R-G	.434**
3. SASC-R-N	.471**
4. CDI Negative Mood	.298**
5. CDI Anhedonia	.246**
6. SPPC:SA	.251**
7. SPPC:GW	.321**
8. SPPC:SC	.305**
9. SPPC:AC	.287**
10. SPPC:PA	.285**
11. CCSC-R Avoidant Actions	.276**
12. CCSC-R Cognitive Avoidance	.321**
13. CCSC-R Problem-Focused Support	.267**
14. CCSC-R Emotion-Focused Support	.257**
15. CCSC-R Direct Problem-Solving	.242**
16. SASC-R-S-Father	-.250*
	MASC-Mother
1. SSRS-PI-Mother	.422**
2. SSRS-PI- Father	.251*
3. SPPC: BC	-.185*
4. SPPC:GW	-.285**
5. SASC-R-G-Mother	.354**
6. SASC-R-S-Mother	.452**
7. SASC-R-N-Mother	.409**
8. SASC-R-N-Father	.251*
	MASC-Father
1. SASC-R-G-Father	.334**
2. SASC-R-N-Father	.303**
3. SSRS-PI-Father	.549**
4. CDI Anhedonia	.264*

Table 4 (continued)

Significant Correlations Between Pre-Treatment Outcome Measures and Predictor
Subscale Measures

Pre-treatment Predictor Subscale	Pre-treatment Outcome Measure CGAS-Clinician
1. SSRS-PI-Mother	-.235[**]
2. SSRS-PI-Father	-.196[*]
3. SPPC:SC	-.192[*]

* p < .05 (1-tailed)   **p < .01 (1-tailed)

Note: MASC = Multidimensional Anxiety Scale for Children; CGAS=Children's Global Assessment Scale; *CDI* = Children's Depression Inventory; *SASC*-R=Social Anxiety Scale for Children *(S* = Social Anxiety, Specific; *G* = Social Anxiety, General; *N* = Fear of Negative Evaluation); SPPC = Self-Perception Profile for Children (SA=Social Acceptance Subscale; *GW* = Global Self-Worth Subscale; *SC* = Scholastic Competence Subscale; *AC* = Athletic Competence Subscale; *PA* = Physical Appearance Subscale; *BC* = Behavioral Conduct Subscale); *CCSC-R* = Children's Coping Strategies Checklist (Revised); *SSRS* = Social Skills Rating Scale (*PI* = internalizing problems).

Appendix G shows all of the intercorrelations among predictor variables. One noteworthy set of correlations involves children's scores on the lie scale of the RCMAS being significantly correlated with their depression scores, feelings of self-esteem, and distracting coping strategies.

Mother Reports of Child Anxiety

Mothers' pre-treatment ratings of their children's general anxiety (MASC) were positively correlated with their reports of children's behavior problems (SSRS) and their ratings of children's social anxiety (SASC-R) as shown in Table 3 (p. 79). Table 4 (p. 80) further displays positive correlations between mothers' pre-treatment MASC ratings of their children with both maternal and paternal reports of children's internalizing problems (SSRS), mothers' ratings of children's social anxiety across all three subscales (SASC-R), and fathers' ratings of children's fears of negative evaluation (SASC-R). Negative correlations between maternal MASC ratings and children's self-reported behavioral conduct and global self-worth levels of self-esteem (SPPC) were also observed.

Father Reports of Child Anxiety

Table 3 shows that fathers' ratings of children's general anxiety (MASC) were significantly and positively associated with their pre-treatment reports of their children's social anxiety. In particular, fathers' ratings of children's general avoidance and distress and fear of negative evaluation were associated with MASC ratings (see Table 4, p. 80). Fathers' reports of their children's internalizing problems, and children's reports of anhedonia, were also positively correlated with fathers' pre-treatment ratings of child anxiety.

Clinician Reports of Child Functioning

Table 3 (p. 79) displays a significant positive correlation between pre-treatment CGAS scores and children's total self-esteem ratings, and a negative correlation with mothers' ratings of children's problem behaviors. More specifically, Table 4 (p. 80) exhibits the positive correlation between CGAS scores and children's beliefs of scholastic self-esteem, and a negative correlation with both maternal and paternal ratings of children's internalizing behaviors before treatment.

In summary, and in support of the study hypothesis, children's self-reports of greater pre-treatment anxiety were significantly correlated with a number of other child-rated symptoms of internalizing distress, including negative self-talk, social anxiety, depression, avoidant coping, a more external locus of control, and low self-esteem. Children's general anxiety ratings were not correlated with active coping strategies or parents' ratings of children's social skills. Parent reports of child anxiety and clinician reports of child functioning were rarely associated with children's own reports of internalizing distress. However, they correlated strongly with parents' own reports of children's internalizing behavior problems and social anxiety. Taken together, the pre-treatment interrelatedness among child-rated affective, cognitive, and behavioral internalizing distress characteristics, supported by a cognitive-behavioral framework, is corroborated by the present results. Correlations appear to be informant-specific. The results allow for an exploration of subsets of children in the sample who may differ in degree of self-reported internalizing distress.

Hypothesis 1B: Subgroups of Anxious Children (Cluster Analysis)

An exploratory statistical procedure was conducted to determine whether the aforementioned interrelatedness among measures might be influenced by a subgroup of children consistently endorsing higher levels of internalizing distress symptomatology. A K-means cluster analysis was performed in an attempt to identify two pre-specified relatively homogeneous groups of children (e.g., higher distress and lower distress) based on distinct responses to pre-selected child measures of internalizing distress. The analysis took into account characteristics rated by children and their parents (i.e., people most familiar with children's long-term distress levels). These included child-rated characteristics of general anxiety, social anxiety, self-esteem, negative self-statements, depression, locus of control, coping, as well as mothers' ratings of children's social skills[5]. Given the varying scales of measurement for the questionnaires, all variables were converted to standardized z-scores as a first step to ensuring a valid cluster procedure. All measures were then initially included in the procedure. However, only the largest differences between the two subgroups indicated clustering measures. Results are displayed in Table 5.

Cluster analysis is a procedure conducted to help indicate what may be true in the population. Because the clusters were specifically constructed to be different, statistical significance is not actually measured (as the F statistics do not have F distributions), and the statistical test is done to determine only if the procedure worked. Analysis of variance F statistics, although opportunistic (as the procedure aims to form groups that do differ), were conducted only to provide information about each measure's contribution to the separation of the two groups. Statistics cannot be performed on the clusters that can be meaningfully

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[5] Fathers' ratings of children's social skills were not included due to lower numbers and to prevent children from clustering on two measures of the same construct.

generalized to the population with this first exploratory step. Thus, distinct clusters are denoted by the largest differences in measures between the two subgroups as shown by the largest F statistics (and p=.000). Measures having F statistics with p>.05 values still discriminate between the two clusters, but very minutely as compared to measures with large F statistics.

Table 5

K-Means Cluster Analysis Results

Pre-treatment predictor	Cluster 1 Center (n=46)	Cluster 2 Center (n=31)	F statistic (1, 76)	P value
SPPC	-.60725	.78962	67.44	.000
NASSQ	-.54317	.83903	63.57	.000
SASC-R	-.53303	.77486	51.74	.000
MASC	-.55365	.65213	41.89	.000
CDI	-.41600	.74914	35.43	.000
LOC	-.40766	.50230	19.52	.000
CCSC-R: Avoidant	-.22749	.33026	6.01	.017
CCSC-R: Distracting	-.20803	.01534	.88	.352
CCSC-R: Active	-.11812	-.00638	.24	.628
CCSC-R: Support	-.15142	.03892	.73	.396
SSRS-HOT-Mother	.13544	-.14164	1.22	.274
SSRS-PT-Mother	-.22068	.25070	4.13	.062

N=77
Note: All scores have been standardized; Negative cluster center scores indicate lower ratings on the measures (e.g., lower distress); SPPC= Self-Perception Profile for Children (total); *NASSQ* = Negative Affect Self-Statements Questionnaire; *SASC-R* = Social Anxiety Scale for Children-Revised; MASC = Multidimensional Anxiety Scale for Children; CDI = Children's Depression Inventory; *LOC* = Locus of Control Scale; *CCSC-R* = Children's Coping Strategies Checklist (Revised); *SSRS* = Social Skills Rating Scale (*HOT* = how often total social skills observed [assertion, cooperation, responsibility, self-control]; *PT* = total behavior problems observed [internalizing, externalizing, hyperactive]).

The F statistics in Table 5 reveal that children in this study clustered into two pre-specified subgroups before treatment, based on child-reported responses to six measures of internalizing distress. Children did not cluster on mother-rated measures. One group of "higher internalizing distress" children (n=31), in addition to more severe general anxiety

ratings, endorsed higher ratings of depression, negative self-talk, social anxiety, low self-esteem, and an external locus of control. The other "lower internalizing distress" group (n=46) reported lower levels of general anxiety, depressive symptoms, negative self-statements, social anxiety, and higher levels of self-esteem and a more internal locus of control. This cluster finding supported a general diathesis of internalizing distress in children.

Hypothesis 2: Predictors of Treatment Outcome

Child characteristics of internalizing distress were examined as predictors of treatment outcome. It was hypothesized that, in general, higher levels of pre-treatment distorted cognitions, negative affect, and maladaptive behaviors would predict less improvement in post-treatment anxiety (MASC) and child behavioral functioning (CGAS), based on the cognitive-behavioral framework. More specifically, due to the considerable role of mediating cognitions, it was predicted that greater levels of inaccurate cognitions, such as negative self-statements, social anxiety (e.g., interpersonal worry thoughts), external locus of control, and lower levels of self-esteem, would best predict less improvement in treatment outcome.

Multiple linear regressions were performed to predict post-treatment anxiety and behavioral functioning levels, using pre-treatment full-scale child characteristic measures significantly correlated with them as predictors (taking sample size into consideration). Pearson product-moment correlations and intercorrelations were first determined for all pre-treatment child predictor measures (CDI, NASSQ, LOC, SPPC, CCSC-R, SASC-R, SSRS) and post-treatment outcome measures (child-, mother-, and father-rated MASC, clinician-rated CGAS). The significant correlations are exhibited in Table 6. Only those full-scale

predictor variables that significantly correlated with the outcome measures were included in the analyses. Correlations between all pre-treatment child characteristic predictors and post-treatment outcome variables (both significant and non-significant) are shown in Appendix H.

To isolate the contribution of each full-scale predictor variable, a three-step enter/remove regression procedure was used. First, the entire predictor set, based on the correlations, was entered into a regression equation for each outcome measure. Second, to control for the pre-treatment reports of each outcome measure, which would significantly contribute to the post-treatment outcome reports, the pre-treatment reports were removed from the equation. The resulting equation provided an estimate of the proportion of the variance accounted for by the predictor variables (without the influence of pre-treatment ratings)[6]. Third, the contribution of each predictor variable to this equation (adjusted partial $\underline{R}^2$) was calculated by removing the variance due to all predictors but the predictor of interest. This procedure avoided obscuring the contribution of certain predictors; If two predictors were both highly correlated with the outcome measure and with each other, the three-step enter/remove procedure included both and determined the contribution of each[7]. This method allowed an estimate of the relative contribution of each individual factor to the variance in treatment outcomes. A <.05 type I error rate was applied to all regressions.

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[6] When the number of predictor variables exceeded the number of participants appropriate for the sample size (i.e., 10 participants per predictor variable), various sets of predictor variables were entered into each regression equation to determine the equation which would involve the most degrees of freedom and greatest accounted variance in the outcome. The optimum equation was selected for each outcome variable.

[7] Statistically independent predictors are not necessarily conceptually independent of each other as risk factors. They may still be linked in a number of ways, but they each contribute uniquely in predicting internalizing psychopathology regardless of such associations (Mesman & Koot, 2001).

Table 6

Significant Correlations Between Post-treatment Outcome Variables and Pre-treatment Predictor Variables (Determination of Regression Variables)

Post-treatment Outcome Measure

Pre-treatment Predictor Measure

	MASC-Child
1. CDI	.217[**]
2. CCSC-R Avoidant Coping	.315[**]
3. LOC	.340[**]
4. SPPC	.377[**]
5. NASSQ	.433[**]
6. SASC-R	.531[**]

	MASC-Mother
1. Child gender	-.214[*]
2. SSRS-HOT-Mother	-.219[*]
3. SSRS-HOT-Father	-.230[*]
4. Child treatment assignment	-.238[**]
5. SSRS-PI-Mother	.379[*]
6. SASC-R-Mother	.505[**]

	MASC-Father
1. SASC-R-Mother	.244[*]

	CGAS-Clinician
1. CCSC-R Active Coping	.188[*]
2. SSRS-PE-Mother	-.188*
3. LOC	-.206[*]
4. SSRS-HOT-Mother	.222[*]
5. Child age	-.250[**]
6. SSRS-HOT-Father	.251[*]
7. SSRS-PI-Mother	-.260[**]
8. Child treatment assignment	.303[**]

* p < .05 (1-tailed)   **p < .01 (1-tailed)

MASC = Multidimensional Anxiety Scale for Children; CGAS=Children's Global Assessment Scale; *CDI* = Children's Depression Inventory; *NASSQ* = Negative Affect Self-Statements Questionnaire; *LOC* = Locus of Control Scale; *SPPC* = Self-Perception Profile for Children; *CCSC-R* = Children's Coping Strategies Checklist (Revised); *SASC-R* = Social Anxiety Scale for Children (Revised); *SSRS* = Social Skills Rating Scale (*HOT*=how often total social skills observed; *PI* = internalizing problems observed; *PE* = externalizing problems observed).

Secondary analyses for this hypothesis, including correlations between pre-treatment subscale predictor measures (e.g., CDI, SASC-R, SPPC, SSRS) and post-treatment outcome measures, and regressions using these subscale predictors, are described further below and noted in Appendix I (Tables I1 and I2).

Predictors of Child Reports of Child Anxiety

Full scale predictors. Table 7 shows the results of the regression analysis of the predictors of treatment outcome, with child ratings of post-treatment anxiety as the outcome measure. The predictor variables, along with the pre-treatment child-rated MASC scores, accounted for 41% of the variance in post-treatment child-reported anxiety. When the contribution of the pre-treatment MASC scores was removed from the equation, the set of predictor variables accounted for 29% of the variance in post-treatment child-rated anxiety. When the contribution of each predictor variable (adjusted partial $\underline{R}^2$) was calculated, child pre-treatment social anxiety made the greatest contribution, followed by children's negative self-statements, and their self-esteem, as illustrated by the t-test results. (There were also trends for children's avoidant coping behavior, depression ratings, and locus of control, to predict post-treatment anxiety). Due to intercorrelations among child predictor variables and overlapping variance being extracted from the various predictors, the sum of the adjusted partial $\underline{R}^2$ values is greater than the $\underline{R}^2$ for the model.

Table 7

Results of Regression on Each Outcome Variable

	t	Adjusted Partial R^2
MASC - Child[a]		
SASC-R-Child	5.37**	.276
NASSQ	3.82**	.157
SPPC	3.40**	.126
CCSC-R: Avoidant Coping	2.63†	.075
CDI	1.88†	.033
LOC	1.74†	.027
MASC – Mother[b]		
SASC-R-Mother	5.16**	.257
SSRS-PI-Mother	3.92**	.163
SSRS-HOT-Mother	-3.26**	.115
Child gender	-2.77**	.083
Child treatment assignment	-2.41*	.061
MASC – Father[c]		
SASC-R-Mother	2.08*	.087
CGAS – Clinician[d]		
Child treatment assignment	2.99**	.090
SSRS-PI-Mother	-2.57*	.068
Child age	-2.53*	.066
SSRS-HOT-Mother	2.18*	.050
LOC	-2.00*	.042
CCSC-R-Active Coping	1.88†	.038

*p<.05; **p<.01; †p<.10

Note: *MASC* = Multidimensional Anxiety Scale for Children; *CGAS*=Children's Global Assessment Scale; *SASC*-R = Social Anxiety Scale for Children (Revised); CDI = Children's Depression Inventory; *NASSQ* = Negative Affect Self-Statements Questionnaire; *LOC* = Locus of Control Scale; *SPPC* = Self-Perception Profile for Children; *CCSC-R* = Children's Coping Strategies Checklist; *SSRS* = Social Skills Rating Scale (*HOT* = how often total social skills observed; *PI* = internalizing problems observed)

[a] Total sample (n) = 74; *df*=7, 66; Adjusted R^2 for model = .29;
[b] Total sample (n) = 75; *df*=6, 68 ; Adjusted R^2 for model = .35;
[c] Total sample (n) = 36; *df*=2, 33; Adjusted R^2 for model = .09;
[d] Total sample (n) = 93; *df*=7, 85; Adjusted R^2 for model = .14 .

Subscale predictors. From the results in Table 7, subscales of the significant

predictors (SASC-R, SPPC) of anxiety outcome were correlated with post-treatment child

MASC ratings, and the significant subscales were entered into a separate regression

equation to determine their contributions to anxiety outcome (see Appendix I). The subscale

predictors accounted for 33% of the variance in post-treatment child-reported anxiety, once

the influence of pre-treatment MASC ratings was removed (total variance accounted for

with pre-MASC ratings was 46%). When the contribution of each pre-treatment subscale

predictor measure (adjusted partial $\underline{R}^2$) was calculated, social anxiety in specific unfamiliar

and peer situations made the greatest contribution, followed by general social avoidance,

and perceptions of social acceptance (self-esteem).

Secondary analyses. The regression procedure detailed above showed what

proportion of variance in child-rated anxiety outcome each individual cognitive, affective, or

behavioral child characteristic accounted for, once the variance in anxiety outcome

explained by all other theoretically related variables included in the analysis was removed.

Based on a CBT framework for anxiety, this is reasonable given that many of these

constructs, although distinct, are related and rarely exist "purely" in children. There is value

in looking at each child characteristic of internalizing distress, taking into consideration

other related child characteristics. The significant predicting characteristics determined

above provide an explanatory model describing how related facets of internalizing distress

can predict anxiety treatment outcome.

The question arises, however, as to what appears to be the most salient of the

numerous child characteristics contributing to treatment outcome. It is interesting and

necessary to look at each variable discretely and "purely" without any overlapping variances

to see if one variable is more prominent than the others in predicting outcome. Accordingly, an additional regression analysis was conducted. This equation not only removed the pre-treatment contribution of general anxiety (MASC), but also removed the variance of social anxiety (SASC-R; the most predictive child characteristic) in a hierarchical fashion. This was done to determine if other child characteristics accounted for a significant proportion of variance in child-rated anxiety outcome over and above this highly predictive characteristic.

Results in Table 8 showed that once the effects of pre-treatment child MASC and SASC-R ratings were removed from the regression equation, the other child characteristics (e.g., child-rated negative self-statements and self-esteem) no longer accounted for a significant amount of variance in treatment outcome, as demonstrated by the R^2 change coefficients and t-test results. Children's ratings of social anxiety appeared to be the best predictor of their CBT treatment response (other than pre-MASC ratings).

Overall, as hypothesized, children's cognitions of social anxiety, negative self-talk, and self-esteem predicted child-rated treatment response. Social anxiety was the most salient of these predictors. Locus of control was not significantly predictive of treatment outcome.

Table 8

Results of Regression on Each Outcome Variable – Non-overlapping Variance Contributions

	t	R^2 Change
MASC - Child[a]		
NASSQ	.51	.004
SPPC	1.05	.001
LOC	-.39	.002
CDI	-1.15	.010
CCSC-R: Avoidant Coping	.61	.003
MASC – Mother[b]		
Child gender	-2.56*	.041
Child treatment assignment	-1.75†	.019
SSRS-HOT-Mother	-1.38	.009
SSRS-PI-Mother	- .72	.003
CGAS – Clinician[c]		
Child treatment assignment	1.94†	.032
Child age	-1.66	.011
SSRS-PI-Mother	-.41	.005
LOC	-1.38	.010
SSRS-HOT-Mother	.67	.002

*$p<.05$; **$p<.01$; †$p<.10$

Note: MASC = Multidimensional Anxiety Scale for Children; CGAS=Children's Global Assessment Scale; SASC-R = Social Anxiety Scale for Children (Revised); CDI = Children's Depression Inventory; NASSQ = Negative Affect Self-Statements Questionnaire; LOC = Locus of Control Scale; SPPC = Harter's Self-Perception Profile for Children; CCSC-R = Children's Coping Strategies Checklist; ; SSRS = Social Skills Rating Scale (HOT = how often total social skills observed; PI = internalizing problems observed)

[a] Total sample (n) = 74; df=7, 66; Adjusted R^2 for model = .06;
[b] Total sample (n) = 75; df=6, 68 ; Adjusted R^2 for model =.10;
[c] Total sample (n) = 93; df=7, 64; Adjusted R^2 for model = .14;

Predictors of Mother Reports of Child Anxiety

Full-scale predictors. Table 7 (p. 90) shows the results of the regression analysis with mother ratings of post-treatment child anxiety as the outcome measure. The predictor variables, along with pre-treatment mother-rated child anxiety scores, accounted for 55% of the variance in post-treatment mother-reported child anxiety. When the contribution of the pre-treatment MASC scores was removed from the equation, the set of predictor variables accounted for 35% of the variance in post-treatment mother-rated child anxiety ratings. When the contribution of each predictor variable (adjusted partial $\underline{R}^2$) was calculated, mothers' ratings of children's social anxiety made the greatest contribution, followed by their ratings of children's internalizing problems and social skills before treatment. Child gender and treatment assignment also made significant contributions, with mothers rating girls and children assigned to individual treatment as having lower post-treatment anxiety scores as compared to boys and children assigned to group treatment.

Subscale predictors. Appendix I (Table I2) demonstrates that, when the subscales of the significant predictor of mothers' MASC ratings for children were examined (SASC-R), the three subscales accounted for 52% of the variance in their post-treatment ratings of child anxiety. Once pre-MASC ratings were removed, the variance accounted for was 21% with mothers' ratings of children's social anxiety in specific circumstances making the most significant contribution to their post-treatment MASC reports.

Secondary analyses. Again, the question arose as to what seemed to be the most salient of the child characteristics contributing to mother-rated anxiety treatment outcome given the large SASC-R contribution. An additional regression analysis was conducted, removing the variances of both pre-treatment mother-rated general anxiety (MASC) and

social anxiety (SASC-R), to determine any remaining significant contributions by other characteristics to the outcome measure.

Results in Table 8 (p. 93) showed that once the effects of pre-treatment child MASC and SASC-R ratings (as well as child gender) were removed from the regression equation, the other child characteristics (e.g., mother-rated social skills and internalizing problems of children) no longer accounted for a significant amount of variance in treatment outcome. Mother-rated child social anxiety appeared to be the best predictor of mother-rated CBT treatment effectiveness (other than pre-MASC ratings).

Predictors of Father Reports of Child Anxiety

Full-scale predictors. Table 7 (p. 90) shows the results of the regression analyses of the predictors of treatment outcome with father ratings of post-treatment child anxiety as the outcome measure. The predictor variables, along with pre-treatment father-rated MASC scores, accounted for 18% of the variance in post-treatment father-reported child anxiety. When the contribution of fathers' pre-treatment MASC scores was removed from the equation, the one predictor variable - mother-rated pre-treatment child social anxiety - accounted for 9% of the variance in post-treatment father MASC reports.

Subscale predictors. When the one significantly correlated SASC-R subscale (as rated by mothers) was entered into a regression equation (see Appendix I), this fear of negative evaluation child characteristic and fathers' pre-treatment child MASC ratings accounted for 18% of the variance in post-treatment MASC ratings. When the influence of fathers' pre-treatment MASC scores was removed, mothers' ratings of children's fear of negative evaluation accounted for 7% of the variance, with a trend toward making a contribution to father-rated MASC outcome.

Predictors of Clinician Reports of Child Functioning

Full-scale predictors. Table 7 (p. 90) shows the results of the regression analysis with clinician ratings of post-treatment child functioning as the outcome measure. The set of predictor variables, including pre-treatment CGAS ratings, together accounted for 44% of the total variance in post-treatment CGAS scores. When the pre-treatment CGAS scores were removed from the regression, the predictor variables accounted for 14% of the total variance in post-treatment CGAS scores. When the contribution of each predictor variable (adjusted partial $\underline{R}^2$) was calculated, mothers' reports of children's internalizing behavior problems and social skill use before treatment made the greatest contributions. Again, because of intercorrelations among the predictor variables and overlapping variances, the sum of the adjusted partial $\underline{R}^2$ values is greater than the $\underline{R}^2$ for the model.

Secondary analyses. An additional regression analysis was conducted to examine the "pure" variance accounted for by each variable to post-treatment CGAS scores (i.e., no overlapping variances). This was to determine if any one child characteristic was most salient in predicting clinician-rated child functioning.

Results in Table 8 (p. 93) showed that once the effects of pre-treatment child MASC were removed from the regression equation, as well as child-rated levels of active coping strategies and treatment modality, the other child characteristics no longer accounted for a significant amount of variance in treatment outcome. Differing from the salient social anxiety predictor for child-, mother-, and father-rated anxiety outcome, the current finding suggests that – in isolation from all other child characteristics – children's reported pre-treatment active coping style was the best predictor of CBT treatment effectiveness as rated by clinicians.

In summary, results from the regression models support the study's second hypothesis, in particular the second part of the prediction. Various cognitive child characteristics were found to predict child-rated treatment outcome (i.e., social anxiety, negative self-statements, self-esteem), mother-rated treatment outcome (i.e., social anxiety, internalizing problems), father-rated treatment outcome (i.e., social anxiety), and clinician-rated treatment outcome (i.e., internalizing problems) when each variable was examined once the variance in outcome from all other significantly correlated child characteristics was removed. When each variable was examined individually, without accounting for the presence of other existing child internalizing distress symptoms, the most significant predictor of child and parent outcome was social anxiety (i.e., interpersonal worry thoughts). Children's active coping style was the most salient predictor of clinician-rated treatment outcome.

Predictors of Treatment Outcome for Child Distress Subgroups

Separate regression equations were conducted for each of the two subgroups of anxious children to inquire whether different predictor variables made significant contributions to each of the four outcome measures depending on whether children were in the higher or lower distress subgroup (based on the cluster analysis). Full-scale predictors in each equation were again determined by their significant correlations with the outcome measure of interest (child-, mother-, and father-rated MASC, clinician-rated CGAS), taking into consideration sample size restraints (e.g., 10 participants per predictor variable entered). The significant correlations are displayed in Table 9. (Correlation matrices for all pre-treatment predictor variables and post-treatment outcome measures for both the lower and higher internalizing distress subgroups are displayed in Appendix J [Tables J1 and J2]).

Table 9

Significant Correlations Between Post-treatment Outcome Variables and Pre-treatment Predictor Variables for High and Low Distress Subgroups of Children

Pre-treatment Predictor Measure	Post-treatment Outcome Measure
Low Distress Child Subgroup	
	MASC-Child
1. SASC-R	.466**
2. NASSQ	.270*
3. SPPC	.291*
	MASC-Mother
1. Child gender	-.272*
2. Child treatment assignment	-.304*
3. SSRS-HOT-Mother	-.382**
4. SSRS-HOT-Father	-.534**
5. SSRS-PT-Mother	.286*
6. SSRS-PT-Father	.347*
7. SASC-R-Mother	.509**
	MASC-Father
1. Child gender	-.365*
1. SSRS-HOT-Mother	-.298**
2. SSRS-HOT-Father	-.460**
	CGAS-Clinician
1. Child treatment assignment	.380**
2. SSRS-PT-Mother	-.310*
High Distress Child Subgroup	
	MASC-Child
1. SASC-R	.390*
2. CCSC-R-Support focused Coping	-.360*
3. Child treatment assignment	-.338*
	MASC-Mother
1. Child gender	-.409*
2. SASC-R-Mother	.480**
	MASC-Father
1. SASC-R-Father	.440*
	CGAS-Clinician
1. LOC	-.386**
2. CCSC-R-Active Coping	.507**
3. CCSC-R Distracting Coping	.411*
4. SSRS-HOT-Mother	.477*

* $p < .05$ (1-tailed)   **$p < .01$ (1-tailed); *Note:* MASC = Multidimensional Anxiety Scale for Children; CGAS=Children's Global Assessment Scale; *NASSQ* = Negative Affect Self-Statements Questionnaire; *LOC*=Locus of Control Scale; *SPPC* = Self-Perception Profile for Children; *CCSC-R* = Children's Coping Strategies Checklist (Revised); *SASC-R* = Social Anxiety Scale for Children (Revised); *SSRS* = Social Skills Rating Scale (*HOT*=how often total social skills observed; *PT* =total behavior problems).

The regression analyses were performed in the same way as described for the full sample of participants to ascertain the amount of variance each child characteristic accounted for in the outcome measure, once the variance in outcome from all other significantly correlated child characteristics was removed. Results of these regression analyses are demonstrated in Table 10[8].

Predictors of child reports of child anxiety. For the lower distress subgroup of children, the predictor variables, along with pre-treatment child-rated MASC scores, accounted for 44% of the variance in post-treatment child-reported anxiety. Table 10 shows that when the contribution of pre-treatment MASC scores was removed from the equation, the set of predictor variables accounted for 25% of the variance in post-treatment MASC scores. When the contribution of each predictor variable (adjusted partial $\underline{R}^2$) was calculated, child pre-treatment social anxiety made the greatest contribution, followed by self-esteem and negative self-talk. Due to intercorrelations among child predictor variables and overlapping variance being extracted from different predictors, the sum of the adjusted partial $\underline{R}^2$ values is greater than the $\underline{R}^2$ for the model.

For the higher distress subgroup of children, the predictor variables, along with the pre-treatment child-rated MASC scores, accounted for 25% of the variance in post-treatment child-reported anxiety. When the contribution of the pre-treatment MASC scores was removed from the equation, the set of predictor variables accounted for 18% of the variance in post-treatment MASC scores. Child pre-treatment social anxiety again made the greatest contribution, followed by children's greater use of support-focused coping techniques.

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[8] As the cluster analysis determining the two subgroups was a preliminary exploratory procedure, only full-scale predictor variables were considered in the regression analyses. When there were more significantly correlated predictors than sample size permitted in the regression equation, the largest correlations were selected. With fewer significant predictors and participants in the equations, the secondary regression analysis of determining the most salient predictor was not performed.

Table 10

Results of Regression on Each Outcome Variable as a Function of Children's Pre-treatment Distress Level

	t	Adjusted Partial R^2
Low Distress Child Subgroup		
MASC - Child[a]		
SASC-R	3.44^{**}	.198
SPPC	$1.97^{\dagger}$	.061
NASSQ	$1.76^{\dagger}$	.046
MASC – Mother[b]		
SASC-R-Mother	3.63^{**}	.220
SSRS-HOT-Mother	-3.16^{**}	.173
Child treatment assignment	-2.33^{*}	.093
MASC – Father[c]		
SSRS-HOT-Father	-3.18^{**}	.293
CGAS – Clinician[d]		
Child treatment assignment	2.71^{**}	.124
SSRS-PT-Mother	-2.26^{*}	.084
High Distress Child Subgroup		
MASC – Child[e]		
SASC-R	2.20^{*}	.120
CCSC-R-Support focused coping	$-2.09^{\dagger}$	.098
MASC – Mother[f]		
SASC-R-Mother	2.74^{*}	.200
Child gender	-2.24^{*}	.134
CGAS – Clinician[g]		
CCSC-R Active Coping	2.88^{**}	.226
LOC	$-2.05^{\dagger}$	.114

$^{*}p<.05; ^{**}p<.01; ^{\dagger}p<.10$

Note: MASC = Multidimensional Anxiety Scale for Children; CGAS=Children's Global Assessment Scale; *SASC-R* = Social Anxiety Scale for Children; *SPPC*= Self-Perception Profile for Children; *NASSQ* = Negative Affect Self-Statements Questionnaire; CCSC-*R* = Children's Coping Strategies Checklist; *SSRS* = Social Skills Rating Scale (*HOT* = how often total social skills are observed; PT = total behavior problems); *LOC*= Locus of Control Scale.

[a] Total sample (n) = 45; *df*=4, 40; Adjusted R^2 for model = .25.
[b] Total sample (n) = 44; *df*=4, 39; Adjusted R^2 for model = .34
[c] Total sample (n) = 23; *df*=2, 20; Adjusted R^2 for model = .29
[d] Total sample (n) = 46; *df*=3, 42; Adjusted R^2 for model = .20
[e] Total sample (n) = 29; *df*=3, 25; Adjusted R^2 for model = .18
[f] Total sample (n) = 27; *df*=3, 23; Adjusted R^2 for model = .25
[g] Total sample (n) = 26; *df*=3, 22; Adjusted R^2 for model = .24

Predictors of mother reports of child anxiety. Table 10 (p. 100) also shows the results of the regression analysis of the predictors of treatment outcome with mother-rated post-treatment child anxiety as the outcome measure for both low and high internalizing distress subgroups of children. For the lower distress group, the predictor variables, along with the pre-treatment mother-rated MASC scores, accounted for 58% of the variance in post-treatment mother-reported child anxiety. When the contribution of pre-treatment MASC scores was removed from the equation, the set of predictor variables accounted for 34% of the variance in anxiety. When the contribution of each predictor variable was calculated, mothers' ratings of children's social anxiety made the greatest contribution, followed by their ratings of children's pre-treatment social skill use and treatment assignment. Mothers' ratings of child anxiety were lower following individual, versus group, treatment.

For the higher distress group of children, the predictor variables and pre-treatment MASC scores accounted for 34% of the variance in post-treatment mother-reported child anxiety. When the pre-treatment MASC contribution was removed, the set of predictor variables accounted for 25% of the variance. The most significant contributing predictor was, again, pre-treatment ratings of child social anxiety. Mothers' ratings of post-treatment child anxiety were also significantly lower for girls, versus boys, in the higher distress subgroup of anxious children.

Predictors of father reports of child anxiety. For the lower distress subgroup, fathers' pre-treatment anxiety scores of their children and their ratings of children's social skill use (the only significantly correlated predictor with outcome) accounted for 48% of the variance. The contribution of the social skill measure to variance accounted for in outcome decreased to 29% once father's pre-treatment MASC scores were removed from the equation. There

were no significant predictors for fathers' reports of children's post-treatment anxiety for the higher distress subgroup of children. Results are shown in Table 10 (p. 100).

Predictors of clinician reports of child functioning. Table 10 (p. 100) also demonstrates the results of the regression analysis of the predictors of treatment outcome with CGAS ratings as the outcome measure. For the lower distress group, the predictor variables, along with the pre-treatment CGAS scores, accounted for 36% of the variance in post-treatment child functioning. When the contribution of the pre-treatment CGAS scores was removed from the equation, the set of predictor variables accounted for 20% of the variance. Treatment assignment made the greatest contribution, followed by children's behavior problems as rated by mothers. Clinicians' CGAS ratings for lower distress children were higher following individual, versus group, treatment.

For the higher distress subgroup of children, the predictor variables and pre-treatment CGAS scores accounted for 66% of the variance in post-treatment clinician-reported child functioning. When the pre-treatment CGAS contribution was removed, the set of predictor variables accounted for 24% of the variance. The most significant contribution to variance in CGAS outcome was children's reported use of active coping strategies.

In summary, there was little variation in child characteristics predictive of treatment outcome as a function of internalizing distress subgroup. More specifically, similar to regression results for the full sample of child participants, pre-treatment social anxiety appeared to be the most salient predictive characteristic of child- and mother-rated treatment outcome, irrespective of child distress level. There were some differences in additional predictive characteristics (e.g., trends for self-esteem levels to be predictive of child-rated anxiety for the lower distress children, and support-focused coping levels to be predictive for

the higher distress group). Children's active coping strategies again were most predictive of clinician-rated child functioning following treatment, but only for the higher distress group.

Hypothesis 3: Pre-Post Treatment Changes

The third hypothesis predicted that, following CBT treatment, children's cognitions (i.e., negative self-statements, social anxiety, sense of personal control, self-esteem), affect (i.e., general anxiety, depressive symptoms), and behavior (i.e., coping strategies, global behavioral functioning, social skills, behavior problems) would improve. To determine any changes among these child characteristics from pre- to post-treatment, relevant analyses were conducted first with the overall sample of children. Subsequently, children's connections to one or the other internalizing distress subgroups were considered, in order to determine whether membership in one group versus another functioned to influence improvements from before to after the CBT program.

Effects of Treatment for the Total Child Sample

The analysis of pre-treatment to post-treatment change in child-, parent-, and clinician-rated measures was divided into two parts. First, two separate repeated measures multivariate analyses of variance (MANOVAs) were performed on child-rated and parent/clinician-rated full-scale variables, respectively. Treatment modality (group, individual) acted as a between-subjects variable (only to ensure proper randomization) and time (pre-treatment, post-treatment) was the within-subjects factor. Two separate MANOVAs were performed due to the low degree of correspondence among informants, and weak correlations among measures rated by different informants. Results of evaluation of assumptions of normality, homogeneity of variance and covariance matrices, and multicollinearity were acceptable (Tabachnik & Fidell, 2001).

The first MANOVA (N=70) was performed on ten child-rated pre-post treatment measures: general anxiety (MASC), social anxiety (SASC-R), depression (CDI), negative self-statements (NASSQ), locus of control (LOC), self-esteem (SPPC) and four subscales of coping style (avoidant, distracting, active, support-focused; CCSC-R). The second MANOVA (N=32) was performed on nine parent-rated measures and one clinician-rated measure evaluating children: child general anxiety (MASC), social anxiety (SASC-R), total social skills (combined assertion, cooperation, self-control, and responsibility; SSRS-HOT), total problem behaviors (combined internalizing, externalizing, and hyperactive; SSRS-PT) as rated by both mothers and fathers, and general child behavioral functioning (CGAS) as rated by clinicians.

With the use of the Pillai's trace criterion in the first MANOVA of child-rated measures, the combined variables were significantly affected by time/treatment, $F(10, 59)= 6.15$, $p<.001$, but not by treatment modality $F(10, 59) = .422$, $p=.930$, or the time by treatment modality interaction, $F(10, 59) = .910$, $p=.530$. For the parent/clinician-rated variables in the second MANOVA, the combined variables were also significantly affected by time/treatment, $F(9, 22)=16.93$, $p<.001$, but not by treatment modality $F(9, 22)= 1.43$, $p=.629$ or the time by treatment modality interaction $F(9, 22)=.629$, $p=.761$. Therefore, only pre-post treatment differences (main effects of treatment) on measures are addressed in the current study. There was insufficient statistical evidence to discuss main effects of treatment modality, or time by treatment modality interaction effects, for any of the child characteristics.

Second, to investigate the impact of treatment on each child-, parent-, and clinician-rated measure of internalizing distress, individual univariate F test results (analyses of variance [ANOVAs]) from each of the two MANOVAs were examined. Results for the

child-rated variables are displayed in Table 11, and results for the parent- and clinician- rated variables are displayed in Table 12. A Bonferroni adjustment was made in each MANOVA to maintain the type I error rate in each list of univariate F tests at a p<.05 value.

Effects of treatment on full-scale outcome and predictor measures. Results in Table 11 show that there were significant decreases from before to after treatment in child-rated anxiety outcome (MASC), as well as child reports of social anxiety (SASC-R), depression (CDI), negative self-talk (NASSQ), and locus of control (LOC), and significant increases in distracting and active coping strategies (CCSC-R). There was a trend for self-esteem (SPPC) to increase.

Results in Table 12 demonstrate that there were significant improvements from before to after treatment for mothers' ratings of their children's anxiety (MASC) levels, clinicians' ratings of child functioning (CGAS), and father's reports of children's social anxiety (SASC-R) and behavior problems (SSRS-PT). There was a trend for father's ratings of children's anxiety (MASC) to decrease, as well as mothers' ratings of their children's behavior problems (SSRS-PT) to decrease.

These aforementioned results support the hypothesis and the cognitive-behavioral framework. The findings demonstrated anticipated positive changes from pre- to post-treatment not just for treatment outcome measures (i.e., anxiety, behavioral functioning), consistent with Manassis et al. (2002), but for many other cognitive, affective, and behavioral measures of children's internalizing distress.

Table 11

Effects of Treatment on Child-rated Full-scale Transformed Variables:
MANOVA Pre- and Post-Treatment Means and Standard Deviations

Measure	Pre-treatment		Post-treatment		Univariate F
	M	**SD**	**M**	**SD**	**(1, 70)**
MASC-Child	3.96	.21	3.90	.25	6.08*
SASC-R-Child	6.35	1.23	5.98	1.27	10.42**
CDI	3.88	.17	3.75	.23	27.80**
NASSQ	3.04	.27	2.94	.34	6.99**
LOC	16.57	4.56	14.49	5.24	10.59**
SPPC	4.84	.03	4.83	.02	$3.52^{\dagger}$
CCSC-R-Avoidant	2.53	.57	2.42	.63	1.40
CCSC-R-Distracting	1.87	.66	1.99	.60	4.14*
CCSC-R-Active	2.17	.50	2.39	.57	10.43**
CCSC-R-Support	1.85	.49	1.93	.52	1.62

*p<.05 **p<.01 †p<.10

Note: MASC = Multidimensional Anxiety Scale for Children; *SASC-R* = Social Anxiety Scale for Children (Revised); *CDI* = Children's Depression Inventory; *NASSQ* = Negative Affect Self-Statement Questionnaire; *LOC* = Locus of Control Scale; *SPPC* = Self-Perception Profile for Children; *CCSC-R* = Children's Coping Strategies Checklist (Revised).

Table 12

Effects of Treatment on Parent-rated and Clinician-rated Full-scale Transformed Variables:
MANOVA Pre- and Post-Treatment Means and Standard Deviations

Measure	Pre-treatment		Post-treatment		Univariate F
	M	SD	M	SD	(1, 30)
MASC-Mother	67.44	8.74	62.91	9.49	12.99**
MASC-Father	64.03	8.70	60.69	9.35	3.19[†]
CGAS-Clinician	3.94	.10	4.16	.17	91.41**
SASC-R-Mother	7.06	.89	7.06	.87	.12
SASC-R-Father	7.14	.88	6.87	.89	7.63**
SSRS-HOT-Mother	3.83	.27	3.88	.29	1.22
SSRS-HOT-Father	3.81	.24	3.85	.29	1.20
SSRS-PT-Mother	2.77	.70	2.58	.68	2.96[†]
SSRS-PT-Father	2.83	.36	2.53	.72	8.54**

*p<.05 **p<.01 [†]p<.10

Note: MASC = Multidimensional Anxiety Scale for Children; CGAS=Children's Global Assessment Scale; *SASC-R* = Social Anxiety Scale for Children – Revised; SSRS = Social Skills Rating Scale (*HOT*= how often total social skills observed (assertion, cooperation, responsibility, self-control); *PT* = total behavior problems (internalizing, externalizing, hyperactivity).

As previous research has proposed that child gender may influence changes in self-reported anxiety with treatment (Bernstein et al., 1996; Manassis et al., 2002; Mendlowitz et al., 1999), the aforementioned MANOVA analyses were repeated with gender as an additional between-subjects factor. No significant main or interaction effects were determined for gender. As three variables (i.e., CGAS, LOC, and child-rated MASC) were correlated with child age before treatment, the analyses were also repeated with age as a between-subjects factor. No significant interaction effects resulted, and there were no main effects of age for child-rated MASC or clinician-rated CGAS. There was a main effect for age on children's LOC ratings, $F(4, 64) = 2.66$, $p<.05$, indicating that younger children maintained more external locus of control orientations as compared to older children both before and after treatment. Original pre-post treatment changes remained significant despite this main effect of age.

In addition, due to the significant correlation between child ratings on the SASC-R (social anxiety) and MASC (general anxiety), the salience of social anxiety as a predictor of MASC anxiety outcome for children and mothers, and improvement in child- and father-rated child social anxiety from pre- to post-treatment, statistical analyses (i.e., correlations, regressions, MANOVAs) were re-run without the five items on the SASC-R which were common with five items on the MASC (see page 74). All results were unchanged, indicating that the overlapping items were not responsible for the significant findings.

There was also one overlapping item between the MASC Harm Avoidance subscale and the CCSC-R: Avoidant Coping scale ("I stay away from things that upset me"). Accordingly, analyses described above were also re-run without this one item on the CCSC-R. Similarly, all results were unchanged, indicating that the overlapping item was not solely responsible for any significant correlation, regression, or MANOVA results.

Effects of treatment on subscale outcome and predictor measures. Three separate

MANOVAs examining the subscales of child-rated variables (i.e., six SPPC subscales, five

CDI subscales, three SASC-R subscales, 8 CCSC-R subscales, and eleven MASC subscales

and their indices), and mother- and father-rated variables (i.e., three SASC-R subscales, three

SSRS subscales, and eleven MASC subscales and their indices, each) were performed.

Separate subscale MANOVAs were performed due to a secondary interest in subscales as

compared to full-scale measure responses. Again, MANOVAs were performed for each

informant group due to the low degree of rater correspondence.

For the first MANOVA of child-rated variable subscales (N=65), the combined

variables were significantly affected by time, $F(33, 31) = 2.08$, $p<.05$ but, again, not by

treatment modality $F(33, 31) = .608$, $p=.919$, or the interaction between time and treatment

modality, $F(33, 31) = .662$, $p=.877$. Similarly, for the second MANOVA of mother-rated

subscale measures (N=72), the combined variables were significantly affected by time, $F(17, 54) = 4.50$, $p<.001$ but not by treatment modality $F(17, 54) = 1.01$, $p=.468$, or the interaction

between time and treatment modality, $F(17, 54) = .820$, $p=.685$. For the third MANOVA of

father-rated subscale measures (N=34), the combined variables were not significantly

affected by time, $F(17, 16) = 1.42$, $p=.242$, treatment modality $F(17, 16) = 1.31$, $p=.297$, or

the interaction between time and treatment modality, $F(17, 16) = .362$, $p=.918$.

To explore the main effect of time (treatment) on child-rated subscale measures, and

mother-rated subscale measures, univariate ANOVA F test results from the MANOVAs were

examined. The univariate F tests were not examined for fathers' ratings on subscale

measures, given the non-significant effect of time (pre-treatment, post-treatment). However,

means and standard deviations are still reported for the sake of interest and consistency.

Results for the child-rated subscale measures are displayed in Table 13 (p. 111) and Table 14 (p. 112), and results for mother–rated subscale variables are displayed in Table 15 (p. 113). The means and standard deviations for the subscale ratings by fathers are shown in Table 16 (p. 115).

Results in Table 13 show that there were significant decreases from before to after treatment in children's reports of negative mood and feelings of ineffectiveness (CDI) and fears of negative evaluation and social anxiety in specific social situations (SASC-R). Significant increases were observed in the coping strategies of direct problem-solving, positive-cognitive restructuring, problem-focused support, and physically releasing emotions (CCSC-R). Results in Table 14 demonstrate that there were significant decreases in children's reported physical anxiety symptoms following treatment. These findings again support the cognitive-behavioral framework by demonstrating affective, cognitive, and behavioral changes from pre- to post-treatment.

Results in Table 15 indicate that mothers perceived improvement in children's fears of negative evaluation in social situations (SASC-R). Mothers reported their children as demonstrating significantly fewer internalizing, externalizing, and hyperactive behaviors following the intervention. They also rated children's symptoms of anxiety (i.e., physical, harm avoidance, and social anxiety) as decreasing significantly following the CBT program. There was a trend for separation aspects of anxiety to decrease as well.

Table 13

Effects of Treatment on Child-rated Predictor Subscale Transformed Variables:
MANOVA Pre- and Post-Treatment Means and Standard Deviations

Measure	Pre-treatment		Post-treatment		Univariate F
	M	**SD**	**M**	**SD**	**(1, 63)**
SPPC-SA	.58	.35	.49	.34	3.92
SPPC-GW	.44	.38	.43	.34	.00
SPPC-SC	.64	.37	.57	.35	2.35
SPPC-PA	.53	.39	.51	.41	.85
SPPC-AC	.71	.39	.64	.37	2.58
SPPC-BC	.54	.36	.56	.37	.54
CDI-A	3.93	.19	3.80	.20	22.89**
CDI-B	3.83	.25	3.84	.15	.19
CDI-C	3.85	.17	3.79	.17	5.80*
CDI-D	3.91	.18	3.80	.19	16.54**
CDI-E	3.85	.16	3.82	.19	1.06
SASC-R-G	2.77	.62	2.68	.73	1.17
SASC-R-S	3.79	.81	3.57	.76	5.17*
SASC-R-N	4.20	.98	3.93	.96	7.43**
CCSC-R-AVA	2.46	.63	2.42	.68	.11
CCSC-R-CA	2.55	.66	2.41	.76	1.00
CCSC-R-DA	2.03	.67	2.13	.62	1.61
CCSC-R-PRE	1.61	.71	1.75	.76	4.13*
CCSC-R-DPS	2.29	.59	2.59	.66	11.77**
CCSC-R-PCR	1.99	.54	2.20	.64	9.18**
CCSC-R-PFS	1.83	.48	1.99	.57	6.60*
CCSC-R-EFS	1.84	.52	1.90	.53	.96

**$p<.01$ *$p<.05$

Note: SPPC = Self-Perception Profile for Children (*SA*=Social Acceptance Subscale; *GW* = Global Self-Worth Subscale; *SC* = Scholastic Competence Subscale; *AC* = Athletic Competence Subscale; *BC* = Behavioral Conduct Subscale; *PA* = Physical Appearance Subscale); *CDI* = Children's Depression Inventory (Subscale A, Negative Mood; Subscale B, Interpersonal Problems; Subscale C, Ineffectiveness; Subscale D, Anhedonia; Subscale E, Negative Self-esteem); *SASC*-R=Social Anxiety Scale for Children (*S* = Social Anxiety, Specific; *G* = Social Anxiety, General; *N* = Fear of Negative Evaluation); *CCSC-R-AVA* = Children's Coping Strategies Checklist (Revised, Avoidant Actions); *CCSC-R-CA* = Children's Coping Strategies Checklist (Revised, Cognitive Avoidance); *CCSC-R-DA* = Children's Coping Strategies Checklist (Revised, Distracting Actions); *CCSC-R-PRE* = Children's Coping Strategies Checklist (Revised, Physical Release of Emotions); *CCSC-R-DPS* = Children's Coping Strategies Checklist (Revised, Direct Problem-Solving); *CCSC-R-PCR* = Children's Coping Strategies Checklist (Revised, Positive Cognitive Restructuring); *CCSC-R-PFS* = Children's Coping Strategies Checklist (Revised, Problem-Focused Support); *CCSC-R-EFS* = Children's Coping Strategies Checklist (Revised, Emotion-Focused Support).

Table 14

Effects of Treatment on Child-rated Outcome Subscale Transformed Variables:
MANOVA Pre- and Post-Treatment Means and Standard Deviations for MASC
Subscales

MASC Subscale	Pre-treatment		Post-treatment		Univariate F
	M	SD	M	SD	(1, 63)
Physical symptoms	3.91	.19	3.83	.23	9.75**
Tense/Restless	3.89	.18	3.83	.22	4.22*
Somatic/Autonomic	3.92	.19	3.84	.21	11.45**
Harm Avoidance	3.87	.19	3.89	.24	.14
Perfectionism	3.86	.23	3.85	.25	.16
Anxious Coping	3.88	.19	3.90	.22	.56
Social Anxiety	3.89	.21	3.86	.23	1.89
Humiliation/Rejec'n	3.89	.20	3.86	.22	2.54
Public Performing	3.89	.22	3.88	.23	.50
Separation/Panic	4.08	.21	4.04	.22	1.50
Anxiety Disorders Index	3.88	.18	3.82	.25	4.18*

*p<.05   **p<.01

Table 15

Effects of Treatment on Mother-rated Predictor and Outcome Subscale Transformed
Variables: MANOVA Pre- and Post-Treatment Means and Standard Deviations

Measure	Pre-treatment		Post-treatment		Univariate F
	M	SD	M	SD	(1, 70)
SASC-R-Mother-G	2.83	.51	2.90	.56	2.32
SASC-R-Mother-S	4.18	.69	4.13	.72	.72
SASC-R-Mother-N	4.90	.80	4.77	.72	5.15[*]
SSRS-Mother-PI	1.99	.40	1.75	.52	28.36[**]
SSRS-Mother-PE	1.67	.57	1.50	.61	7.89[**]
SSRS-Mother-PH	1.61	.68	1.50	.67	4.18[*]
MASC:					
Physical symptoms	4.04	.20	3.96	.21	20.75[**]
Tense/Restless	4.07	.19	3.99	.21	19.21[**]
Somatic/Autonomic	3.98	.21	3.92	.19	12.03[**]
Harm Avoidance	3.98	.17	3.93	.17	7.47[**]
Perfectionism	3.95	.16	3.90	.19	6.59[*]
Anxious Coping	3.98	.16	3.94	.17	5.74[*]
Social Anxiety	4.16	.18	4.11	.18	11.05[**]
Humiliation/Rejec'n	4.19	.17	4.15	.16	5.06[*]
Public Performing	4.06	.18	4.01	.20	14.06[**]
Separation/Panic	4.25	.17	4.22	.16	3.14[†]
Anxiety Disorders Index	4.12	.17	4.07	.19	8.97[**]

[**]$p<.01$; [*]$p<.05$; [†]$p<.10$

Note: *SASC*-R=Social Anxiety Scale for Children *(S* = Social Anxiety, Specific; *G* = Social Anxiety,
General; *N* = Fear of Negative Evaluation); *SSRS-PI* = Social Skills Rating Scale – Internalizing Problems;
SSRS-PE = Social Skills Rating Scale – Externalizing Problems; *SSRS-PH* = Social Skills Rating Scale –
Hyperactivity Problems.

No significant main or interaction effects were determined for gender when the child and mother MANOVA analyses were repeated with gender as an additional between-subjects factor. There was no main effect for age in the MANOVA for mother-rated subscales. However, there was a main effect for age on the child-rated subscale measures, $F(33, 27) = 1.50$, $p<.05$. Univariate ANOVA F tests showed main effects of child age (all p's $<.05$) on the SASC-R General Avoidance and Distress subscale, $F(4, 59) = 3.20$, as well as the CCSC-R avoidant actions, $F(4, 59) = 2.55$, and cognitive avoidance, $F(4, 59) = 3.65$, scale portions, and MASC anxious coping, $F(4, 59) = 4.22$, and harm avoidance, $F(4, 59) = 2.81$, subscales. These age effects did not influence treatment results.

Taking the full-scale and subscale results together, child- and mother-reported anxiety and clinician-rated child functioning improved in the anticipated direction from before to after CBT treatment. Children's self-rated cognitions, emotions, and behaviors (i.e., negative self-statements, social anxiety, depressed mood, locus of control, active coping) also improved following the intervention. Mothers' ratings of children's observable internalizing and externalizing behaviors decreased, and mothers also noticed improvements in many aspects of children's anxiety. There were relatively fewer significant reports of treatment change according to fathers. Less likely to also significantly change were parental reports of children's social skills. Overall, however, changes were significant and wide-ranging, supporting the hypothesis.

Table 16

MANOVA Pre- and Post-Treatment Means and Standard Deviations for Father-rated
Predictor and Outcome Subscale Transformed Variables

Measure	Pre-treatment		Post-treatment	
	M	**SD**	**M**	**SD**
SASC-R-Father-G	3.01	.54	2.90	.47
SASC-R-Father-S	4.32	.51	4.09	.58
SASC-R-Father-N	4.83	.68	4.68	.67
SSRS-Father-PI	1.95	.47	1.80	.42
SSRS-Father-PE	1.86	.36	1.59	.56
SSRS-Father-PH	1.81	.37	1.60	.60
MASC:				
Physical symptoms	4.04	.15	3.98	.15
Tense/Restless	4.05	.17	4.01	.15
Somatic/Autonomic	4.00	.15	3.93	.15
Harm Avoidance	3.95	.17	3.95	.15
Perfectionism	3.92	.13	3.92	.15
Anxious Coping	3.96	.18	3.95	.17
Social Anxiety	4.08	.16	4.24	.18
Humiliation/Rejec'n	4.16	.17	4.11	.14
Public Performing	4.04	.17	4.00	.18
Separation/Panic	4.24	.18	4.18	.21
Anxiety Disorders Index	4.11	.16	4.04	.19

Note: SASC-R=Social Anxiety Scale for Children *(S* = Social Anxiety, Specific; *G* = Social Anxiety,
General; *N* = Fear of Negative Evaluation); *SSRS-PI* = Social Skills Rating Scale – Internalizing Problems;
SSRS-PE = Social Skills Rating Scale – Externalizing Problems; *SSRS-PH* = Social Skills Rating Scale –
Hyperactivity Problems.

Effects of Treatment for the Child Distress Subgroups

First, two MANOVAS were again performed on child-rated and parent/clinician-rated full-scale variables, respectively. This time, treatment modality (group, individual), as well as child internalizing distress level (high, low), acted as between subjects factors. Time (pre-treatment, post-treatment) was again the within-subjects factor.

With the use of the Pillai's trace criterion in the first MANOVA (N=70) of ten child-rated measures (MASC, SASC-R, CDI, NASSQ, LOC, SPPC, and four subscales of CCSC-R), the combined variables were again significantly affected by treatment/time, $F(10, 58)= 5.56$, $p<.001$, as well as by the distress variable, $F(10, 58)= 8.32$, $p<.001$, but not by the interaction between time and distress level, $F(10, 58) = .828$, $p=.603$. For the parent/clinician-rated variables in the second MANOVA (N=32) of nine measures (MASC, SASC-R, SSRS-HOT, SSRS-PT, as rated by both mothers and fathers, and CGAS as rated by clinicians), the combined variables were also significantly affected by time, $F(9, 21)= 16.46$, $p<.001$, but not by the distress variable, $F(9, 21) = 1.59$, $p=.182$, or by the interaction between time and distress level, $F(9, 21) = .832$, $p=.595$. (The lack of main effects of the distress variable on parent-rated measures is not all that surprising given that children's clustering on the distress variable was based only on self-rated measures). Therefore, only main effects of children's internalizing distress levels were addressed, and only for children's ratings. There was insufficient statistical evidence to discuss treatment by distress level interaction effects for any rated child characteristics, or to address main effects of child distress level for parent- and clinician-rated measures.

Second, ANOVA univariate F test results for the internalizing distress variable were examined in the child-rated MANOVA. Table 17 lists the F statistics representing

main effects of treatment and main effects of child internalizing distress level on child-rated characteristics. As pre-post treatment changes were addressed earlier with respect to the total sample of children, only the latter distress effects are currently discussed.

Effects of treatment and child distress level on full-scale outcome and predictor measures. Results in Table 17 (p. 118) demonstrate that children's internalizing distress level had a significant main effect on general anxiety, social anxiety, depression, negative self-statements, locus of control, and self-esteem, with children in the higher distress group reporting more severe scores both before and after treatment as compared to children in the lower distress group. This is not unanticipated given that children's division into higher and lower distress subgroups was based on pre-treatment differences on the majority of these variables. Children in the higher distress subgroup, however, also reported significantly greater use of avoidant coping strategies than children in the lower distress group both before and after treatment. This supports the notion demonstrated in Figure 1 (p. 12) that general internalizing distress relates to behavior, as well as cognitions and affect. The lack of treatment by distress level interaction effects suggests that children in the two different groups did not benefit differentially from treatment.

For the parent/clinician-rated variables, the means and standard deviations of each measure for both distress levels, and univariate F results for treatment and distress are displayed in Table 18 (p. 119). As mentioned, none of the univariate F results for distress were deemed significant.

Table 17

Effects of Internalizing Distress and Treatment on Child-rated Transformed Variables:
MANOVA Pre- and Post-Treatment Means and Standard Deviations for High and Low Distress Child Subgroups

Treatment time:		Pre-treatment		Post-treatment		F(1, 67)	F(1, 67)
Child Distress Level:		Low	High	Low	High	Treatment	Distress
Measure:							
MASC	M	3.87	4.09	3.82	4.02	6.13*	20.99**
	SD	.20	.15	.25	.21		
SASC-R	M	5.87	7.13	5.52	6.70	10.25**	24.72**
	SD	1.01	1.15	.98	1.36		
CDI	M	3.79	4.02	3.67	3.88	26.64**	45.31**
	SD	.13	.14	.14	.27		
NASSQ	M	2.88	3.30	2.83	3.12	9.34**	52.20**
	SD	.16	.20	.23	.40		
LOC	M	15.30	18.60	13.47	16.11	10.63**	9.53**
	SD	4.07	4.63	4.98	5.32		
SPPC	M	4.83	4.86	4.83	4.85	5.14*	45.43**
	SD	.02	.02	.02	.03		
CCSC-R-Avoidant	M	2.38	2.73	2.33	2.55	1.67	6.25*
	SD	.52	.56	.59	.66		
CCSC-R-Distracting	M	1.88	1.87	1.98	1.99	4.12*	.025
	SD	.70	.60	.61	.58		
CCSC-R-Active	M	2.16	2.17	2.43	2.31	8.54**	.202
	SD	.55	.40	.65	.39		
CCSC-R-Support	M	1.85	1.86	1.96	1.84	1.02	.118
	SD	.57	.41	.59	.39		

*p<.05 **p<.01 †p<.10; M= Mean score; SD=Standard deviation; *Note:* MASC = Multidimensional Anxiety Scale for Children; *SASC-R* = Social Anxiety Scale for Children-Revised; *CDI* = Children's Depression Inventory; *NASSQ* = Negative Affect Self-Statement Questionnaire; *LOC* = Locus of Control Scale' *SPPC* = Self-Perception Profile for Children; *CCSC-R* = Children's Coping Strategies Checklist (Revised).

Table 18

Effects of Treatment on Parent-rated Transformed Variables:
MANOVA Pre- and Post-Treatment Means and Standard Deviations for High and Low Distress Child Subgroups

Treatment time:		Pre-treatment		Post-treatment		F(1, 29)	F(1, 67)
Child Distress Level:		Low	High	Low	High	Treatment	Distress
Measure:							
MASC-Mother	M	68.10	66.33	64.60	60.08	14.29**	1.01
	SD	9.70	7.11	10.15	7.87		
MASC-Father	M	61.55	68.17	60.80	60.50	5.25*	1.29
	SD	9.21	6.06	10.45	7.60		
CGAS-Clinician	M	3.96	3.92	4.15	4.17	96.10**	.02
	SD	.11	.09	.18	.14		
SASC-R-Mother	M	7.06	7.06	7.14	6.95	.01	.08
	SD	.90	.92	.92	.79		
SASC-R-Father	M	7.05	7.31	6.89	6.85	9.74**	.12
	SD	.94	.78	.91	.89		
SSRS-HOT-Mother	M	3.88	3.76	3.90	3.85	1.73	.89
	SD	.27	.27	.31	.24		
SSRS-HOT-Father	M	3.80	3.84	3.84	3.87	1.06	.20
	SD	.19	.31	.28	.32		
SSRS-PT-Mother	M	2.63	3.00	2.49	2.73	3.34†	1.64
	SD	.82	.39	.76	.54		
SSRS-PT-Father	M	2.72	3.01	2.39	2.76	7.24*	3.42
	SD	.37	.27	.83	.45		

*p<.05 **p<.01 †p<.10; M= Mean score; SD=Standard deviation
Note: MASC = Multidimensional Anxiety Scale for Children; CGAS=Children's Global Assessment Scale; SASC-R = Social Anxiety Scale for Children – Revised; SSRS = Social Skills Rating System (HOT=how often total social skills observed; PT = total behavior problems observed).

Table 19 (p. 121) shows non-transformed MASC T-score ratings for child-, mother-, and father-rated child anxiety both before and after treatment for each distress group, to provide some insight into whether anxiety scores fell into the clinical or non-clinical range according to each subgroup of children and group of informants. As a general rule, the chart at the bottom of Table 19 is often used to interpret MASC T-scores (March, 1997). These approximate guidelines describe how children's scores compare to youth in a normative sample of the same age range and gender. As anxious children often underreport their symptoms (March, 1997), a T score of 70 is often considered too conservative. Thus, a T score of 60 (one standard deviation [SD=10] above the mean of T=50) is often used to indicate above average, and thus clinical, anxiety levels (often in combination with other assessment tools).

A repeated measures MANOVA showed that there was a significant respondent by child distress level interaction, $F(2, 30) = 7.28$, p<.05 for MASC ratings. More specifically, mothers' anxiety ratings of their children were significantly higher than those of fathers, which were significantly higher than those of children, before treatment for the lower distress subgroup, $F(2, 30) = 37.96$, p<.05. For the higher distress subgroup, both mothers' and fathers' child MASC ratings were significantly higher than children's self-rated scores, $F(2, 20)=26.32$, p<.05. Following the intervention, mothers' and fathers' child MASC ratings remained significantly higher than children's self-rated scores for the lower distress group, $F(2, 30) = 4.30$, p<.05, whereas there were no significant differences among respondents for the higher distress subgroup, $F(2, 30) = .94$, p=.402 (see Table 19).

These findings indicate that, overall, parents' anxiety scores for their children were greater than children's self-reported anxiety scores. Parents may have been over-reporting children's anxiety symptoms both before and after treatment (especially for the lower distress child subgroup), or children may have been under-reporting them. The implication of lower distress children minimizing anxiety symptoms is interesting given that lower distress children's MASC ratings were significantly and positively correlated with their RCMAS lie scores. Their lower MASC ratings, however, may simply have been a manifestation of lower overall internalizing distress.

Table 19

Means and Standard Deviations for Non-Transformed Pre- and Post-treatment Total MASC Ratings (T-scores) according to Children's Pre-Treatment Distress Level

Treatment time:	Pre-treatment		Post-treatment	
Child Distress Level:	Low	High	Low	High
MASC-Child rated				
M	47.71	59.42	45.95	55.75
SD	7.61	7.74	8.65	9.37
MASC-Mother rated				
M	68.76	66.33	64.67	60.08
SD	9.92	7.11	9.94	7.87
MASC-Father rated				
M	61.71	68.17	61.62	60.50
SD	9.05	6.06	10.99	7.60

N=33; Clinical range = T>60

Interpretive Guidelines for MASC T-scores

Range	Guideline
Above 70	Very much above average
66 to 70	Much above average
61 to 65	Above average
56 to 60	Slightly above average
45 to 55	Average
40 to 44	Slightly below average
35 to 39	Below average
30 to 34	Much below average
Below 30	Very much below average

(March, 1997)

Effects of treatment and child distress level on subscale outcome and predictor

measures. A separate MANOVA examining effects of children's distress level on the

subscales of child-rated variables (i.e., six SPPC subscales, five CDI subscales, three

SASC-R subscales, 8 CCSC-R subscales, and eleven MASC subscales and their indices)

was performed. MANOVAs for mother-rated subscale variables (SASC-R, SSRS,

MASC) and father-rated subscale variables (SASC-R, SSRS, MASC) were not

performed, given that there was no significant main effect of the distress variable on the

full-scale measures for these informant groups. For the MANOVA of child-rated variable

subscales (N=65), the combined variables were again significantly affected by time,

$F(33, 30)= 1.82$, $p<.05$, as well as by the distress variable, $F(33, 30) = 2.72$, $p<.01$, but

not by the interaction between time and distress level, $F(33, 30) = .541$, $p=.956$.

To explore the main effects of distress level and treatment on the child-rated

subscale predictor and outcome measures, univariate F test results (ANOVAs) from the

MANOVA were examined and are displayed in Appendix K (Tables K1 and K2). Only

the main effects of child distress level are discussed (given the lack of a treatment by

distress level interaction). As displayed in Table K1, children's internalizing distress

level significantly influenced numerous subscales. Children in the higher internalizing

distress subgroup showed more severe scores on all subscales of the SPPC, CDI, SASC-

R, as well as avoidant actions and cognitive avoidance scales of the CCSC-R avoidant

coping style, as compared to children in the lower distress subgroup both before and after

the intervention. Significant main effects of internalizing distress level were also found

for the physical anxiety, social anxiety, and separation/panic subscales of the MASC,

with higher distress children showing higher scores than lower distress children both pre-

and post-treatment (see Appendix K, Table K2). There was also a trend for children in the higher distress subgroup to report greater levels of anxious coping (e.g., "If I get upset or scared, I let someone know right away").

Overall, the main effects of distress level indicate that children tended to remain either higher or lower on the particular child-rated internalizing distress full-scale and subscale measures both before and after the intervention (i.e., irrespective of treatment). Given the non-significant treatment by distress level interaction effect, children in the two different subgroups of internalizing distress did not differentially benefit from the treatment. The subgroups' symptom severity levels ran parallel to each other from pre- to post-treatment, with internalizing distress levels remaining persistently higher for one subgroup of children despite treatment improvement for both groups. There was no effect of children's internalizing distress level on parental ratings of the various measures. This suggests that children's general level of internalizing distress did not influence parents' reports of children's internalizing difficulties (e.g., general anxiety, social skill deficits, behavior problems, social anxiety).

CHAPTER 4

Discussion

The main aim of the present study was to determine whether child characteristics of internalizing distress, such as social anxiety, negative self-statements, self-esteem, and locus of control, predicted children's anxiety and global behavioral functioning levels following treatment for anxiety disorders. Related objectives included evaluating relationships among these, and other associated, characteristics prior to treatment, exploring the existence of subsets of anxious children with differing levels of pre-treatment internalizing distress, and assessing improvement in child characteristics of internalizing distress (in the total sample of children and separate distress level subgroups) following the twelve-week CBT program.

The findings demonstrate that certain child characteristics of internalizing distress predicted responses to the CBT treatment program. The most salient predictor was social anxiety (i.e., interpersonal worry thoughts). Anxious children who self-reported, and whose mothers reported them as having, higher degrees of social anxiety before the intervention (especially social avoidance and distress specific to new situations or unfamiliar peers) responded less well to the CBT program in terms of less improvement in child- and mother-reported general anxiety following treatment.

Pre-treatment correlations were discovered between children's ratings of general anxiety and social anxiety, as well as with other child characteristics such as negative self-statements, self-esteem, locus of control, depression, and avoidant coping style. Although each of these constructs was distinctly measured in the study (as addressed on page 72), the interrelationships among them pointed to a general diathesis of internalizing

distress. An exploratory cluster analysis revealed one subgroup of anxious children who reported more symptoms of internalizing distress than another group of anxious children before and after treatment. Predictors of treatment response, however, were relatively similar for both child groups, with social anxiety again being the most salient predictor of treatment outcome.

Finally, there were significant improvements in many of the child characteristics measured from pre- to post-treatment, including general anxiety and behavioral functioning outcome levels, as well as social anxiety, negative self-statements, depressive symptoms, locus of control, active coping strategies, and parent-rated behavior problems. Although the higher distress subgroup maintained more severe scores in many of these realms both before and after treatment as compared to the lower distress group, the subgroups did not differentially benefit from treatment. Children in both distress subgroups reported affective, cognitive, and behavioral improvements from before to after treatment. These results were against the statistical phenomenon of regression to the mean (i.e., where more extreme scores would be expected to change more than less extreme ones).

These aforementioned findings are consistent with the cognitive-behavioral framework and, in particular, the cognitive mediation theories of anxiety (Beck, 1976; Wessler, 1987). More specifically, interrelationships among measures of cognitive distortions, anxious affect, and poor coping behaviors were discerned. Difficulties in one (often cognitive) system adversely influenced children's affective response to the CBT treatment. Moreover, the testing and modification of children's negative thoughts and self-statements during the intervention may have influenced positive changes not only in

children's cognitions, but in affective and behavioral aspects of their anxiety as well (i.e.,

all three systems in Figure 1, p. 12), as rated by several informant groups. (This cannot be

stated with certainty due to the absence of a control condition). Specific results, with

meaningful implications to research and the study's predictions are discussed separately

for each hypothesis.

Pre-treatment Correlations of Internalizing Distress Characteristics

Pre-treatment correlations among child characteristics were primarily examined to

determine whether this study supported interrelationships among affective, cognitive, and

behavioral features of internalizing distress as illustrated by the cognitive-behavioral

paradigm. In addition, a high degree of intercorrelations would provide a premise to

explore the existence of a subgroup of children with high internalizing distress who

might be contributing to the associations, especially given correlations among child

characteristics of internalizing distress and the notion of subgroups suggested in other

studies (e.g., Manassis et al., 2002). Furthermore, any correlations among the child

characteristics before the intervention would help shed some light on findings regarding

predictors of treatment outcome.

Correlations Among Measures of Child-Rated Child Internalizing Distress

Children's self-reported ratings of lower general anxiety before the intervention

were strongly correlated with their pre-treatment ratings of lower social anxiety, negative

self-statements, depression, avoidant coping, and support-focused coping, and with

higher ratings of self-esteem and a more internal locus of control. These correlational

findings are consistent with those of past research (Barrett et al., 1996; Bell-Dolan &

Wessler, 1994; Bernstein, 1991; Brady & Kendall, 1992; Chansky and Kendall, 1997;

Messer & Beidel, 1994; Treadwell & Kendall, 1996), a cognitive-behavioral framework, and support the investigator's hypothesis. These results suggest that ratings on a host of internalizing distress measures accompany children's anxiety (Kendall, 2000).

Recognition of a general internalizing distress factor and distinct internalizing distress constructs. In examining the aforementioned intercorrelations, a great degree of association among the child characteristics existed. This supports the notion that anxiety is not a circumscribed disorder. Rather, anxious children often experience numerous additional stressors which negatively impact their lives (Kendall et al., 2000). Children's self-reported anxious and depressive affect, negative self-talk, low self-esteem, and low perceptions of control therefore reflect a wide-ranging factor of negative affectivity or general psychological distress (Watson & Clark, 1984; Watson & Kendall, 1989). As mentioned earlier, the implication is not that these characteristics are expressions of a single construct, but that there exists a dominant factor of negative affective and cognitive internalizing distress in these children. Correlations among measure responses were not perfect, and psychometric properties of the measures demonstrate good validity. Thus, items across measures differ and there are unique features to each distress characteristic that each measure was tapping (Kendall & Ingram, 1989; For further substantiation of the discreteness of constructs measured in this study, refer to p. 72).

Specific correlations among child characteristics of internalizing distress: Anxiety and locus of control. As little research has examined the relationship between anxiety and locus of control, it is interesting to note that children who reported a more external locus of control reported higher levels of anxiety in this study. According to a cognitive-behavioral model, this suggests that children who believe they can do little to

personally influence their future, life circumstances, or specific anxiety-provoking situations, feel more worried and fearful as they believe they have no way to personally manage environmental stimuli seemingly impinging on them in a negative manner (Kendall et al., 2000). The correlations between children's external locus of control and lower levels of self-esteem (i.e., low perceived competence, low self-efficacy to personally produce outcomes), depressive affect, and increased use of avoidant coping strategies further support the cognitive-behavioral relationships between distorted cognitions of little control in life and internalizing distress such as sad and anxious affect and maladaptive coping behavior (Bandura, 1977; McNeill & Gilbert, 1991).

The relationship between a diminished sense of personal control and increased vulnerability to anxiety has been suggested to relate to a controlling family environment (i.e., high parental control and low child autonomy; Chorpita et al., 1998; Rapee, 1997). Although family characteristics were not addressed in this study, child and parent reports of increased family dysfunction (i.e., how family members relate to each other) have been found to relate to their reports of greater child anxiety (Crawford & Manassis, 2001). These early family experiences influencing belief structures again fit into the cognitive-behavioral framework, and support the need for early child and parent involvement in treatment for child anxiety disorders.

Developmentally, younger children may sense that they have little control over their lives as compared to older children (LaMontagne & Hepworth, 1991), which supports the finding of an external locus of control orientation for younger children in this study. The negative correlation found between general anxiety and age before treatment also shows that young child age was associated with higher self-reported

anxiety before treatment as well. Although young (non-anxious) children may typically

feel that they can rely on others to help manage situations when they lack personal

control (i.e., external locus of control but low anxiety), the aforementioned finding

indicates that young anxious children may have perceived a lack of personal control, as

well as few alternatives to cope with challenging circumstances (i.e., external control and

high anxiety) before the intervention.

Specific correlations among child characteristics of internalizing distress:

Depression, self-esteem, and social desirability. Children's higher scores on the RCMAS

lie scale, a measure of social desirability, were significantly correlated with their lower

depression scores, greater feelings of self-esteem, and increased use of distracting coping

strategies before treatment. These correlations suggest that children who rated themselves

in a more socially desirable light on the RCMAS also rated themselves as less sad, more

confident, and more likely to focus on other things when they have a problem. Although

anxious children often possess self-presentational concerns and underreport anxious

symptoms, despite reports of internalizing distress from significant others (Shortt,

Barrett, Dadds, & Fox, 2001a), their lie scores in the current study were not significantly

correlated with their pre-treatment anxiety ratings. One reason for the above findings

may be that children were more willing to report symptoms of anxiety at the assessments

for anxiety, but were less willing to endorse other internalizing symptoms (e.g., sadness,

low self-worth), because they felt these reports would be perceived as signs of weakness

and they would be judged negatively. Reporting more distracting coping behaviors also

gives anxious children with high social desirability needs the opportunity to convey that

their problems are minimal and could be managed by simply engaging in other activities (i.e., they do not need to avoid, solve, or discuss any difficulties).

Although children's lie scores were correlated with depression and self-esteem, these latter two characteristics were still significantly correlated with pre-treatment anxiety, indicating that children's social desirability concerns were not excessive. In particular, children's mean standard scores on the RCMAS lie scale, according to age, ranged from 9.64 to 10.92, whereas standard scores greater than 13 tend to indicate inaccurate self-reports. Nevertheless, the link between children's self-presentational concerns and aspects of internalizing distress indicates the need for clinicians to be mindful of social desirability effects among anxious children (Shortt et al., 2001a).

Specific correlations among child characteristics of internalizing distress: Anxiety and social skills. Children's pre-treatment anxiety ratings (MASC) were not negatively correlated with social skills ratings (SSRS), as hypothesized. Two reasons are proposed for this finding, including reporting differences among raters and the type of anxiety actually associated with social skill deficiencies.

First, children's social skill levels were reported only by parents. Research shows that there are often substantial parent-child reporting differences in clinical samples on similar measures, especially regarding internalizing problems (Barbosa, Tannock, & Manassis, 2002; Mesman & Koot, 2000). Accordingly, a lack of association could be expected between parent and child reports on different measures. The discrepancy between children's MASC and parents' SSRS ratings may also point to parents' low levels of awareness of children's cognitions, affect, and social behaviors, the latter of which tends to occur more frequently outside of the home (Mesman & Koot, 2000).

Mesman and Koot (2000) have found that parental reports of children's social skills are not related to child anxiety ratings, although teacher reports are. This is likely because parents have little opportunity to observe indicators of children's social skill deficits, as they most often occur when children confront peers or academic tasks at school. Parents can only view children's behavioral representations (i.e., poor social skills) of their internalizing difficulties (i.e., anxiety) when they are able (i.e., at home; Masten & Coatsworth, 1995; Mesman & Koot, 2000). This results in a lack of association between children's reported anxiety and parents' reports of children's applied social skills, as in the present study.

Second, although parent-rated child social skills ratings were not correlated with general anxiety ratings, maternal SSRS ratings were significantly associated with their reports of children's social anxiety (SASC-R). This suggests that social, rather than general or physiological, anxiety may be associated with compromised social adjustment (Berenson, 1996) from mothers' perspectives. In support, Ginsburg et al. (1998) found that children who reported high levels of social anxiety were viewed by their parents as having poor social skills. (Parents may have been attuned to children's internalizing difficulties and behaviors in this study). The relationship between interpersonal worry thoughts and poor interpersonal skills is logical given that social skills are more often applied in situations where social anxiety is more likely to be experienced. If children had completed a self-rated measure of social skills, perhaps a similar relationship with self-rated social anxiety would have been determined.

Correlations Among Measures of Parent/Clinician-Rated Child Internalizing Distress

Parents' ratings of child anxiety were not significantly correlated with child-rated measures of internalizing distress. This further substantiates a weak correspondence among responses from parent and child raters (Mesman & Koot, 2000). Mothers' ratings of their children's general anxiety, however, were positively correlated with their ratings of children's social anxiety, as well as their ratings of children's behavior problems (especially internalizing problems) on the SSRS. Items on this internalizing behavior problem scale of the SSRS reflected children's affect and beliefs (i.e., "acts sad or depressed," "shows anxiety about being with a group of children," "has low self-esteem"). Therefore, child behaviors observable to parents, that may represent children's cognitions and affect of self-esteem, sadness, and social anxiety, were related to mothers' general anxiety ratings about their children. This provides some support for the hypothesis of correlations among affective, cognitive, and behavioral aspects of anxiety.

Clinician ratings of children's behavioral functioning (CGAS) before treatment corresponded with some child and parent reports of child internalizing distress. Lower CGAS ratings were related to mothers' higher ratings of children's behavior problems as described above. Lower CGAS scores were also correlated with children's lower self-esteem ratings. It is unlikely that clinicians had greater awareness levels of children's distress, as compared to parents. However, initial assessment interviews may have provided salient circumstances in which children were forced to confront their fears and related feelings of worthlessness, providing clinicians with some insight into children's self-perceptions of competence (Mesman & Koot, 2000). Lower CGAS ratings were also related to children's older age. Clinicians may have recognized older children as being

anxious for longer, and thus having greater levels of functional impairment. This latter finding is interesting because older children tended to rate themselves as less anxious than younger children before treatment (as per the negative correlation between children's MASC ratings and child age). Agreement between clinicians and children was low, similar to parent-child response concordance.

Overall, children's pre-treatment self-reported general anxiety ratings were correlated with their pre-treatment reports of social anxiety, negative self-statements, self-esteem, locus of control, depression, and avoidant coping in the anticipated directions, supporting the hypothesis. The particular relationship between anxiety and locus of control was less common in the literature and important to note, as was the association between children's self-presentational concerns and various aspects of internalizing distress. Children rated themselves as having more characteristics of internalizing distress related to their general anxiety than did their parents before the intervention. Given that parents typically report more symptoms of internalizing distress in their children than do their children (March, 1997; Shortt et al., 2001a), it is unlikely that children are overreporting these correlating symptoms. Rather, parents were less able to comment on children's internal cognitions and affect, but seemed more aware of children's visible behaviors reflecting these internal difficulties (e.g., SSRS problem behaviors). This could help explain why parent ratings of children's internalizing behavioral difficulties were associated with their ratings of children's general anxiety before treatment and why parent-rated social skills were not significantly related to child-rated general anxiety. Mother-rated child social anxiety and social skills were more likely to be related than mothers' ratings of child general anxiety and social skills. Parents and

children agreed, however, that social anxiety was strongly related to general anxiety. This suggests that social anxiety might be an important indicator of post-treatment anxiety outcome. In general, a cognitive-behavioral framework for childhood anxiety that illustrates relationships between cognitions, affect, and behavior was supported by the correlational findings, and supported the notion of child-rated general internalizing distress.

Subgroups of Anxious Children

Using an exploratory cluster analysis, two pre-specified subgroups of children, reflecting higher and lower internalizing distress levels, were determined based on considerably different responses to six measures of internalizing distress. Children in the higher distress subgroup endorsed higher levels of general anxiety, social anxiety, negative self-talk, depression, as well as a more external locus of control, and lower levels of self-esteem, as compared to the lower distress group. All of these measures were child-rated and represented cognitions and affect, rather than behavior. This suggests that children's degrees of general internalizing distress were based on their own affective and cognitive perceptions, as opposed to behaviors observed by others. This supports the correlational findings above. It also supports cluster findings by Manassis et al. (1997, 2002), where highly socially anxious children had greater depression and general anxiety levels than children with lower social anxiety levels. The revelation of the current more comprehensive distress subgroups is an interesting and notable finding, and an important step in determining whether such subgroups of anxious children exist in the population.

The question exists as to why some anxious children in this study sample endorsed more severe ratings in the six related realms, as compared to other anxious

children. Several theories have been suggested, which relate to the early signs of anxiety described earlier (i.e., temperament, insecure attachment relationships, parenting influences). First, Shaw, Keenan, Vondra, Delliquadri, and Giovannelli (1997) propose substantial evidence of a model hypothesizing that some children have a biological predisposition for more consistent activation of neuro-behavioral systems involved in negative affect and social withdrawal (i.e., a more genetic/biological vulnerability model). Second, another theory combining child and environmental factors focuses on the role of insecure child-caregiver attachment. Due to pessimistic and inconsistent caregiver attitudes toward children, which lack warmth and satisfaction of needs through regular availability, children maintain more negatively distorted cognitions (e.g., expectations of rejection by withdrawal), and sad and worried affect (Hammen & Rudolph, 1996). Although not assessed, children in this sample may have had more insecure parent-child attachment relationships. Ambivalent-resistant attachment relationships could be implied by the lack of parent-rated measures as contributors to children's membership in one of the distress subgroups, indicating less parental sensitivity and responsiveness to, and awareness of, children's distress (Hammen & Rudolph, 1996).

Third, there may have been a subset of children who were 'early starter' anxious youth (a variation of the model with antisocial youth). These children's difficulties would have stemmed from more temperamental (e.g., behavioral inhibition), family-based, emotion-regulation factors as opposed to environmental events, leading to more severe psychopathology at this latency age (Patterson, Capaldi, & Bank, 1991; Southam-Gerow et al., 2001). Fourth, children referred to clinics are not always representative of the

general population, due to referral biases (Bernstein & Borchardt, 1991). These children may have possessed additional risk factors, such as family histories of psychiatric difficulties, the experience of catastrophic events (e.g., disasters), or recent stressful life events (e.g., death in the family; Williams & Poling, 1989), which would facilitate the existence of a more distressed subgroup of children. Overall, multiple genetic, personality, relationship, parental, and environmental factors likely predisposed some children to a generally high level of self-rated internalizing distress.

Interestingly, the internalizing distress characteristic was significantly correlated with the lie scale on the RCMAS in a negative direction before treatment. This suggests that children reporting lower internalizing distress also had greater self-presentational concerns. Children in the lower distress subgroup may have minimized their levels of internalizing distress. Moreover, the higher distress subgroup of children could be more troubled, or perhaps they were just more honest in their reporting. In view of the fact that inaccuracy levels were not excessive, the distress level distinction is recognized as valid. Nevertheless, some further research is needed to determine a more comprehensive clinical picture.

Predictors of Treatment Outcome

Determination of predictors of treatment response was achieved in two ways. First, the variance in each outcome accounted for by each individual child characteristic was considered once the variance in outcome accounted for by all other child characteristics (significantly correlated with the outcome) was removed. Thus, each child characteristic of internalizing distress was examined separately within the context of the other existing distress symptoms. This was a key analysis given that many of the

characteristics of internalizing distress are correlated, and children reported several of these characteristics (Kendall et al., 2000). Second, the relationships between the internalizing distress predictors and each outcome were examined in a hierarchical fashion without taking into account the existence of the other distress characteristics (i.e., no overlapping variance). This was done to determine which child distress characteristic resulting from the first analysis was the most salient predictor of treatment outcome. Although it is relatively unlikely that children report only one of the many characteristics of internalizing distress, it is clinically and practically important to ascertain the predominant predictor of treatment response.

Results showed that several child characteristics of internalizing distress predicted treatment response, as measured by child-, mother-, and father-rated child anxiety outcome, and clinician-rated general functioning of children. As reports of child internalizing difficulties vary among different respondents (Cole, Hoffman, Tram, & Maxwell, 2000; Mesman & Koot, 2000; Silverman, 1994), treatment outcome predictors are examined separately for each group of informants[9].

Predictors of Child Reports of Child Anxiety

Overall, children's social anxiety before treatment was the most salient predictor of their treatment response. Child-rated negative self-statements and self-esteem also influenced treatment outcome. These findings partially support the second hypothesis. These results also suggest that children who report fewer pre-treatment cognitive distortions are more likely to report better treatment response (i.e., lower anxiety) from this CBT program. This is interesting as it indicates that child internalizing distress

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[9] Only results including the full-scale measures as significant predictors are discussed.

characteristics, other than pre-treatment general anxiety, are predictors of treatment response (Southam-Gerow et al., 2001).

Social anxiety. Social anxiety is one element which has been considered a risk factor for poor long-term prognosis for anxiety-disordered children, as it is consistently associated with children's severe functional impairment (e.g., poor academics, withdrawn behavior, social difficulties; Manassis, 2000). Social anxiety is not circumscribed to, nor synonymous with, social phobia. Although social anxiety is maintained by extremely high standards for performance in social situations, and socially anxious individuals tend to create negative images about their future performance which promote more anxiety (Clark & Wells, 1995), such interpersonal and performance anxiety may occur across various anxiety disorders in childhood (e.g., GAD). Social phobia consists not only of social anxiety, but also a persistent avoidance of one or more social situations (APA, 1994; Bernstein & Borchardt, 1991).

Given the social and evaluative nature of the CBT program, where children were expected to participate, interact with others they do not know well (whether it be group members or an individual therapist), and demonstrate some level of "performance" and psychological improvement, it is understandable that more socially anxious children demonstrated greater difficulty during the intervention and poorer treatment outcome as a result. Conversely, children who were able to better manage their fears of humiliation, speak in front of others, or better handle social interactions with unfamiliar people, were likely less overwhelmed, making it less difficult to learn new coping skills, and making these children more apt to benefit from this program (Manassis et al., 2002). This supports the cognitive-behavioral paradigm: Children who possessed more erroneous

cognitions about interacting with others, such as believing they would be laughed at, people would judge them and not like them (i.e., content of their cognitions focused on potential humiliation) maintained more anxious affect (Beck, 1967).

Highly socially anxious children may also not have benefited from the program as much as children with lower social anxiety levels due to the nature of the coping plan they were taught. More specifically, children selected examples themselves of anxiety-provoking situations they wanted to address with the plan throughout the program. It is likely that high socially anxious children left the most (perceived) threatening social situations as the final scenarios to tackle, thus leaving them with the least time to practice their coping strategies, and subsequently concluding the intervention with less positive treatment responses.

Although social anxiety decreased from before to after the treatment intervention, pre-treatment levels also influenced treatment response. This suggests that a supplementary intervention piece (e.g., social skills intervention, learning to talk with others; Eisen & Kearney, 1995) might be beneficial for highly socially anxious children before they begin this CBT program (as discussed further below).

Negative self-statements. The finding that children's negative self-statements predicted children's post-treatment anxiety (within the context of other characteristics of internalizing distress) supports the literature (Treadwell & Kendall, 1996; Warren, Emde, & Sroufe, 2000). Children with pre-treatment anxious and depressive cognitions may have felt like they had little control over their negative thoughts (Muris, 2002), may have been skeptical of any improvement in their internalizing distress, and not have perceived themselves as progressing as much as others in treatment. Negative self-talk consists of

negative events being magnified, consequences of positive situations being minimized, and ambiguity being perceived as threatening (Dadds & Barrett, 2001; Shortt et al., 2001a). In the treatment situation, these features may have been represented by expectations that the therapists and group members were judgmental and unavailable, leading children to view them as rejecting or even threatening (despite disconfirming evidence), and feeling anxious about this. In addition, despite true positive changes from pre- to post-treatment, children with greater levels of negative self-talk may have magnified any adverse elements of treatment and played down any of their improvements.

Although negative self-talk was a predictor of treatment response for children in the lower distress subgroup, it was not for children in the higher distress subgroup. Perhaps the distress levels of children in the high distress subgroup generated such mental chaos for them that their attempted stress management styles tended to be more concrete, such as behavioral coping (e.g., talking to others). Therefore, the ability of children in the higher distress subgroup to discuss their problems with others (i.e., support-focused coping) is what appeared to play a role in their treatment improvement.

Self-esteem. The self-esteem finding indicates that children's perceptions of low self-worth and self-acceptance (i.e., sense of self-doubt across areas of social acceptance, behavioral conduct, and global self-worth) predicted less post-treatment improvement (Messer & Beidel, 1994; Tafarodi & Swann Jr., 1995). If children maintain distorted cognitions, thinking that they do not have a sufficient number of friends, that they are not content with the way they act, or that they are simply not happy with themselves as people, it is reasonable that these ingrained beliefs hamper their hope of much

improvement in their general life circumstances and, more specifically, in a treatment situation. Such evaluations of their self-concepts in different domains help explain their thoughts, emotions, and actions (e.g., less-than-maximum improvement; Bong & Skaalvik, 2003; Guindon, 2002).

In addition to self-esteem and domain-specific positive self-attitudes, overcoming anxiety may also require some sense of self-efficacy. More specifically, children's motivation to improve in terms of facing their fears may have been influenced by their competency in doing so and their perceptions of effectiveness (Bandura, 1977). Even when controlling for children's levels of trait anxiety, self-efficacy has still been found to account for a significant proportion of variance in anxiety disorder symptoms (Muris, 2002). Although self-efficacy was not assessed in the current study, children's expectations of personal efficacy might have influenced whether they attempted to manage their fears during treatment and how much effort they expended in this endeavor (Bandura, 1997). Overall, when children maintain negative attitudes about themselves in various domains (i.e., low self-esteem), they tend to feel apprehension. This triggers a greater number of negative thoughts, and they continue to present as anxious or even depressed (Bandura, 1997; Muris, 2002).

The predictive value of self-esteem in anxiety treatment outcome (especially with lower distress children) is therefore consistent with research. Adjunctive treatment components to increase self-confidence prior to this CBT program would be advantageous for children to gain the most benefit from the intervention (as discussed further below).

Taken together, child-rated social anxiety was the best predictor of treatment response. For children in the lower distress subgroup, similar to the overall study sample, negative self-statements and self-esteem also contributed to post-anxiety ratings. For children in the higher distress subgroup, pre-treatment support-focused coping was notable in influencing treatment outcome (although this finding differed from overall sample results). These results support the importance of considering other aspects of child-rated internalizing distress, apart from anxiety disorder severity, before treatment in terms of helping to determine criteria for optimal treatment response.

Predictors of Mother Reports of Child Anxiety

Mothers' pre-treatment ratings of children's social anxiety also comprised the most salient predictor of less improvement in their ratings of children's post-treatment anxiety. This provides increased support for this child characteristic as essential to consider before this CBT intervention. It is unknown whether mothers' ratings of children's pre-treatment social anxiety or post-treatment general anxiety were based solely on children's symptoms, or whether mothers' own levels of parenting stress and psychopathology influenced their ratings, consistent with findings of Crawford and Manassis (2001). Although these parental characteristics were not considered in this study, it is important to keep in mind that mothers' greater levels of stress and psychopathology have been determined to be predictive of parental ratings of more psychopathology and less improvement in children's anxiety levels following treatment (Briggs-Gowan, Carter, & Schwab-Stone, 1996; Crawford & Manassis, 2001; Krain & Kendall, 2000). It would be valuable to consider the contributions of both mothers'

ratings of their own functioning, as well as their ratings of children's social anxiety, as predictors of children's outcome of CBT treatment.

Despite the salience of social anxiety, given the vast amount of research demonstrating the informant-specific reporting of children's anxious symptoms (Achenbach, McConaughy, & Howell, 1987), it is not surprising that post-treatment child anxiety as rated by mothers was predicted by some different child characteristics than post-treatment child anxiety as rated by children themselves. Interestingly, predictive characteristics for mothers were aspects of their children's internalizing behaviors, which may have reflected child-rated cognitive and affective distress characteristics.

Internalizing behaviors and social skills. Mothers' reports of their children's pre-treatment internalizing behaviors (i.e., acting sad or depressed, appearing lonely, having low self-esteem) predicted their reports of post-treatment child anxiety. This suggests that it was mothers' observations of visible child behaviors, possibly representing children's sad emotions and socially anxious and low competence cognitions, which related to mothers' views of their children's poorer treatment outcome. The distorted cognitions themselves (i.e., negative self-statements, low self-esteem) better predicted treatment response according to child reports. This follows from the correlational findings discussed earlier. Moreover, research has found that observable signs of child loneliness and withdrawal, rather than child mood itself, appear to discriminate highly anxious from other children according to parents (Mesman & Koot, 2000).

In essence, parents and children may be sensitive to different manifestations of certain constructs (Cole et al., 2000). Children can most often recognize their own thoughts and feelings whereas parents can either be aware of these cognitions and

emotions, or can externally view children's behavioral representations of these personal constructs. How parents understand their children's internalizing or social skills difficulties may depend on children's levels of openness in revealing their problematic feelings, parents' own distress levels, salience of various issues to parents, and parents' levels of attunement with their children's lives (Cole et al., 2000). Parents must often look for observable actions that indirectly indicate the presence of child-perceived internalizing and interpersonal difficulties (Mesman & Koot, 2000). Thus, although there is often little concordance among parent and child reports of internalizing distress (Mesman & Koot, 2000), this may simply reflect informants' attention being devoted to different aspects of such distress (Cole et al., 2000).

Gender and treatment modality. Child gender and treatment assignment also influenced mothers' ratings of post-treatment child anxiety. Mothers were likely to see their daughters as having made greater improvements in anxiety following treatment. As girls may be more likely to present with anxiety symptoms (Reynolds & Richmond, 1997; Verhulst, van der Ende, Ferdinand, & Kasius, 1997), mothers may have perceived a lower threshold of improvement for them, and rated the intervention as helpful. Mothers also felt that children assigned to individual treatment had better treatment outcome. This may have been due to a belief that the individual attention their children received was more advantageous than a group atmosphere, as therapists in the individual modality were better able to attend, and tailor examples, to children's specific problem areas and circumstances, a procedure often too time-consuming to achieve in group treatment (Manassis et al., 2002). Mothers may have been less likely to perceive the

positive mutual support from collective problem-solving which may have occurred in group treatment as advantageous (Leszcz, Yalom, & Norden, 1985).

When predictors of treatment outcome according to mothers were examined separately for children in the lower and higher distress subgroups, social anxiety ratings were again most predictive of treatment response in both subgroups. For the lower distress subgroup, maternal ratings of children's greater social skill use predicted better treatment outcome. The reason for this is unclear. Mothers may have felt that children with lower levels of internalizing distress would be better able to act socially appropriate (e.g., assertively and responsibly) and that this would assist them in treatment.

Overall, similar to child reports, mothers' reports of children's pre-treatment social anxiety were central in the prediction of their treatment outcome reports, for both higher and lower distress child subgroups. Their ratings of children's internalizing behaviors and social skills (i.e., behavioral representations of children's cognitions and affect) as influential predictors supported the hypothesis.

Predictors of Father Reports of Child Anxiety

There were no father-rated child characteristics which were significant predictors of their reports of post-treatment child anxiety. Only maternal reports of children's higher social anxiety before treatment were predictive of fathers' reports of higher post-treatment child anxiety. There are very few studies comparing mother and father reports of child internalizing disorders (Krain & Kendall, 2000), or predictors of maternal and paternal reports of child anxiety following a CBT treatment program. Other than the lower number of fathers in the study, and fathers' differing perceptions of child behavior (e.g., mothers' ratings of child behavior have been shown to significantly correlate to

teacher ratings, but fathers' ratings have not [Schaughency & Lahey, 1985], perhaps resulting from fathers' less involvement in children's lives and thus less awareness of children's difficulties), reasons for the discrepancy in predictors of treatment outcome for mothers and fathers may consist of the following.

First, the relationships between fathers and children, versus mothers and children, may differ so that views of their children are simply not the same (Krain & Kendall, 2000). For instance, it can be speculated that mothers pay more attention to psychological factors (e.g., socially anxious behaviors) than fathers. Second, it is not unusual to have correspondence among maternal and paternal ratings of child symptomatology. Yet views of their children should not always be assumed to be similar (Krain & Kendall, 2000). In the present study, there may have been a mutual influence between parents with respect to each others' responses (or at least fathers being more influenced by mothers' perceptions), especially given that 80% of couples lived together at the time of the intervention. Moreover, because fathers may have been less aware of their children's difficulties, they may have relied on mothers' judgments as to how children were doing (which is why mothers' perceptions of children's social anxiety may have predicted fathers' anxiety outcome for their children).

Third, salient predictors of treatment outcome may have been influenced by parental psychopathology. More specifically, mothers may have been increasingly sensitive to children's distress as compared to fathers, due to their own distress (e.g., depression, anxiety) or their perceptions of family stress and conflict (Crawford & Manassis, 2001; DiBartolo et al., 1998; Krain & Kendall, 2000). This could have resulted in mothers' reports of children's internalizing difficulties being more predictive of their

treatment outcome ratings. Unfortunately, parental psychopathology and family factors were not evaluated in this study.

Predictors of Clinician Reports of Child General Functioning

Social anxiety, as rated by children, mothers, or fathers, was not predictive of clinicians' post-treatment ratings of children's functioning. Rather, mothers' reports of children's greater internalizing behaviors and fewer child social skills, and child-rated external locus of control and fewer active coping strategies, predicted less improvement in children's post-treatment functioning. Clinicians also rated older children and children receiving group treatment as having poorer treatment outcome.

Behavioral predictors: Coping style, social skills, and internalizing problems. For clinicians, similar to parents, behavioral aspects of children's symptomatology appeared to be salient in predicting treatment outcome ratings. These included maternal ratings of children's use of assertion, responsibility, cooperation, and self-control skills, maternal ratings of children's internalizing problems, and children's ratings of their use of active coping techniques. As clinicians employed a behavioral method of evaluating children's functioning, these predictors seem sensible. Moreover, the role of behavioral aspects of anxiety within the cognitive-behavioral framework is supported.

Child reports of active coping strategies represented the most salient predictor of clinician post-treatment outcome reports. Children who maintained a range of internalizing difficulties (i.e., varying anxiety and distress levels), but who were still able to directly manage challenging situations through problem-solving and cognitively

restructuring problems, were considered less functionally impaired post-treatment by clinicians[10].

Child age and treatment assignment. Children's younger age predicted better outcomes in functioning. This follows from the significant negative correlation between pre-treatment CGAS ratings and children's age. Although some research suggests that older children are more proficient at understanding cognitive treatments and would show greater improvement from treatment (Krain & Kendall, 2000; Weisz & Weersing, 1998), anxiety may be less ingrained in younger children. Younger children typically maintain shorter and less chronic histories of anxious symptoms, and would consequently demonstrate superior responses to CBT treatment according to clinicians. Clinicians also favoured individual treatment as a modality in terms of predicting better post-treatment functioning (although there were no significant CGAS outcome differences by treatment modality). Clinicians' preference for individual treatment is consistent with findings from Manassis et al. (2002).

Taken together, child- and mother-rated child characteristics of internalizing distress were found to be predictive of treatment outcome according to the various informants (especially children and mothers, respectively), supporting the hypothesis. Pre-treatment social anxiety was the strongest predictor of post-treatment child anxiety according to children and mothers regardless of children's internalizing distress level. It is essential to keep in mind, however, that children rarely possess only one aspect of

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[10] It should be noted that the child-rated active coping style construct (CCSC-R) is not equivalent to the clinician-rated CGAS measure. Behaviorally-oriented descriptors of the CGAS reflect not only children's ability to manage stressful situations, but their social, academic, and family functioning, externalizing behavior, personal characteristics, and mood. Thus, the association between the measures, and prediction of one from the other, should not be attributed to similar item content.

internalizing distress; rather, they experience several distress symptoms. Furthermore, many internalizing distress predictors are informant-specific, which follows the low correlations between pre-treatment parent-rated outcome measures and child-rated distress symptoms. Accordingly, children's self-reported negative self-talk and low self-esteem levels, and mothers' ratings of children's internalizing behavior problems and social skills, also forecasted child- and parent-rated poorer treatment outcome. Somewhat unexpectedly, although consistent with the cognitive-behavioral model, children's reported use of active coping strategies was the most salient predictor of clinicians' post-treatment ratings of children's behavioral functioning. Child gender, age, and treatment assignment played limited predictive roles in treatment outcome.

Overall, if interest lies in determining the children who would be most likely to demonstrate the maximum response from this CBT treatment program, knowledge of children's self-reported and mother-reported general and social anxiety levels would be a critical step. In addition to social anxiety, consideration of children's self-reported negative self-statements, self-esteem levels, coping strategies, and parent ratings of children's social skill use would be warranted. Addressing these characteristics is extremely important in terms of benefiting the children who, in previous studies, have failed to improve with CBT treatment (Barrett, 1998; Kendall, 1994; Kendall et al., 1997).

Pre-Post Treatment Changes

Following CBT treatment, children's general anxiety, functioning levels, social anxiety, negative self-statements, sense of personal control, self-esteem, depressive

symptoms, active and avoidant coping strategies, and social skills were predicted to improve. The findings are discussed separately for child- and parent-rated measures.

Effects of Treatment on Child-rated Child Internalizing Distress

Child reports of general anxiety, social anxiety, negative self-statements, depressive symptoms, locus of control, and active coping all significantly improved from before to after treatment, supporting the hypothesis. There was a trend for children's self-esteem to improve. Children's avoidant coping strategies did not significantly decrease. The significant findings provide support for the cognitive-behavioral framework, in that identifying and modifying cognitive distortions also influenced positive changes in affective and behavioral anxiety systems, despite some of these aspects not being directly targeted by the program (Kendall, 1994; Manassis et al., 2002; Mendlowitz et al., 1999).

General anxiety. Children's self-rated physiological symptoms of anxiety were the most likely to show improvement, as compared to other anxiety realms (e.g., harm avoidance, separation). This is reasonable because a considerable portion of the CBT intervention focused on educating children to recognize physical signs of fear and worry, and teaching them relaxation strategies to address these signs of physiological arousal. Although age was correlated with children's pre-treatment anxiety ratings, children's age did not interact with treatment to influence their anxiety scores. This suggests that older and younger children did not differentially benefit from treatment.

Social anxiety. Children's social anxiety ratings may have decreased due to constant reassurance by concerned therapists or other children during treatment (Manassis et al., 2002). As the intervention was itself a social situation, consistent exposure (a critical step in CBT desensitization; Kendall et al., 1992) to the treatment

condition may have also promoted improvement of children's social avoidance and distress levels (i.e., social desensitization; Manassis et al., 2002). Moreover, as the intervention provided children with persistent praise, rather than fearful and catastrophic results, in social circumstances, children's socially anxious beliefs and fears of negative evaluation were disconfirmed. Although higher pre-treatment social anxiety influenced poorer treatment outcome (according to children and mothers), the CBT program potentially worked to reduce children's social distress and worries regarding interactions with, and negative evaluations from, peers.

Negative self-statements and depression. The reduction of anxious self-talk was one objective of the CBT treatment program, with children learning to identify, challenge, and replace anxious self-statements with more realistic and adaptive ones. The modification of erroneous cognitive appraisals was thus seemingly achieved. Addressing anxious cognitive distortions may also have generalized to children's success in positively modifying their patterns of not only anxious, but also depressive, self-statements, consequently diminishing their reports of depressive symptoms (CDI; Treadwell & Kendall, 1996). Furthermore, as a principal aim of the program was to help children learn to approach and appropriately manage feared situations ("face your fears") and master their anxiety, children's levels of helplessness and hopelessness (aspects of depression; Beck, Rush, Shaw, & Emery, 1979) may have consequently decreased. This may also have contributed to the trend for self-esteem levels to increase from pre- to post-treatment. Although depressive and anxious maladaptive cognitions differ in terms of form and content (Kendall & Ingram, 1987), some cognitive operational dysfunctions (e.g., heightened self-focused attention) are common across both disorders (Kendall &

Ingram, 1989). Since cognitive factors are involved in the maintenance of anxiety and depression, cognitive-behavioral therapy targeting cognitive factors specific to anxiety may have generalized to reducing symptoms of depression (Clark & Beck, 1999). Moreover, according to the tripartite model of anxiety and depression, emphasizing a common negative affectivity, treatment interventions targeting one of the disorders tends to result in improvements in both disorders (Clark & Watson, 1991; Kendall, 1994; Treadwell & Kendall, 1996).

Locus of control. Children's locus of control became more internal from before to after treatment, which is a hypothesis that has rarely been examined. It is difficult to know if changes in children's locus of control ratings were influenced by less restrictive parental control at home, as a result of parents' own treatment, as this was not evaluated. Parents of anxious children tend to be more controlling and less autonomy-granting that parents of non-anxious children (Dumas et al., 1995). Although they became more internal from pre- to post-intervention, younger children's locus of control scores were more external than those of older children before and after treatment. However, younger children's anxiety levels were not higher than those of older children post-treatment. Thus, younger children may have learned that they are not necessarily able to personally control all aspects of their environments (which is somewhat realistic due to their age), but that there are active coping strategies they can employ to decrease anxiety surrounding little personal control.

Coping. The significant increase in children's reported active coping was not unexpected given that learning to approach anxiety-inducing situations was a central theme of the treatment intervention. The use of distracting coping strategies also

significantly increased, possibly due to children learning that, in the short-term, it helped

decrease the encoding of anxiety-provoking stimuli and information, decreasing their

anxiety while facing their fears (Antony, McCabe, Leeuw, Sano, & Swinson, 2001). The

lack of significant pre-post treatment changes in avoidant and support-focused coping

strategies may have been due to the intervention's greater emphasis on enhancing coping

self-talk, rather than focusing on other less adaptive coping approaches. In addition,

within the cognitive-behavioral approach, some cognitions, emotions, and behaviors may

first reveal significant improvement (possibly as a result of the treatment program), with

other behavioral changes (e.g., decreases in avoidant coping behavior, improvements in

social skills) expected to subsequently follow (Beck, 1967).

High versus low child distress level subgroups. Children in the higher distress

subgroup endorsed greater levels of general anxiety, depression, negative self-talk, social

anxiety, more external locus of control, and lower self-esteem both before and after

treatment as compared to the lower distress group (as well as greater levels of avoidant

coping strategies afterward). Distress level, however, did not interact with treatment. This

suggests, positively, that there were no changes from before to after treatment related to

child distress level, and that all children benefited relatively similarly from the CBT

treatment program. However, the significant finding of a main effect of distress level,

based on child reports, signifies a fairly stable attribute of greater or lesser internalizing

difficulties in subsets of anxious children. On a micro-level, this result supports related

research that internalizing distress and problem behaviors are often developmentally

stable (Campbell & Ewing, 1990; Egeland, Pianta, & Ogawa, 1996; Lavigne et al., 1998;

Mesman & Koot, 2001).

Children in the higher distress subgroup, however, may therefore benefit from some additional interventions to attempt to reduce their overall higher levels of internalizing distress. Depending on their major area of difficulty, this could include social skills interventions (i.e., modeling of appropriate social behavior, instructing how to behave with peers, role-plays and rehearsal of social interactions, corrective feedback and reinforcement), medication, additional sessions spent on cognitive restructuring, or supplementary desensitization exercises (i.e., gradual exposure to feared stimuli through a fear hierarchy; Ginsburg, Silverman, & Kurtines, 1995; La Greca & Fetter, 1995; Walkup et al., 2001).

Overall, child-rated improvements from before to after treatment were common across numerous child characteristics of internalizing distress, over and above the targeted anxiety outcome variable. This supports the hypothesis, as well as the cognitive-behavioral paradigm indicating that positive changes in cognitions relate to positive changes in affect and behavior, potentially as a result of CBT.

Effects of Treatment on Parent- and Clinician-rated Child Internalizing Distress

Mothers' ratings of child anxiety and clinicians' ratings of child general functioning improved significantly following treatment. Fathers' ratings of children's anxiety did not significantly decrease (although a decreasing trend was shown). Fathers' ratings of children's anxiety were significantly lower than mothers' ratings before treatment so it is not unexpected that mothers' ratings decreased more. Children's age and treatment assignment (to the group or individual modality) did not impact these findings. Parents reported significantly greater anxiety levels in their children than their children self-reported both before and after treatment (for the lower distress subgroup of

children). This is not terribly surprising given that parents who bring children in for anxiety treatment are more likely to report anxiety symptoms (i.e., bias in a treatment-seeking sample; DiBartolo et al., 1998; Krain & Kendall, 2000). Anxious children rarely self-initiate treatment and are likely to report fewer distress symptoms than their parents (Beidel & Turner, 1998). Nevertheless, it remains unclear if any parent-related factors may have contributed to parents' reports of higher child anxiety, since parenting and family characteristics were not assessed. In the study by Crawford and Manassis (2001), however, parental reports of more family dysfunction and mothers' greater parenting stress levels predicted less mother-rated perceived improvement in children's anxiety. Therefore, such characteristics may have also influenced parents' higher pre-treatment reports of child anxiety.

Fathers' ratings of their children's social anxiety and problem behaviors significantly decreased following treatment, as did mothers' ratings of children's internalizing, externalizing, and hyperactive behaviors. This suggests some parental awareness of children's behavioral struggles, and perceived improvements with these struggles (Mesman & Koot, 2000). Mothers and fathers, however, reported improvements in different realms of child symptomatology. Although mothers' reported children's general anxiety (MASC) as decreasing from pre- to post-treatment, they may not have perceived children's social anxiety (SASC-R) as significantly decreasing due to their own (social) anxiety (i.e., psychopathology, which may not have been addressed in the parent treatment component). Moreover, mothers may have been sensitive to children's social anxiety expressed in situations involving other adults, which may not have improved as much as their social behavior with peers (DiBartolo et al., 1998).

Fathers may have had fewer psychiatric symptoms themselves (e.g., anxiety, depression), so they perceived improvement in children's social anxiety (as did children themselves), rather than possibly being biased by their own social fears (like mothers). How mothers and fathers perceive and understand their children's difficulties may be influenced by children's relationships with their parents (e.g., openness, self-presentational concerns), parents' own distress levels, and the importance of various behaviors to parents (Cole et al., 2000).

Contrary to the hypothesis, children's social skills did not ameliorate, as reported by parents. As alluded to earlier, this may have resulted from parents' low awareness of changes in this realm due to little opportunity to observe children applying skills in peer interactions (Mesman & Koot, 2001). As children (and teachers) did not complete a social skills measure, it is unknown whether their ratings would have been similar to those of parents. As children begin to apply new adaptive cognitions, and feel less anxious, their social skills (i.e., behavior) might be expected to similarly improve (Beck, 1967). Follow-up data would be valuable in this regard.

In summary, child-rated characteristics of internalizing distress, above and beyond targeted anxiety, showed positive changes from before to after treatment. This supports related research in the area of child internalizing disorders (Spence et al., 2000; Treadwell & Kendall, 1996; Vostanis et al., 1996; Wood et al., 1996) and points to the potentially broad impact of this particular CBT program. Mothers and clinicians viewed the program as successful in terms of treatment outcome (e.g., general anxiety, child functioning), and fathers also reported noticeable improvements in children's social anxiety and problem behaviors.

Limitations and Future Research Directions

The present study was limited by sample size constraints, relatively lower participation of fathers, and implementation only in a hospital setting. Studies of more culturally and economically (e.g., lower socio-economic status) diverse samples would be beneficial. Although the inclusion of multiple raters was advantageous, this study demonstrated only fair correspondence among informants on measures, and several measures were not rated by more than one group of informants, making it challenging to integrate the findings. Although psychiatric disorders, especially anxiety disorders, are often considered rater-specific phenomena (Offord et al., 1996), future research would benefit from determining a method of merging reports from different raters or interpreting the dissimilar reports in detail (Crawford & Manassis, 2001).

Although several questionnaires and clinical interviews were used in this study, qualitative data and observations were absent. The latter may have reduced effects of children's social desirability (although self-presentational concerns were not extreme) and have provided more extensive, and possibly diverse, results. Future research might also incorporate children's self-reports of social skills (e.g., the student form of the SSRS, or the Matson Evaluation of Social Skills with Youngsters [Matson et al., 1983]). Parents' observations of children's social skills may not have adequately captured the cognitive and affective processes of change children undergo during treatment. Teacher ratings, especially of child social skills and social anxiety, are critical, given the situational specificity of social behavior (Gresham & Elliott, 1990). Peer perspectives of children's social functioning (if possible), and the importance of the therapeutic relationship in influencing treatment results are also areas to be considered (Kendall,

1991; La Greca & Fetter, 1995). Finally, the present study took into account clinician reports of children's functional impairment levels. Change following the intervention that returns distressed or disordered participants to within normative limits (i.e., in terms of no anxiety disorder diagnoses; Kendall & Flannery-Schroeder, 1998; Kendall & Grove, 1988; Shortt et al., 2001), would be valuable to assess.

It would also be valuable to apply this particular treatment intervention with a greater number of socially phobic or separation anxious children, or more children with comorbid diagnoses of depression. This would help determine whether depressive symptoms are indeed more correlated with social phobia and separation anxiety (Bernstein, 1991; Kovacs et al., 1989; Manassis & Menna, 1999). Moreover, the tripartite model of depression and anxiety (Clark & Watson, 1991) could be explored by comparing highly anxious to highly depressed children on measures of positive affect, physiological arousal, and other internalizing distress symptoms. A subsequent step would also be to examine the changes from pre- to post-treatment for children of different cultures and socio-economic statuses, and to investigate whether anxiety diagnoses and predictors of treatment outcome differ across cultures and SES levels.

Given the cross-sectional nature of the study and the lack of a control condition, the current research design allowed only cautious inferences about causality. The direction of effects for various child characteristics of distress (e.g., does external locus of control lead to or result from anxiety and depression) needs some further clarification. Long-term follow-up of families, therefore, is suggested, especially to determine the existence of any positive behavioral changes which did not occur immediately after treatment but which may have developed over time (e.g., increased use of appropriate

social skills, less avoidant coping strategies; Kendall & Southam-Gerow, 1996) and to

see whether any positive changes following treatment wore off. Moreover, it would be

beneficial to investigate the long-term effects of parental involvement in CBT treatment

for childhood anxiety disorders (Barrett et al., 2001).

Recent findings have demonstrated that factors external to children's individual

characteristics relate to treatment outcome (e.g., family functioning, parental stress;

Crawford & Manassis, 2001; Shortt et al., 2001). Contrasting research, however, has

determined that family circumstances and parenting characteristics do not contribute to

children's psychopathology once child characteristics are accounted for (Mesman &

Koot, 2001). Research examining concurrent contributions of both child and family

characteristics to treatment outcome is warranted in order to better understand influences

on children's response to CBT treatment. If, for instance, family characteristics were

found to relate to children's external locus of control (Chorpita et al., 1998), even after

taking into account child anxiety, it would be valuable to specifically target issues of

parental control in the parental treatment component. Intervention approaches could

include examining parents' barriers to transferring control to their children, targeting

their own anxious symptoms, and trying to decrease parents' enhancement of children's

lack of control and avoidant coping styles by having therapists transfer coping skills to

children while parents serve as mediators (Barrett et al., 1996; Ginsburg et al., 1995).

This would be especially important for young children, who maintained more external

loci of control.

Typically, the lack of a control group would make it difficult to ascertain whether

children's internalizing distress may have improved overall without treatment. However,

because numerous studies have found that wait-list control groups rarely serve to improve anxiety (Barrett, 1998; Mendlowitz et al., 1999), and because this CBT treatment program has previously been shown to be significantly more effective than a wait-list condition with other samples of children for a number of constructs assessed in the present study (e.g., MASC anxiety, CGAS behavioral functioning, CDI depression, CCSC-R coping, SASC-R social anxiety; Crawford & Manassis, 2001; Manassis et al., 2002; Mendlowitz et al., 1999), this issue was not considered a study shortcoming for these measures. Nevertheless, other explanations (e.g., maturation, spontaneous remission) cannot be fully dismissed regarding improvements from pre- to post-treatment for other variables (e.g., locus of control, negative self-statements, self-esteem) in this study. (Although longitudinal epidemiological data suggest that anxiety and internalizing difficulties rarely go away without treatment. Anxious children often develop into anxious adults [Barrett et al., 2001; Kendall & Southam-Gerow, 1996]). Nevertheless, a placebo control condition (Silverman et al., 1999) would be required to make statements regarding treatment effects in this study, and would also make it possible to compare CBT-treated versus non-CBT treated children at long-term follow-up.

Theoretical and Clinical Implications

The present findings are extremely informative in terms of being able to support the cognitive-behavioral theoretical framework (see Figure 1, p. 12). Interrelatedness among measures of cognitive distortions, anxious affect, and maladaptive behaviors were established and pointed to a general internalizing distress factor. Moreover, anxious children clustered into two subgroups, representing children with higher and lower levels of this internalizing distress both before and after treatment. Pre-treatment child

characteristics of internalizing distress predictive of treatment outcome were determined, and various targeted and non-targeted affective, cognitive, and behavioral aspects of internalizing distress (e.g., self-esteem, negative self-statements, social anxiety, locus of control, depressive symptoms, active coping) improved from before to after treatment.

Given the predictor (regression) results, children who are at greater risk of less improvement following this CBT program can be identified before treatment by examining their pre-treatment social anxiety levels (as well as other cognitive characteristics which significantly predicted treatment response). Adjunctive components to, or tailoring of, the treatment intervention are then warranted (Southam-Gerow et al., 2001). Customizing the program given children's varying levels of pre-treatment social anxiety, negative self-talk, or self-esteem is suggested. For instance, highly socially anxious children would benefit from pre-treatment social skills training or several pre-intervention sessions to accustom them to treatment situations and decrease their fears of evaluation and negative consequences of social interactions (Eisen & Kearney, 1995). Children with low self-esteem may benefit from restructuring of their erroneous cognitions regarding low self-efficacy and underestimated competence. This could include techniques such as "What's the evidence?" (i.e., analyzing faulty logic through hypothesis testing; Beck, 1976) and "What's another way of looking at it?" (i.e., generating alternative interpretations of self-views; Beck, 1976). Higher distress children with more severe reports of depression, anxiety, external locus of control, and negative self-talk ratings might also be well-served by some provision of mood regulation strategies and longer term support (Last et al., 1987; Manassis et al., 2002). Although not all specific child socio-emotional difficulties can be addressed prior to treatment,

attending to some of the known characteristics within the context of the current

intervention would help enhance the effectiveness of this already beneficial program, and

permit a greater number of children to be included in, and assisted by, the intervention.

Tailoring the present intervention would be valuable in a number of other areas.

First, given the focus of CBT on verbal ways of thinking, it would be interesting to adapt

this program to children with verbal or intellectual limitations (Manassis et al., 2002), as

well as to children at different developmental stages (e.g., ages) whose anxiety may be

less well-established or whose fears may be more concrete or abstract (Fonseca, Yule, &

Erol, 1994). Second, given the positive treatment effects on children's active coping, but

less change in other coping techniques, increased consideration could be given to

learning to decrease avoidance. In relation, investigation of the contributing factors to the

development of coping strategies would be advantageous (Manassis et al., 1997). Third,

in order to reduce social desirability effects, supplementary efforts could be made to help

anxious children in treatment not "fake good" (Shortt et al., 2001). This could be done,

for example, by using the cognitive-behavioral technique of "So what if it happens?"

(i.e., asking children to imagine the worse consequences of clinicians, parents, or peers

recognizing their difficulties; Beck, 1976), working on modifying their cognitive

distortions, and using more projective assessment techniques.

In addition, it would be interesting to consider the use of anxiety management

training (AMT) as the principal component of the intervention (as is often done with

adult anxious clients; Suinn & Richardson, 1971), and then include a more specific social

anxiety focus with respect to the cognitive and behavioral elements for highly socially

anxious children. The premise of AMT is that clients learn to respond to anxiety

symptoms with relaxation, leading to the development of a new self-managing coping pattern (Suinn, 1995). More tailored sessions, involving cognitive restructuring and exposure to perceived threatening stimuli, could then be included targeting social, performance, or separation fears depending on child diagnosis.

With improvements in this study from pre- to post-treatment in a tertiary care setting with children identified as clinically anxious, this provides a framework for preventive efforts. More specifically, the current intervention could be applied as a school-based program, aiming to decrease children's anxiety and negative self-statements, and improving their self-esteem, interpersonal comfort and skills, and coping behaviors in stressful circumstances. This would increase children's (both "normal" and those at risk for anxiety) affective, cognitive, and behavioral resources for managing anxiety-provoking situations (Hughes, 1988).

Lastly, further studies are required to replicate the current results, in particular with respect to the exploratory cluster analysis procedure, using samples stratified by distress level (i.e., high versus low) and randomized within those groups. Moreover, with study replication including a placebo control condition, results would then be increasingly generalizable to latency-aged children similar to this sample. Specific attention ought to be paid to children at higher risk of mood disorders as well as program customization or adjunct treatment for these children. Increased attention to the processes of change in a CBT treatment program is also justified (Treadwell & Kendall, 1996). In particular, it would be interesting to investigate whether the mechanisms of all affective and behavioral change for children are truly cognitive, or whether behaviors must also

change in order for conscious thoughts and anxious affect to be modified in anxious

children (Wessler, 1987).

Final Comments

The current study built on the cognitive-behavioral framework by investigating

whether subgroups of children with differing internalizing distress levels existed in the

sample, whether difficulty in one of the anxiety systems prior to a CBT intervention

predicted response to treatment as rated by several groups of informants, and whether

targeting anxious children's cognitions related to improvements in other affective,

cognitive, and behavioral systems from before to after treatment.

The current findings represent exciting steps by supporting a general internalizing

distress factor among anxious children and demonstrating that anxious children differ in

their reported extent of this distress. Children's higher social anxiety levels also predicted

lower levels of child- and parent-rated treatment response. There were significant

improvements in several child characteristics from pre- to post-treatment. However,

although children in both distress subgroups improved in this regard, children in the

higher distress subgroup remained at a higher distress level in a number of areas (e.g.,

higher depression and social anxiety levels, lower self-esteem). Therefore, findings point

to the value of adding elements to the intervention (e.g., booster sessions, specific

adjunctive treatment components) to help these children approach a more satisfactory

level of post-treatment functioning.

The present research represents one of the few studies to examine these multiple

aspects of a CBT treatment program. That predictability of treatment outcome was

determined by child characteristics of internalizing distress, and that cognitive, affective,

and behavioral systems of anxiety improved from before to after treatment, suggest that further investigation into pre-treatment factors, processes of change during treatment, and component analyses of the treatment intervention (i.e., elements responsible for program success) is warranted.

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APPENDIX A

Non-copyrighted Assessment Measures Used in the Study

Rate the subject's most impaired level of general functioning for the specified time period by selecting the *lowest* level which describes his/her functioning on a hypothetical continuum of health-illness. Use intermediary levels (eg. 35, 58, 62).

Rate actual functioning regardless of treatment or prognosis. The examples of behavior provided are only illustrative and are not required for a particular rating.

Specified Time Period: 1 month

100-91 *Superior functioning* in all areas (at home, at school, and with peers); involved in a wide range of activities and has many interests (eg. has hobbies or participates in extracurricular activities or belongs to an organized group such as Scouts, etc); likeable, confident; "everyday" worries never get out of hand; doing well in school; no symptoms

90-81 *Good functioning* in all areas; secure in family, school, and with peers; there may be transient difficulties and "everyday" worries that occasionally get out of hand (eg. mild anxiety associated with an important exam, occasionally "blowups" with siblings, parents, or peers)

80-71 No more than *slight impairment in functioning* at home, at school, or with peers; some disturbance of behavior or emotional distress may be present in response to life stresses (eg. parental separations, deaths, birth of a sib), but these are brief and interference with functioning is transient; such children are only minimally disturbing to others and are not considered deviant by those who know them

70-61 Some *difficulty in a single area, but generally functioning pretty well* (eg. sporadic or isolated antisocial acts, such as occasionally playing hooky or petty theft; consistent minor difficulties with school work; mood changes of brief duration; fears and anxieties which do not lead to gross avoidance behavior; self-doubts); has some meaningful interpersonal relationships; most people who do not know the child well would not consider him/her deviant but those who do know him/he well might express concern

60-51 *Variable functioning with sporadic difficulties or symptoms in several but not all social areas;* disturbance would be apparent to those who encounter the child in a dysfunctional setting or time but not to those who see the child in other settings

50-41 *Moderate degree of interference in functioning in most social areas or severe impairment of functioning in one area,* such as might result from, for example, suicidal preoccupations and ruminations, school refusal and other forms of anxiety, obsessive rituals, major conversion symptoms, frequent anxiety attacks, poor or inappropriate school skills, frequent episodes of aggressive or other antisocial behavior with some preservation of meaningful social relationships

40-31 *Major impairment in functioning* in several areas and unable to function in one of these areas, i.e., disturbed at home, at school, with peers, or in society at large, eg. persistent aggression without clear instigation; markedly withdrawn and isolated behavior due to either mood or thought disturbance, suicidal attempts with clear lethal intent; such children are likely to require special schooling and/or hospitalization or withdrawal from school (but this is not a sufficient criterion for inclusion in this category)

30-21 *Unable to function in almost all areas,* eg. stays at home, in ward, or in bed all day without taking part in social activities or severe impairment in reality testing or serious impairment in communication (eg. sometimes incoherent or inappropriate)

20-11 Needs *considerable supervision* to prevent hurting others or self (eg. frequently violent, repeated suicide attempts) or to maintain personal hygiene or gross impairment in all forms of communication, eg. severe abnormalities in verbal and gestural communication, marked social aloofness, stupor, etc

10-1 *Needs constant supervision* (24 hour care) due to severely aggressive or self-destructive behavior or gross impairment in reality testing, communication, cognition, affect, or personal hygiene

* The Children's Global Assessment Scale was adapted from the Global Assessment Scale for adults.

NASSQ-1

Listed below are some thoughts that sometimes pop into children's heads. Please read each thought and mark how often, if at all, the thoughts came into your mind **over the past week**. Please read each item carefully then circle your answer on the sheet in the following way:

1= not at all, 2=sometimes, 3=fairly often, 4=often, 5=all the time

		Not at All	Sometimes	Fairly Often	Often	All the Time
1.	I thought my world was coming to an end	1	2	3	4	5
2.	I thought I would fail	1	2	3	4	5
3.	I feel like I am going to die	1	2	3	4	5
4.	I usually do something stupid	1	2	3	4	5
5.	I can't do anything right	1	2	3	4	5
6.	I felt weak, like I was going to faint	1	2	3	4	5
7.	I am very nervous	1	2	3	4	5
8.	Life is terrible	1	2	3	4	5
9.	I feel like something is dying inside of me	1	2	3	4	5
10.	I feel like my heart is in my throat	1	2	3	4	5
11.	What's wrong with me?	1	2	3	4	5
12	Nobody cares anymore	1	2	3	4	5
13.	I was afraid I would make a fool of myself	1	2	3	4	5
14.	I am not as good as my parents want me to be	1	2	3	4	5

SASC-R

For each of the sentences below, tell how much each one describes HOW YOU FEEL.
This is not a test, there are no right answers. Please answer each as honestly as you can.

Use these numbers to show HOW YOU FEEL something is true for you:
1 = Not at all   2 = Hardly Ever   3 = Sometimes   4 = Most of the Time   5 = All the Time

Now let's try these sentences first. How much does each describe how you feel?

       a) I like summer vacation...... 1 2 3 4 5
       b) I like to eat spinach.......... 1 2 3 4 5

1.	I worry about doing something new in front of other kids............	1 2 3 4 5
2.	I like to play with other kids...	1 2 3 4 5
3.	I worry about being teased...	1 2 3 4 5
4.	I feel shy around kids I don't know....................................	1 2 3 4 5
5.	I'm afraid that other kids will not like me...........................	1 2 3 4 5
6.	I feel that other kids talk about me behind my back...............	1 2 3 4 5
7.	I like to read...	1 2 3 4 5
8.	I worry about what other kids think of me...........................	1 2 3 4 5
9.	I only talk to kids that I know really well............................	1 2 3 4 5
10.	I get nervous when I talk to kids I don't know very well............	1 2 3 4 5
11.	I like to play sports...	1 2 3 4 5
12.	I worry about what other kids say about me..........................	1 2 3 4 5
13.	I get nervous when I talk to new kids..................................	1 2 3 4 5
14.	I worry that other kids don't like me...................................	1 2 3 4 5
15.	I'm quiet when I'm with a group of kids...............................	1 2 3 4 5
16.	I like to play by myself..	1 2 3 4 5
17.	I feel that other kids are making fun of me............................	1 2 3 4 5
18.	If I get into an argument with another kid, I worry that he or she won't like me...	1 2 3 4 5
19.	I'm afraid to invite other kids to the house because they might say no...	1 2 3 4 5
20.	I feel nervous when I'm around certain kids..........................	1 2 3 4 5
21.	I feel shy even with kids I knows well.................................	1 2 3 4 5
22.	It's hard for me to ask other kids to play with me...................	1 2 3 4 5

NSLOC

QUESTIONS ABOUT YOURSELF

Please answer the following questions by checking either "Yes" or "No"

1. Do you believe that most problems will solve themselves if you just don't fool with them? YES ☐ NO ☐

2. Do you believe that you can stop yourself from catching a cold? YES ☐ NO ☐

3. Are some kids just born lucky? YES ☐ NO ☐

4. Most of the time do you feel that getting good grades means a great deal to you? YES ☐ NO ☐

5. Are you often blamed for things that just aren't your fault? YES ☐ NO ☐

6. Do you believe that if somebody studies hard enough he or she can pass any subject? YES ☐ NO ☐

7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway? YES ☐ NO ☐

8. Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do? YES ☐ NO ☐

9. Do you feel that most of the time parents listen to what their children have to say? YES ☐ NO ☐

10. Do you believe that wishing can make good things happen? YES ☐ NO ☐

11. When you get punished, does it usually seem it's for no good reason at all? YES ☐ NO ☐

12. Most of the time do you find it hard to change a friend's (mind) opinion? YES ☐ NO ☐

13. Do you think that cheering more than luck helps a team to win? YES ☐ NO ☐

14. Do you feel that it's nearly impossible to change your parents' mind about anything? YES ☐ NO ☐

15. Do you believe that your parents should allow you to make most of your own decisions? YES ☐ NO ☐

16. Do you feel that when you do something wrong there's very little you can do to make it right? YES ☐ NO ☐

17. Do you believe that most kids are just born good at sports?

18. Are most of the other kids your age stronger than you are?   YES ▢   NO ▢

19. Do you feel that one of the best ways to handle most problems is just not to think about them?   YES ▢   NO ▢

20. Do you feel that you have a lot of choice in deciding who your friends are?   YES ▢   NO ▢

21. If you find a four-leaf clover, do you believe that it might bring you good luck?   YES ▢   NO ▢

22. Do you often feel that whether you do your homework has much to do with what kind of grades you get?   YES ▢   NO ▢

23. Do you feel that when a kid your age decides to hit you, there's little you can do to stop him or her?   YES ▢   NO ▢

24. Have you ever had a good luck charm?   YES ▢   NO ▢

25. Do you believe that whether or not people like you depends on how you act?   YES ▢   NO ▢

26. Will your parents usually help you if you ask them to?   YES ▢   NO ▢

27. Have you felt that when people were mean to you it was usually for no reason at all?   YES ▢   NO ▢

28. Most of the time, do you feel that you can change what might happen tomorrow by what you do today?   YES ▢   NO ▢

29. Do you believe that when bad things are going to happen, they just are going to happen no matter what you try to do to stop them?   YES ▢   NO ▢

30. Do you think that kids can get their own way if they just keep trying?   YES ▢   NO ▢

31. Most of the time do you find it useless to try to get your own way at home?   YES ▢   NO ▢

32. Do you feel that when good things happen they happen because of hard work?   YES ▢   NO ▢

33. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?   YES ▢   NO ▢

34. Do you feel that it's easy to get friends to do what you want them to?   YES ▢   NO ▢

35. Do you usually feel that you have little to say about what you get to eat at home?   YES ▢   NO ▢

36. Do you feel that when someone doesn't like you there's little you can do about it?   YES ☐   NO ☐

37. Do you usually feel that it's almost useless to try in school because most other children are just plain smarter than you are?   YES ☐   NO ☐

38. Are you the kind of person who believes that planning ahead makes things turn out better?   YES ☐   NO ☐

39. Most of the time do you feel that you have little to say about what your family decides to do?   YES ☐   NO ☐

40. Do you think it's better to be smart than to be lucky?   YES ☐   NO ☐

Subject ID: _____

CHILDREN'S COPING STRATEGIES CHECKLIST-REVISED (CCSC-R)

When faced with a problem, kids do different things in order to solve the problem or to make themselves feel better.

Below is a list of things kids may do when faced with a problem. For each item **circle the response that best describes how often you do the behaviour when you have a problem.** There are no right or wrong answers, just say how often **you** do each thing in order to solve the problem or to make yourself feel better.

WHEN I HAVE A PROBLEM, I _____

1. Listen to music.
Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

2. Think about what I could do before I do something.
Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

3. Write down my feelings.
Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

4. Do something to make things better.
Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

5. Try to notice or think about only the good things in life.
Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

6. Go bicycle riding.
Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

7. Try to stay away from the problem.
Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

8. Try to put it out of my mind.
Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

9. Figure out what I can do by talking with one of my friends.
Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

WHEN I HAVE A PROBLEM, I _____

10. Think about why it has happened.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

11. Think about what would happen before I decide what to do.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

12. Try to make things better by changing what I do.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

13. Talk about how I am feeling with my mother or father.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

14. Tell myself it will be over in a short time.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

15. Play sports.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

16. Talk about how I am feeling with some adult who is not in my family.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

17. Ask God to help me understand it.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

18. Cry by myself.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

19. Go walking.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

20. Imagine how I'd like things to be.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

21. Talk to my brother or sister about how to make things better.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

WHEN I HAVE A PROBLEM, I _____

22. Try to understand it better by thinking more about it.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

23. Read a book or magazine.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

24. Try to stay away from things that make me feel upset.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

25. Try to solve the problem by talking with my mother or father.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

26. Think about what I can learn from the problem.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

27. Let out feelings to my pet or stuffed animal.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

28. Think about which things are best to do to handle the problem.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

29. Talk with my brother or sister about my feelings.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

30. Wait and hope that things will get better.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

31. Think about what I need to know so I can solve the problem.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

32. Go skateboard or roller skating.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

33. Talk with one of my friends about my feelings.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

WHEN I HAVE A PROBLEM, I _____

34. Watch TV.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

35. Avoid the people that make me feel bad.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

36. Do something to solve the problem.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

37. Remind myself that things could be worse.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

38. Do some exercise.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

39. Try to figure out what I can do by talking to an adult who is not in my family.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

40. Avoid it by going to my room.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

41. Try to figure out why things like this happen.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

42. Wish that things were better.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

43. Tell myself it's not worth getting upset about.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

44. Do something like video games or a hobby.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

45. Do something in order to get something good out of it.
    Never   Sometimes   Often   Most of the time
    (1)   (2)   (3)   (4)

WHEN I HAVE A PROBLEM, I _____

46. Blame other people.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

47. Accept the situation the way it is.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

48. Blame myself for what happened.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

49. Do something bad or cause trouble.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

50. Get angry with myself.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

51. Get angry with the people who caused the problem.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

52. Talk to someone who might understand feelings.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

53. Stay by myself away from others.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

54. Do something to get even.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

55. Talk to someone who can help make the situation better.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

56. Let off steam by hitting my pillow or bed.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

57. Feel there's nothing I can do.

Never	Sometimes	Often	Most of the time
(1)	(2)	(3)	(4)

APPENDIX B

Psychometric Properties of Assessment Measures Used in the Study

Appendix B

Psychometric Properties of Assessment Measures Used in the Study

MASC

The psychometric properties of the MASC are strong. The four scales have been found to be invariant across gender and age, and demonstrate high internal reliability, with internal reliability coefficients of .60-.81 (March, 1997). The factorial, discriminant, and convergent validities of the MASC have been supported using a normative sample of 2,698 children and adolescents. In particular, the MASC has a scale structure that makes empirical and conceptual sense as demonstrated by its factor structure and intercorrelations between subscales (similar for different ages and genders). It discriminates between anxious and non-anxious groups of children (kappa = 0.74), and correlates with measures assumed to measure the same construct (e.g., RCMAS; March, 1997). Moderate to high correlations were found between the MASC and RCMAS on the physiological symptoms scale (.71) and social anxiety scale (.55), whereas low correlations were determined with the harm avoidance (.13) and separation/panic (.43) scales. The latter findings are to be expected given little symptom overlap between the MASC and RCMAS on these dimensions. Moreover, a subset of the normative group completed the MASC and a short version of the Children's Depression Inventory (Kovacs, 1982). Moderate correlations were found between the MASC physical symptoms scale and the CDI-S (.35-.50), while the other MASC scales had much lower correlations with the depression scale (.06-.39; March, 1997).

CGAS

Psychometric properties of this measure are strong. Interrater reliability using the CGAS, as measured by ratings of nineteen case histories by five child psychiatry fellows, showed an intraclass correlation coefficient of .84 (i.e., excellent agreement). Test-retest stability, as assessed by each rater's judgment once and then six months later, were represented by intraclass coefficiencies between .69-.95 (with four out of five above .87). Discriminant validity has also been demonstrated by the CGAS, with the mean CGAS score for outpatient children with externalizing disorders being 65.4, and 46.0 for inpatients with a variety of diagnoses. This difference was significant at the p<.001 level, suggesting that the CGAS instrument is sensitive to differences in levels of impairment between inpatients and outpatients (Shaffer et al., 1983). Finally, concurrent validity is also strong as indicated by the low correlation (r=.25) between the CGAS and the Conners ten-item Abbreviated Parent Checklist (measuring hyperactivity; Goyette, Conners, & Ulrich, 1978). This indicates that they tap different domains (Shaffer et al., 1983).

CDI

The CDI has acceptable test-retest reliability and discriminant validity. Numerous studies have determined test-retest reliability coefficients between .38-.87 over time periods from one week to one year (Kovacs, 1992). The CDI also discriminates youth with major depressive or dysthymic disorders from those with other psychiatric conditions (e.g., adjustment disorder with depressed mood) or "normal" school children (Kovacs, 1992) and is sensitive to changes in depression over time. The concurrent

validity of the CDI is also well-documented (Kovacs, 1992), with children who score

high on the CDI also having high anxiety levels.

SPPC

Psychometric properties of the SPPC are good. For instance, Cronbach's alphas,

representing subscale internal consistency reliabilities, have been shown to be between

.71-.86 for four samples of third to eighth grade children (over 1,500 children; Harter,

1985). Evidence of construct validity (convergent validity) is demonstrated by the

correlations among subscales. For instance, Scholastic Competence and Behavioral

Conduct show moderate correlations (.29-.58), indicating that children who feel they are

good at schoolwork report that they are well-behaved (Harter, 1985). Moreover, the

subscales of Social Acceptance, Athletic Competence, and Physical Appearance are also

moderately related (.29-.51). The latter two competence areas may promote greater

popularity and social acceptance among peers. A factor analysis reveals strong support

for each of the separate dimensions, with the factor loadings ranging from r=.28 to r=.82

(Harter, 1985). Compared to other measures of self-esteem, it is argued that the SPPC

represents the best in self-esteem assessment, based on its reliability and validity (Bogan,

1988).

NSLOC

There is support for the reliability and construct validity of this measure (Nowicki

& Strickland, 1973). Test-retest reliabilities sampled at three grade levels, six weeks

apart, were .63 (third grade), .66 (seventh grade), and .71 (tenth grade). The relation of

the NSLOC to other well-established measures of locus of control has been investigated

to determine construct validity. For instance, significant correlations between the NSLOC

scale and the Intellectual Achievement Responsibility scale (r = .31, p < .01) for a sample

of third grade children has been demonstrated (Nowicki & Strickland, 1973) and between

the NSLOC scale and the Bialer-Cromwell score for a sample of 9-11 year old children (r

= .41, p < .05; Bialer, 1961).

CCSC-R

Coefficient alphas, representing internal consistency reliabilities of the CCSC-R

coping dimensions, have been shown to range from .37-.72 (Sandler & Ayers, 1990).

More specific inter-rater reliabilities for the coping dimensions across four raters have

ranged from a kappa of .74 to 1.00 (Sandler et al., 1991). Higher scores on the active

coping dimension as rated by 8 – 15 year old children has been significantly correlated

with lower levels of depressive symptomatology on the CDI (Kovacs, 1982), conduct

disorder on the CBCL (Achenbach & Edelbrock, 1983), and anxiety on the RCMAS

(Reynolds & Richmond, 1985).

RCMAS

Psychometric properties for the lie subscale, as well as the total scale, are good.

Coefficient alpha reliability estimates are acceptable for the lie subscale, ranging

consistently in the .70s and .80s for Caucasian and African American 6-19 year old

youth. This holds true for the total scale as well (Reynolds & Richmond, 2000). Reynolds

(1980) compared the RCMAS to the State-Trait Anxiety Inventory for Children (STAIC;

Spielberger, 1973) to examine construct validity of the RCMAS. A large, significant

correlation was found between the RCMAS and the STAIC trait scale (r = .85, p<.001)

but there was no correlation with the STAIC State scale. This provided support for the

construct validity of the RCMAS as a measure of chronic manifest anxiety (independent

of state anxiety).

SSRS

Statistical evidence for the reliability and validity of the SSRS parent form

(elementary level) has been documented by the measure's authors to a certain extent

(Gresham & Elliott, 1990). The strongest psychometric properties are for the total social

skills and total problem behaviors scales, as well as for the subscales of the problem

behaviors scale (internalizing, externalizing, hyperactive). The four social skills

subscales (assertion, responsibility, cooperation, self-control) are relatively weaker

psychometrically. On a positive note, coefficient alpha reliabilities for all seven subscales

range from .65-.87. However, when considering criterion-related validity, although the

problem behavior subscales correlate well with the CBCL Behavior Problems subscale

($r=.70$; Child Behavior Checklist; Achenbach & Edelbrock, 1983), the social skills

subscales are only moderately correlated with the CBCL Social competence subscale

($r=.58$). This indicates a low ability of these SSRS social skills subscales to predict

variation in other criteria, and that the subscales may not be tapping similar constructs as

other related measures (Gresham & Elliott, 1990). Convergent validity coefficients,

between parent and student respondents, for the four social skill subscales range only

from .03-.12, with a lack of significance for the assertion and self-control items (Gresham

& Elliott, 1990).

Although full-scale psychometric properties (e.g., internal consistency, and

content, criterion-related, and construct validity) are acceptable for the SSRS, social

skills subscale reliabilities are typically lower, and lower levels of validity are illustrated.

Moreover, a priori study hypotheses are not made for specific social skills subscales. Accordingly, only the full-scale social skills score is used in the current study, along with the full-scale problem behaviors score (and its three subscales).

SASC-R

Good reliability and concurrent validity have been established for the SASC-R (La Greca & Stone, 1993). Cronbach's alpha has been used to evaluate the internal consistency of the SASC-R subscales with both unselected school-based and clinical populations, with coefficients ranging from .60-.90 (La Greca, 1999). Interscale correlations show that the three subscales are significantly related but distinct, with interscale correlations ranging from .45 to .59 ($p < .001$; La Greca & Stone, 1993). Age differences on the SASC-R are minimal for samples of elementary school students (La Greca & Stone, 1993). For anxious children, younger children have been found to report more SASC-R-general anxiety than older children ($r = -.21$, $p<.05$; La Greca, 1999). Although gender difference have been determined with fourth to sixth grade elementary school children (girls reporting more social anxiety across the subscales than boys), no significant gender differences have been observed in a clinical sample of children with anxiety disorders (Ginsburg et al., 1998).

The SASC-R subscales are significantly and moderately correlated with other anxiety measures, suggesting that social anxiety is distinct from generalized anxiety. More specifically, La Greca, Silverman, and Wasserstein (1998) found that with children's responses following a natural disaster, their SASC-R total scores were correlated with the RCMAS ($r=.54$, $p<.001$) and the Test Anxiety Scale for Children ($r=.52$, $p<.001$). Correlations have also been shown between the CDI and the SASC-R

total scale score (r=.36), the fear of negative evaluation subscale (r=.33), the specific

social anxiety subscale (r=.22), and the general social anxiety subscale (r=.34; all

p's<.01; La Greca, 1999). Correlations tend to be higher for clinical samples. Ginsburg et

al. (1998) also found that children's SASC-R-general anxiety scores were significant but

moderately negatively correlated with their global self-worth ratings on the SPPC

(Harter, 1985) and with parents' ratings of children's overall social skills on the SSRS

(Gresham & Elliott, 1990). Finally, the SASC-R successfully discriminated socially

anxious from socially non-anxious children, lending further support to the construct

validity of this measure (Ginsburg et al., 1998).

APPENDIX C

Missing value rules for data inclusion

Appendix C

Missing value rules for data inclusion

Measure	Rule regarding number of items on each scale needed to be answered to receive a score	Measure	Rule regarding number of items on each scale needed to be answered to receive a score

MASC	Physical symptoms: 10
	  Tense/restless: 5
	  Somatic/Autonomic: 5
	Harm Avoidance: 8
	  Perfectionism: 4
	  Anxious Coping: 4
	Social Anxiety: 8
	  Humiliation/rejection: 4
	  Performing in public: 4
	Separation/Panic: 8
	Anxiety Disorder Index: 9
		CCSC-R	Direct problem-solving: 3
			Positive cognitive restruc'g: 4
			Cognitive avoidance: 3
			Avoidant actions: 3
			Physical release of emotions: 3
			Distracting actions: 4
			Emotion focused support: 4
			Problem-focused support:4
			Cognitive decision making: 3
			Problem behaviors: 3
			Depressive coping: 4
			Seeking understanding: 4
			Expressing feelings: 3

SPPC	Global self worth: 5 Social acceptance: 5 Athletic competence: 5 Physical appearance: 5 Scholastic competence: 5 Behavioral conduct: 5	SSRS	How often-Cooperation: 8 How often-Assertion: 8 How often-Responsibility: 8 How often-Self-control:8 How important-Cooperation: 8 How important -Assertion: 8 How important –Respons'ty: 8 How important -Self-control:8 Internalizing problems: 5 Externalizing problems: 5 Hyperactive problems: 5
CDI	Negative mood: 5 Interpersonal problems 3 Ineffectiveness 3 Anhedonia: 7 Negative self-esteem: 4	RCMAS	Physiological anxiety: 8 Worry/Oversensitivity: 9 Social concerns/concentration: 6 Lie factor: 8
SASC-R	Specific social avoidance: 5 General social avoidance and distress: 3 Fear of negative evaluation: 7	NASSQ	Full scale: 12
NSLOC	Full scale: 35		

APPENDIX D

Types of Variable Transformations

Appendix D

Types of Variable Transformations

Measure	Type of Transformation
1. MASC-Child	Logarithm
2. CDI	Logarithm
3. NASSQ	Logarithm
4. SASC-R	Square root
5. SPPC	Reflect and Logarithm
6. SSRS	Logarithm
7. CGAS	Logarithm
8. RCMAS	Multiply by 2
9. LOC	No transformation required
10. CCSC-R	No transformation required
11. MASC-Father	No transformation required
12. MASC-Mother	No transformation required

APPENDIX E

Correlation Matrix of Post-Treatment Outcome Variables and Post-treatment Predictor Variables

Appendix E

Correlation Matrix of Post-Treatment Outcome Variables and Post-treatment Predictor Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. MASC-Child	1.00													
2. MASC-Mother	.425**	1.00												
3. MASC-Father	-.042	.351**	1.00											
4. CGAS	-.043	-.379**	-.173	1.00										
5. SASC-R Child	.637**	.031	-.186	.023	1.00									
6. CDI	.505**	.237**	-.007	-.284**	.582**	1.00								
7. NASSQ	.671**	.215*	-.128	-.120	.618**	.725**	1.00							
8. SPPC	.517**	.137	-.197	-.222*	.730**	.706**	.658**	1.00						
9. LOC	.492**	.186*	-.120	-.124	.448**	.613**	.550**	.547**	1.00					
10. CCSC-R Avoidant	.323**	.000	-.127	.047	.200*	.192*	.242**	.118	.296**	1.00				
11. CCSC-R Distracting	.036	-.044	-.095	.026	-.089	.115	.162*	-.505	.257**	.305**	1.00			
12. CCSC-R Active	.080	.063	.023	.108	-.188*	-.136	-.004	-.231**	.007	.465**	.344**	1.00		
13. CCSC-R Support	.139	.064	-.154	.106	-.047	-.015	.111	.000	.054	.328**	.162**	.515**	1.00	
14. RCMAS Lie	-.020	.007	-.012	.042	-.136	-.035	-.094	-.192*	.029	.144	.351**	.238**	.102	1.00
15. SASC-R Mother	.117	.545**	.207	-.170	.156	.139	.115	.173	.134	-.049	-.160	-.080	-.140	-.038
16. SASC-R Father	.008	.100	.301**	-.034	.089	.118	.088	.173	.069	-.117	-.193	-.128	-.293**	.112
17. SSRS-HOT Mother	.056	-.360**	-.197	.181*	-.055	-.125	.011	-.142	-.165	.086	.131	.208*	.160	.099
18. SSRS-HOT Father	.003	-.346**	-.207*	.242*	.000	-.191	.032	-.216*	-.097	.190	.066	.291**	.207*	.227*
19. SSRS-PI Mother	.259**	.499**	.252*	-.186*	.201*	.280**	.209*	.307**	.284**	.122	-.034	-.047	-.095	-.035
20. SSRS-PI Father	.133	.353**	.407**	-.154	.053	.280**	.137	.260*	.171	-.016	-.019	-.122	-.146	.090
21. Child age	-.072	.065	.060	-.250**	-.121	-.033	.034	.064	-.192*	-.192*	.234**	-.079	-.110	.065
22. Child Distress	.378**	.013	-.030	-.049	.489**	.494**	.448**	.542**	.268**	.189**	.009	-.090	-.109	-.073

Appendix E (cont.)

	15	16	17	18	19	20	21	22
1. MASC-Child								
2. MASC-Mother								
3. MASC-Father								
4. CGAS								
5. SASC-R Child								
6. CDI								
7. NASSQ								
8. SPPC								
9. LOC								
10. CCSC-R Avoidant								
11. CCSC-R Distracting								
12. CCSC-R Active								
13. CCSC-R Support								
14. RCMAS Lie								
15. SASC-R Mother	1.00							
16. SASC-R Father	.529**	1.00						
17. SSRS-HOT Mother	-.527**	-.317**	1.00					
18. SSRS-HOT Father	-.355**	-.367**	.681**	1.00				
19. SSRS-PI Mother	.572**	.382**	-.540**	-.452**	1.00			
20. SSRS-PI Father	.446**	.639**	-.364**	-.326**	.561**	1.00		
21. Child age	-.057	.003	.105	-.041	.025	.046	1.00	
22. Child Distress	.047	.117	-.079	-.051	.168	.249*	.056	1.00

* p < .05 (1-tailed)   **p < .01 (1-tailed)

Note: MASC = Multidimensional Anxiety Scale for Children; *CGAS* = Children's Global Assessment Scale; *SASC-R*: Social Anxiety Scale for Children (Revised); CDI = Children's Depression Inventory; *NASSQ* = Negative Affect Self-Statements Questionnaire; *SPPC* = Self-Perception Profile for Children; *LOC* = Locus of Control Scale; *CCSC-R* = Children's Coping Strategies Checklist (Revised); *RCMAS* = Revised Children's Manifest Anxiety Scale; *SSRS* = Social Skills Rating Scale (*HOT*=how often total social skills observed; *PI* = internalizing behaviors observed).

APPENDIX F

Correlations between Children's MASC and CDI Ratings as a Function of Children's Primary Anxiety Disorder Diagnosis

Appendix F

Correlations between Children's MASC and CDI Ratings as a Function of Children's Primary Anxiety Disorder Diagnosis

	MASC (Social Phobia)	MASC (Specific Phobia)	MASC (Generalized Anxiety Disorder)	MASC (Separation Anxiety Disorder)
CDI (Social Phobia)	r=.596 p=.202 (n=4)			
CDI (Specific Phobia)		r=.352 p=.281 (n=5)		
CDI (Generalized Anxiety Disorder)			r=.263* p=.018 (n=64)	
CDI (Separation Anxiety Disorder)				r=.228 p=.166 (n=20)

CDI = Children's Depression Inventory; *MASC* = Multidimensional Anxiety Scale for Children.

APPENDIX G

Correlation Matrix of Pre-treatment Characteristics of Internalizing Distress
(Predictor Measures)

Appendix G

Correlation Matrix of Pre-treatment Characteristics of Internalizing Distress (Predictor Measures)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. SASC-R	1																
2. CDI	.342**	1															
3. NASSQ	.432**	.365**	1														
4. SPPC	.522**	.564**	.533**	1													
5. LOC	.328**	.262**	.352**	.465**	1												
6. CCSC-R – avoid	.328**	.129	.195*	.022	.229*	1											
7. CCSC-R – distract	.161	-.186*	-.022	-.193*	-.028	.252**	1										
8. CCSC-R – active	.062	-.078	-.100	-.195*	-.036	.459**	.427**	1									
9. CCSC-R – support	.055	.008	-.047	-.100	-.048	.452**	.251**	.613**	1								
10. SSRS-HOT- Mother	-.072	-.161*	.009	-.169*	-.116	.153	.181*	.130	.078	1							
11. SSRS-HOT-Father	-.131	-.179	-.003	-.243*	-.146	.235*	.101	.246*	.201*	.530**	1						
12. SSRS-PT-Mother	-.049	-.047	.020	.129	.185*	-.034	.038	.117	-.107	-.507**	-.313 **	1					
13. SSRS-PT-Father	-.115	.098	-.051	.014	.101	-.059	.198*	.041	-.012	-.404**	-.293**	.549**	1				
14. RCMAS Lie	-.100	-.198*	-.025	-.254**	-.045	-.150	.163*	.017	-.033	.253**	-.017	-.265**	-.193*	1			
15. SASC-R Mother	.197*	.109	.050	.151	.231*	.000	.026	.072	-.044	-.427**	-.292*	.325**	.159	-.015	1		
16. SASC-R Father	.246*	.212	.031	.244*	.252*	-.171	-.129	-.118	-.095	-.349**	-.207	.134	.154	-.035	.649**	1	
17. Child Distress	.527**	.651**	.777**	.672**	.401**	.314**	-.011	.006	.014	-.116	-.071	.101	.198	-.334**	.090	.160	1

* p < .05 (1-tailed)   **p < .01 (1-tailed)

Note: SASC-R: Social Anxiety Scale for Children (Revised); *CDI* = Children's Depression Inventory; *NASSQ* = Negative Affect Self-Statements Questionnaire; *SPPC* = Self-Perception Profile for Children; *LOC* = Locus of Control Scale; *CCSC-R* = Children's Coping Strategies Checklist (Revised); *SSRS* = Social Skills Rating Scale (*HOT*=How often total social skills observed; *PT* = Total problem behaviors); *RCMAS* = Revised Children's Manifest Anxiety Scale.

APPENDIX H

Correlations between Pre-treatment Predictor Variables and Post-treatment Outcome Variables

Appendix H

Correlations between Pre-treatment Predictor Variables and Post-treatment Outcome Variables

Pre-Treatment Predictor Measure	Post-Treatment Outcome Measure			
	MASC-Child	MASC-Mother	MASC-Father	CGAS-Clinician
MASC-Child	.655**	.212*	-.084	-.058
MASC-Mother	.236*	.681**	.295**	-.240*
MASC-Father	.219	.358**	.450**	-.085
CGAS-Clinician	-.093	-.234*	.043	.623**
SASC-R-Child	.531**	-.025	-.007	.049
SASC-R-Mother	.101	.505**	.244*	-.116
SASC-R-Father	-.054	.188	.189	.009
CDI	.217*	.021	-.028	-.105
NASSQ	.433**	.059	-.029	.057
LOC	.340**	.044	-.057	-.206*
SPPC	.377**	.016	-.109	-.161
CCSC-R-Avoidant	.315**	-.051	-.102	.016
CCSC-R-Distracting	.005	.072	.047	-.100
CCSC-R-Active	.032	-.108	.014	.188*
CCSC-R-Support	.041	.007	-.013	.068
SSRS-HOT-Mother	.080	-.219*	-.090	.222*
SSRS-HOT-Father	-.014	-.230*	-.171	.251*
SSRS-PI-Mother	.184*	.379**	.245*	-.260**
SSRS-PI-Father	.031	.216*	.270*	-.152
SSRS-PE-Mother	.023	.114	-.062	-.188*
SSRS-PE-Father	-.118	-.001	.061	-.054
SSRS-PH-Mother	.040	.264**	.080	-.258**
SSRS-PH-Father	-.076	.280**	.260*	-.347**
Child age	-.072	.065	.060	-.250**
Child gender	-.086	-.214*	-.151	.137
Child treatment assignment	-.058	-.238**	.071	.303**
RCMAS lie scale	-.078	.054	.138	.019

* p < .05 (1-tailed)   **p < .01 (1-tailed)

Note: MASC = Multidimensional Anxiety Scale for Children; CGAS = Children's Global Assessment Scale; SASC-R: Social Anxiety Scale for Children (Revised); CDI = Children's Depression Inventory; *NASSQ* = Negative Affect Self-Statements Questionnaire; *LOC* = Locus of Control Scale; *SPPC* = Self-Perception Profile for Children; *CCSC-R* = Children's Coping Strategies Checklist (Revised); *SSRS* = Social Skills Rating Scale (*HOT*=how often total social skills observed; *PI* = internalizing problems; *PE* = externalizing problems; *PH* = hyperactivity problems); *RCMAS* = Revised Children's Manifest Anxiety Scale.

APPENDIX I

Correlations between Pre-treatment Predictor Subscale Variables and Post-treatment Outcome Variables and Regression on Outcome Variables using Subscale Predictors

Table I1

Correlations between Post-treatment Outcome Variables and Pre-treatment Predictor Subscale Variables

Pre-treatment Predictor Measure	Post-treatment Outcome Measure
	MASC-Child
1. SASC-R-S	.547**
2. SASC-R-G	.457**
3. SASC-R-N	.410**
4. SPPC-SA	.332**
5. SPPC-GW	.295**
6. SPPC-SC	.304**
7. SPPC-AC	.240**
8. SPPC-PA	.313**
9. SPPC-BC	.183*
10. CCSC-R-AVA	-.263**
11. CCSC-R-CA	-.286**
	MASC-Mother
1. SASC-R-S-Mother	.438**
2. SASC-R-G-Mother	.406**
3. SASC-R-N-Mother	.437**
	MASC-Father
1. SASC-R-N-Mother	.254*

* p < .05 (1-tailed)   **p < .01 (1-tailed)

Note: *MASC* = Multidimensional Anxiety Scale for Children; *CGAS*=Children's Global Assessment Scale; *SASC-R*=Social Anxiety Scale for Children *(S* = Social Anxiety, Specific; *G* = Social Anxiety, General; *N* = Fear of Negative Evaluation); SPPC = Self-Perception Profile for Children (SA=Social Acceptance Subscale; *GW* = Global Self-Worth Subscale; *SC* = Scholastic Competence Subscale; *AC* = Athletic Competence Subscale; *PA* = Physical Appearance Subscale; *BC* = Behavioral Conduct Subscale); *CCSC-R*-AVA = Children's Coping Strategies Checklist-Revised *(AVA* = avoidant actions; *CA* = cognitive avoidance).

Table I2

Regression on Each Outcome Variable using Subscale Predictors

	t	Adjusted Partial R^2
MASC - Child[a]		
SASC-R-S	5.86**	.307
SASC-R-G	4.46**	.202
SPPC-SA	2.79**	.083
SPPC-GW	2.51**	.066
SPPC-BC	2.08*	.042
MASC-Mother[b]		
SASC-R-S-Mother	4.26**	.182
SASC-R-N-Mother	4.02**	.165
SASC-R-G-Mother	3.52**	.129
MASC-Father[c]		
SASC-R-N-Mother	1.85†	.065

[a] Total sample (n) = 76; df=6, 69; Adjusted R^2 for model = .33
[b] Total sample (n) = 78; df=4, 73; Adjusted R^2 for model = .21
[c] Total sample (n) = 36; df=2, 33; Adjusted R^2 for model = .18

**p < .01; * p < .05; † p < .10

Note: MASC = Multidimensional Anxiety Scale for Children; CGAS=Children's Global Assessment Scale; SASC-R=Social Anxiety Scale for Children *(S* = Social Anxiety, Specific; *G* = Social Anxiety, General; *N* = Fear of Negative Evaluation); SPPC = Self-Perception Profile for Children (SA=Social Acceptance Subscale; *GW* = Global Self-Worth Subscale; *BC* = Behavioral Conduct Subscale).

APPENDIX J

Correlations between Pre-treatment Predictor Variables and Post-treatment Outcome Variables for Lower and Higher Distress Level Subgroups

Table J1

Correlations between Pre-treatment Predictor Variables and Post-treatment Outcome Variables for Lower Distress Level Subgroup

Pre-Treatment Predictor Measure	Post-Treatment Outcome Measure			
	MASC-Child	MASC-Mother	MASC-Father	CGAS-Clinician
MASC-Child	.630**	.123	.031	-.111
MASC-Mother	.339*	.756**	.439**	-.377**
MASC-Father	.222	.579**	.534**	-.308
CGAS-Clinician	-.144	-.223	.096	.464**
SASC-R-Child	.466**	-.130	-.048	.164
SASC-R-Mother	-.072	.509**	.230	-.178
SASC-R-Father	-.200	.249	.074	.083
CDI	-.090	.012	.080	-.108
NASSQ	.270*	.008	-.046	.180
LOC	.054	-.046	-.089	.013
SPPC	.291*	-.085	-.174	.098
CCSC-R-Avoidant	.227	-.074	-.149	.018
CCSC-R-Distracting	.090	.009	-.085	.052
CCSC-R-Active	.095	-.125	-.024	.090
CCSC-R-Support	.019	-.008	.000	-.080
SSRS-HOT-Mother	.128	-.382**	-.298**	.165
SSRS-HOT-Father	.038	-.534**	-.460**	.232
SSRS-PI-Mother	.179	.507**	.416**	-.277**
SSRS-PI-Father	-.077	.316*	.287	-.109
SSRS-PE-Mother	.034	.174	-.138	-.294*
SSRS-PE-Father	.188	.241	.111	-.124
SSRS-PH-Mother	.089	.374**	.100	-.210
SSRS-PH-Father	.089	.499**	.298*	-.298*
Child age	-.148	.004	.042	-.087
Child gender	-.162	-.272*	-.365*	.193
Child treatment assignment	-.115	-.304*	.085	.380**
RCMAS lie scale	-.098	.006	.052	-.032

* p < .05   **p < .01

Note: MASC = Multidimensional Anxiety Scale for Children; CGAS = Children's Global Assessment Scale; SASC-R: Social Anxiety Scale for Children (Revised); CDI = Children's Depression Inventory; *NASSQ* = Negative Affect Self-Statements Questionnaire; *LOC* = Locus of Control Scale; *SPPC* = Self-Perception Profile for Children; *CCSC-R* = Children's Coping Strategies Checklist (Revised); *SSRS* = Social Skills Rating Scale (*HOT*=how often total social skills observed; *PI* = internalizing problems; *PE* = externalizing problems; *PH* = hyperactivity problems); *RCMAS* = Revised Children's Manifest Anxiety Scale.

Table J2

Correlations between Pre-treatment Predictor Variables and Post-treatment Outcome Variables for Higher Distress Level Subgroup

Pre-Treatment Predictor Measure	Post-Treatment Outcome Measure			
	MASC-Child	MASC-Mother	MASC-Father	CGAS-Clinician
MASC-Child	.368**	.317	.-.329	.043
MASC-Mother	.250	.572**	.318	-.253
MASC-Father	.142	-.010	.091	.387
CGAS-Clinician	-.092	-.240	-.034	.753**
SASC-R-Child	.390*	.122	.052	-.020
SASC-R-Mother	.336*	.480**	.309	-.033
SASC-R-Father	.061	.047	.440*	-.029
CDI	.053	-.196	-.122	-.237
NASSQ	.164	.203	-.130	-.033
LOC	.124	.005	-.114	.386*
SPPC	.046	.004	-.138	-.224
CCSC-R-Avoidant	.193	.020	-.144	.215
CCSC-R-Distracting	-.182	.229	-.143	-.259
CCSC-R-Active	-.245	-.188	.129	.507**
CCSC-R-Support	-.360*	-.073	.080	.411*
SSRS-HOT-Mother	.042	-.180	-.173	.235
SSRS-HOT-Father	-.063	-.185	-.002	.477*
SSRS-PI-Mother	.255	.425*	.231	-.495**
SSRS-PI-Father	.148	.027	.298	-.265
SSRS-PE-Mother	-.036	.244	.323	-.127
SSRS-PE-Father	-.276	.171	.170	-.211
SSRS-PH-Mother	.108	.301	.138	-.271
SSRS-PH-Father	-.077	.214	.128	-.352
Child age	-.282	-.181	.144	-.212
Child gender	-.237	-.409*	.084	.182
Child treatment assignment	-.338*	-.095	.084	.192
RCMAS lie scale	-.110	-.139	.074	-.114

* p < .05   **p < .01

Note: MASC = Multidimensional Anxiety Scale for Children; CGAS = Children's Global Assessment Scale; SASC-R: Social Anxiety Scale for Children (Revised); CDI = Children's Depression Inventory; *NASSQ* = Negative Affect Self-Statements Questionnaire; *LOC* = Locus of Control Scale; *SPPC* = Self-Perception Profile for Children; *CCSC-R* = Children's Coping Strategies Checklist (Revised); *SSRS* = Social Skills Rating Scale (*HOT*=how often total social skills observed; *PI* = internalizing problems; *PE* = externalizing problems; *PH* = hyperactivity problems); *RCMAS* = Revised Children's Manifest Anxiety Scale.

APPENDIX K

Effects of Treatment and Internalizing Distress on Child-rated Subscales (SPPC, CDI, SASC-R, CCSC-R, MASC) for Lower and Higher Distress Level Subgroups

Table K1

Effects of Treatment and Internalizing Distress on Child-rated Subscales (SPPC, CDI, SASC-R, CCSC-R) for Lower and Higher Distress Level Subgroups: Pre- and Post-Treatment Means and Standard Deviations

Treatment time:		Pre-treatment		Post-treatment		$F(1, 62)$	$F(1, 62)$
Child Distress Level:		Low	High	Low	High	Treatment	Distress
Measure:							
SPPC-SA	M	.47	.58	.39	.66	3.98†	18.64**
	SD	.29	.35	.27	.40		
SPPC-GW	M	.26	.77	.29	.69	.08	54.49**
	SD	.27	.32	.27	.30		
SPPC-SC	M	.53	.85	.49	.71	3.22†	12.65**
	SD	.35	.32	.33	.34		
SPPC-PA	M	.38	.80	.37	.77	.08	25.93**
	SD	.30	.41	.34	.41		
SPPC-AC	M	.55	.99	.52	.87	3.66†	27.29**
	SD	.37	.24	.34	.33		
SPPC-BC	M	.46	.69	.50	.67	.30	6.37*
	SD	.35	.36	.35	.37		
CDI-A	M	3.85	4.08	3.74	3.92	22.73**	33.47**
	SD	.14	.17	.11	.27		
CDI-B	M	3.77	3.95	3.81	3.90	.00	12.44**
	SD	.26	.19	.08	.22		
CDI-C	M	3.79	3.96	3.75	3.88	6.06*	24.80**
	SD	.14	.17	.12	.20		
CDI-D	M	3.85	4.01	3.75	3.88	15.73**	17.69**
	SD	.17	.15	.15	.22		
CDI-E	M	3.79	3.96	3.75	3.95	.56	41.91**
	SD	.12	.17	.09	.26		
SASC-R-G	M	2.62	3.04	2.48	3.05	.61	12.37**
	SD	.61	.53	.48	.95		

SASC-R-S	M	3.54	4.23	3.37	3.93	5.42*	14.36**
	SD	.74	.76	.65	.82		
SASC-R-N	M	3.81	4.90	3.58	4.58	7.23**	28.44**
	SD	.74	.99	.77	.95		
CCSC-R-AVA	M	2.33	2.68	2.31	2.61	.14	6.24*
	SD	.61	.61	.68	.65		
CCSC-R-CA	M	2.45	2.73	2.32	2.59	.83	4.52*
	SD	.65	.65	.68	.87		
CCSC-R-DA	M	2.03	2.02	2.14	2.11	1.43	.04
	SD	.68	.67	.66	.56		
CCSC-R-PRE	M	1.65	1.53	1.79	1.67	3.71†	.45
	SD	.75	.65	.77	.73		
CCSC-R-DPS	M	2.27	2.34	2.61	2.55	9.38**	.00
	SD	.66	.47	.75	.48		
CCSC-R-PCR	M	2.01	1.94	2.26	2.09	7.45**	.82
	SD	.59	.44	.70	.53		
CCSC-R-PFS	M	1.84	1.81	2.02	1.95	5.63†	.16
	SD	.52	.41	.62	.48		
CCSC-R-EFS	M	1.87	1.78	1.95	1.80	.64	.94
	SD	.57	.42	.57	.44		

*p<.05; **p<.01; † p<.10

Note: *SPPC* = Self-Perception Profile for Children (*SA*=Social Acceptance Subscale; *GW* = Global Self-Worth Subscale; *SC* = Scholastic Competence Subscale; *AC* = Athletic Competence Subscale; *BC* = Behavioral Conduct Subscale; *PA* = Physical Appearance Subscale); *CDI* = Children's Depression Inventory (Subscale A, Negative Mood; Subscale B, Interpersonal Problems; Subscale C, Ineffectiveness; Subscale D, Anhedonia; Subscale E, Negative Self-esteem); *SASC-R*=Social Anxiety Scale for Children (*S* = Social Anxiety, Specific; *G* = Social Anxiety, General; *N* = Fear of Negative Evaluation); *CCSC-R-CA* = Children's Coping Strategies Checklist (Revised, *CCSC-R-AVA* = Children's Coping Strategies Checklist (Revised, Avoidant Actions); *CCSC-R-PRE* = Children's Coping Cognitive Avoidance); *CCSC-R-DA* = Children's Coping Strategies Checklist (Revised, Distracting Actions); *CCSC-R-PRE* = Children's Coping Strategies Checklist (Revised, Physical Release of Emotions); *CCSC-R-DPS* = Children's Coping Strategies Checklist (Revised, Direct Problem-Solving); *CCSC-R-PCR* = Children's Coping Strategies Checklist (Revised, Positive Cognitive Restructuring); *CCSC-R-PFS* = Children's Coping Strategies Checklist (Revised, Problem-Focused Support); *CCSC-R-EFS* = Children's Coping Strategies Checklist (Revised, Emotion-Focused Support).

Table K2

Effects of Treatment and Internalizing Distress on Child-rated MASC Subscales for Lower and Higher Distress Level Subgroups: Pre- and Post-Treatment Means and Standard Deviations

Treatment time:		Pre-treatment		Post-treatment		F(1, 62)	F(1, 62)
Child Distress Level:		**Low**	**High**	**Low**	**High**	**Treatment**	**Distress**
Physiological symptoms	M	3.85	4.02	3.77	3.94	8.10**	20.73**
	SD	.18	.16	.21	.23		
Tense/Restless	M	3.83	4.00	3.77	3.95	3.21†	9.46**
	SD	.16	.17	.19	.22		
Somatic/Autonomic	M	3.88	4.01	3.80	3.93	10.23**	15.50**
	SD	.18	.18	.19	.21		
Harm Avoidance	M	3.84	3.94	3.85	3.92	.05	3.24†
	SD	.21	.14	.26	.19		
Perfectionism	M	3.83	3.92	3.81	3.91	.12	1.84
	SD	.25	.16	.26	.23		
Anxious Coping	M	3.86	3.94	3.89	3.93	.28	2.99†
	SD	.21	.14	.25	.17		
Social Anxiety	M	3.81	4.04	3.78	4.01	1.80	29.90**
	SD	.17	.18	.20	.21		
Humiliation/Rejec'n	M	3.81	4.04	3.77	4.01	2.16	13.21**
	SD	.17	.16	.19	.19		
Public Performing	M	3.83	4.01	3.82	3.98	.68	25.94**
	SD	.19	.21	.20	.22		
Separation/Panic	M	4.03	4.17	4.02	4.08	2.39	5.08*
	SD	.22	.16	.23	.20		
Anxiety Disorders Index	M	3.82	3.98	3.75	3.93	3.23	15.01**
	SD	.17	.16	.24	.23		

*p<.05; **p<.01; † p<.10