

Predictors of Program Response to a Child Anxiety Indicated Prevention
and Early Intervention Protocol

by

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ABSTRACT

The purpose of this study was to examine if certain child demographics and risk modifiers of the child (i.e., anxiety sensitivity, depressive symptoms, anxiety control, and social competence) predict program response to a Child Anxiety Indicated Prevention and Early Intervention protocol (Pina, Zerr, Villalta, & Gonzales, 2012). This anxiety protocol focused on cognitive behavioral techniques (e.g., systematic and gradual exposure) that used culturally responsive implementation strategies (Pina, Villalta, & Zerr, 2009). The current study aims to investigate specific predictors of program response to this anxiety protocol. First, it was of interest to determine if child demographics and risk modifiers of the child at baseline would predict program response to the early anxiety intervention protocol. Second, it was of interest to see if an interaction with one of the four risk modifiers at baseline and sex or protocol condition would predict program response to the early anxiety intervention protocol. This study included 88 youth (59.14% Hispanic/Latino and 40.9% Caucasian) who were recruited through referrals from public schools and randomized to one of two protocol conditions (i.e., child-only or the child-plus-parent protocol), which had varying levels of mothers' participation within the Child Anxiety Indicated Prevention and Early Intervention protocol (Pina et al., 2012). Participants ranged from 6 to 17 years of age ($M = 10.36$, $SD = 2.73$), and 48.9% were boys. The four risk modifiers were assessed using the Childhood Anxiety Sensitivity Index (CASI; Silverman, Fleisig, Rabian, & Peterson, 1991), Children's Depression Inventory (CDI; Kovacs, 1981), Anxiety Control Questionnaire for Children-Short Form (ACQ-C-S; Weems, 2005), and Social Competence scale from the Child Behavior Checklist (CBCL; Achenbach & Resorla, 2001). Program response was measured by pre-

to-posttest changes in anxiety outcomes. Regarding the first aim, each of the four risk modifiers was related to pre-to-posttest changes in program response outcomes.

Regarding the second aim for interactions between each of the four focal predictors, sex and protocol condition emerged as moderators. These results have potential implications for clinicians and researchers interested in understanding why some children might experience more or less change when participating in an early intervention protocol for anxiety.

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CHAPTER 1

INTRODUCTION

Anxiety disorders are one of the most prevalent mental health conditions for children and adolescents (Costello, Egger, & Angold, 2005). The prevalence of anxiety disorders has been found to range from 2% to 31% (Costello et al., 2005; Kessler et al., 2009; Kessler, Ruscio, Shear, & Wittchen, 2010; Merikangas et al., 2010). This large range may be due to how it is measured, such as lifetime versus 12-month prevalence or whether it is based on rare diagnoses (e.g., agoraphobia in children). The prevalence of anxiety disorders is problematic because it can be persistent and cause chronic impairment (e.g., in school, work, social relationships) from childhood into adulthood (Costello et al., 2005; Ezpeleta, Keeler, Erkanli, Costello, & Angold, 2001; Kessler et al., 2005; Wittchen, Stein, & Kessler, 1999). Although pediatric anxiety disorders are prevalent and chronic, there are empirically supported interventions aimed at both preventing anxiety symptoms and disorders (Fisak, Richard, & Mann, 2011) as well as treating children with clinical anxiety diagnoses (Pina, Silverman, Saavedra, & Weems, 2001). Having effective interventions is one way to help the many children and adolescents who might develop an anxiety disorder in their lifetime.

In particular, cognitive behavioral therapy (CBT) is one form of an empirically supported intervention known to reduce symptoms in childhood anxiety disorders (Chu, Skinner, & Zandberg, 2013; Compton et al., 2014; Silverman, Pina, & Viswesvaran, 2008). Although CBT is effective for many children, not every child benefits from a CBT protocol. Specifically, the rate of children who do not improve from these interventions ranges from 20% to 50% (Berman, Weems, Silverman, & Kurtines, 2000; Compton et

al., 2014; Wood, 2006). It is important to know who these children are and if other characteristics may explain why some benefit (i.e., reduction of symptoms) from the program while others do not (Kazdin, 1995).

Identifying the predictive characteristics that may influence program outcomes is one of the next steps in informing future research and clinical practice for childhood anxiety. The purpose of this study is to examine child characteristics that predict program response to a Child Anxiety Indicated Prevention and Early Intervention protocol. To achieve this goal, two domains were used to predict program response at posttest: (1) child demographic characteristics and (2) child risk modifiers. In a previous study, anxiety symptoms and related outcomes were reduced for children in this Child Anxiety Indicated Prevention and Early Intervention protocol relative to baseline (Pina, Zerr, Villalta, & Gonzales, 2012); however, specific child characteristics and risk modifiers that may have been related to program response were not explored. On the other hand, the study did examine whether the program response differed by ethnicity and language, and the results suggested that the intervention was effective across Hispanic/Latino and White families who completed the intervention in English or Spanish. The current study aims to further investigate predictors of program response to this anxiety protocol using the same data from the Pina et al. (2012) study.

This dissertation study begins with a review of the literature on program response for children and adolescents, as well as terminology used to describe program outcomes. Then, a review of the two domains (i.e., child demographic characteristics and child psychological risk modifiers and their relations to anxiety outcomes) is presented. These child psychological risk modifiers will be identified within a theoretical framework on

the development and maintenance of anxiety. In particular, work by Barlow and colleagues (1998, 2004) was used to guide the selection of child characteristics that may predict program response. Last, a review of the Pina et al. (2012) study is presented with a particular focus on how predictors will be examined with the same sample of children who participated in the Anxiety Indicated Prevention and Early Intervention protocol.

Review of Program Response Literature

It is important to identify predictors for program response for many reasons. First, knowing what characteristics predict program response before implementing a protocol can allow researchers and clinicians to know possible factors that can hinder and/or increase successful outcomes. Awareness of these factors can also provide opportunities to modify relevant characteristics of the child and their family before starting the protocol, which can also lead to an increase in program success (Kazdin, 1995). Second, there is limited literature identifying predictors that influence program outcomes in pediatric anxiety disorders. The literature on program response focuses disproportionately on adults, with little focus on specific child characteristics that can aid our understanding of child program response (Bergin & Garfield, 1994; Kazdin, 1995). Additionally, predictors were found in other areas of pediatric mental health (Curry et al., 2006; MTA Cooperative Group, 1999), but this work is less clear in literature regarding pediatric anxiety.

In order to describe the program response literature, it is important to note how predictors are discussed and defined in outcome studies. Predictors are the measured variables that are assessed at pretest (i.e., baseline) and do not differ based on the different types of protocol conditions (e.g., CBT versus medication versus CBT plus

medication). The identification of predictors provides information about the baseline characteristics in randomized clinical trials that are related to the outcomes of the intervention but not for a specific intervention protocol (Compton et al., 2014). More specifically, the predictor variables are lower-order effects of the intervention. In other words, these predictors are baseline characteristics that will not have an interactive effect with the protocol conditions on program outcomes. The relation of the non-specific predictor will only have a lower-order effect on the program outcome (Kraemer, Wilson, Fairburn, & Agras, 2002). These predictors will provide information on which children will likely benefit from an intervention (Garcia et al., 2010; Kraemer et al., 2002).

“Intervention-specific” moderators are similar to “non-specific” predictors because they can also be measured at pretest; however, the association differs depending on the specific type of intervention program (Kraemer et al., 2002). Moderators will not only describe who will benefit from the interventions but will also provide information on the specific types of interventions that are most likely to be influenced. Moderators will be helpful in identifying the most beneficial interventions to assign clients.

Moderators are referred to as intervention-specific predictors while non-specific predictors are baseline characteristics that do not moderate program outcomes. The focus on this dissertation is to examine both intervention-specific moderators and non-specific predictors because Pina et al. (2012) had similar outcomes across the two randomized trials (i.e., child-only protocol vs. child-plus-parent protocol). As presented in the review of literature later, some studies will identify intervention-specific moderators. Therefore, the distinction between non-specific predictors (which will be referred to as predictors hereafter) and intervention-specific moderators are described to increase clarity.

“Program success” versus “program failure” is one way in which groups have been identified to investigate the influence of predictors on program outcomes. For example, to identify children who would be classified as a program success versus a program failure, two criteria are often used. For the program success group, one criterion is no longer having a primary anxiety disorder diagnosis based on the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association, 2000). Another criterion for the program success group is clinically significant symptom reduction as compared to baseline after receiving the intervention (i.e., a drop in four points from an eight-point clinical severity scale; Berman et al., 2000). Those who are classified in the program as a failure group are individuals who did not “recover,” which is defined by still having a primary diagnosis of anxiety after receiving the intervention or as not having a significant reduction of anxiety symptoms (i.e., a drop in four points from an 8-point scale on clinical severity; Berman et al., 2000).

In contrast to examining outcomes based on the categorical approach, another method is examining program outcomes based on the amount of reduction in symptoms from baseline to the different assessment points after the intervention (i.e., posttest and/or follow-up). This approach allows for an investigation of program outcomes from descriptive statistics, correlations, and regression analyses (Barrett, Farrell, Dadds, & Boulter, 2005; Berman et al., 2000; Compton et al., 2004; Treadwell, Flannery-Schroeder, & Kendall, 1995). This study focused on examining the results based on continuous outcomes because it can provide more nuanced information about the amount of change in program outcomes and whether this varies as a function of individual child characteristics.

It is also important to distinguish between the ideas of “prevention and “treatment.” The Institute of Medicine has identified a spectrum of mental health interventions that starts at prevention and then moves on to treatment and maintenance (Haggerty & Mrazek, 1994). First, the goal of prevention is to stop something from happening, such as reducing the chances for the onset of mental health disorder diagnoses or symptoms that may cause impairment. The broadest level of prevention is “universal prevention,” where the program is delivered to the general population regardless of their risk status. The next level is “selective prevention,” where the focus is now narrowed to subgroups in a population who are believed to be at risk compared to other subgroups in a population based on established risk modifiers associated with the onset of the disorder. Last is the “indicated prevention,” where specific individuals have been identified as currently not having a disorder but have the initial symptoms that may develop into a mental health disorder. The indicated prevention is the most restricted of the previous levels and is usually reserved to those who have been screened and identified as having some symptoms that may lead to the development of a disorder (Fisak et al., 2011; Haggerty & Mrazek, 1994). Indicated preventive interventions are also called *early intervention* because they can be a form of treatment (Haggerty & Mrazek, 1994). To clarify, the Pina et al. (2012) protocol is referred to as an Indicated Prevention and Early Intervention because the study was open to individuals who did not meet the criteria for an anxiety diagnosis but had significant levels of anxiety symptoms. The protocol used in the current dissertation study is not considered a treatment intervention. Instead, it is an early intervention that provides treatment through the CBT protocol and extends services to those also identified at the indicated level of prevention.

Possible Predictors

The demographics of the child and their family have been consistently examined in many of the program outcome studies. There might be a higher frequency of examining demographic characteristics because it is usually a standardized practice to collect this information at baseline within the psychology field. Inconsistencies among many of the findings make it difficult to determine which child demographics will influence outcomes. In this section of the review, possible child demographics that have been associated with outcomes in the anxiety literature will be discussed.

Age as a Predictor of Program Response

The age of onset differs for the various types of anxiety disorders (Grills-Taquechel & Ollendick, 2007; Rapee, Schniering, & Hudson, 2009). In some cases, the prevalence of anxiety disorders tend to increase over time (e.g., Social Phobia, Generalized Anxiety Disorder, and Panic Disorder), while in other cases they may decrease over time (e.g., Specific Phobia and Separation Anxiety Disorder; Grills-Taquechel & Ollendick, 2007). Rapee and colleagues (2009) reported that the onset for Specific Phobia and Social Phobia is usually between early to middle adolescence; for Obsessive Compulsive Disorder it is usually between middle to late adolescence; for Panic Disorder it is usually in adulthood; and Generalized Anxiety Disorder can usually occur anytime in one's lifetime.

Regarding age in outcome studies, it has been found that older children occasionally have worse outcomes than younger children. However, age is not a consistent predictor across different anxiety studies. For example, comparing the outcomes of program response for CBT versus CBT plus family management, age-

moderated outcomes for the latter case, where children of a younger age group (ages 7 to 10) responded better in the CBT plus family management than the CBT only protocol (Barrett, Dadds, & Rapee, 1996). On the other hand, the older group (ages 11 to 14) responded equally well to CBT with and without family management (Barrett et al., 1996). However, in a study about the use of medication as a treatment for selective mutism, being older (ages 10 to 14) was related to poor program response compared to being younger (ages 5 to 9; Dummit, Klein, Tancer, Asche, & Martin, 1996).

In another study, children classified as having a poorer response to the CBT protocol collectively were older ($M_{age}= 11.44$; $SD=17.95$) compared to the younger children who were classified in the good response group ($M_{age}=10.83$; $SD= 17.95$), but these results were only found at posttest (Southam-Gerow, Kendall, & Weersing, 2001). Within the same sample, no differences in program response were found for age at the one-year follow-up (Southam-Gerow et al., 2001). These inconsistent results for age as a predictor may be explained by another study that examined predictors of session-by-session change using multilevel growth analysis for children (ages 7 to 17) receiving CBT (Chu et al., 2013). It was found that older age (at the 75th percentile, which was 14.82 years) was a significant predictor of poor program response in the initial sessions of the anxiety protocol when compared to younger age (at the 25th percentile, which was 10.29 years). However, there were no differences in program response between younger and older children when the anxiety program was completed (Chu et al., 2013). These studies suggest that older age may play a role in the short term during the first few sessions of implementing an anxiety protocol, but age may not be predictive of program response, especially in the long term when the program is completed.

There are mixed results concerning age as a predictor. For example, there are many studies where age was not identified as a predictor (Berman et al., 2000; Compton et al., 2014). These results of age being a non-significant predictor were also found for children (ages 12 to 18 years) with school refusal behavior that were also anxious/depressed (Layne, Bernstein, Egan, & Kushner, 2003). In a review of predictors and moderators of outcomes, in both pediatric anxiety and depression, age was not a significant predictor in 18 of 21 anxiety treatment trials from 1995 to 2011 (Nilsen, Eisemann, & Kvernmo, 2013). When age was a significant predictor, younger children seemed to be more responsive to the interventions. It is possible that the significant versus non-significant results for age as a predictor varied depending on the types of anxiety interventions. In this study, age was also be examined as a possible predictor to see if younger age (compared to older age) predicts program response to an Indicated Prevention and Early Intervention protocol.

Sex as a Predictor of Program Response

Anxiety appears to be more prevalent in girls, and this trend continues from childhood to adolescence. Although girls were reported to have higher anxiety (Rapee et al., 2009), in a sample of clinically anxious youth there was no difference in sex in the prevalence of fears nor was sex a moderator in the reduction of anxiety symptoms for those who participated in a CBT treatment (Treadwell et al., 1995). Sex was included as a variable because it appears to be more prevalent in girls, but there is research to suggest that both boys and girls benefit from a CBT protocol for anxiety.

Similar to the findings on age as a predictor to program response, the results related to sex as a predictor to program response are not consistent. For studies where sex

is found to be a significant predictor, girls, usually, have better outcomes. For example, girls responded better to a family-based CBT protocol for pediatric anxiety than to a CBT without family management (Barrett et al., 1996). However, program response for boys did not differ in the two CBT protocols (i.e., with and without family management; Barrett et al., 1996). In contrast, other studies have found sex not to be a predictor to treatment outcomes. In another CBT protocol, sex was not a moderator to treatment outcomes (Kendall et al., 1997; Southam-Gerow et al., 2001). In a study with one single-treatment session for specific phobia, girls had better outcomes than boys (Öst, Svensson, Hellström, & Lindwall, 2001). Once again, it appears the presence of significant results for sex as a predictor varies, and if there are any significant results, girls tend to have a better program response.

In a review of the literature on anxiety treatment trials, sex was not related to treatment outcomes in 17 of the 21 studies (Nilsen et al., 2013). These results are consistent with another study with an adult sample where sex was not a significant predictor to outcomes (Wolitzky-Taylor, Arch, Rosenfield, & Craske, 2012). Aside from sex, anxiety in childhood is not consistently related to any other demographic characteristic, such as educational level, family size, or marital status of parents (Nilsen et al., 2013; Rapee et al., 2009). Other demographics for this study were considered, but they were not selected given the previous research findings on outcome studies, as well as the lack of association with anxiety symptoms. Although sex and age are not consistently related to program response, younger children and girls are usually more likely to be related to better program response than any of the other demographic characteristics previously studied.

Psychological Risk Modifiers

This section will review constructs identified in this study as possible “psychological risk modifiers.” Examples of these risk modifiers include child anxiety sensitivity and child depressive symptoms. Conceptual models of anxiety have identified various types of risk modifiers (such as cognitive vulnerabilities) that can help in the development or maintenance of anxiety symptoms (Barlow, 1991, 2004). Conceptually, children may start a program with some risk modifiers that may become barriers to them fully recovering from significant anxiety symptoms. With the support of the tools children will learn in the CBT protocol, some of these risk modifiers might also represent competencies within the child to face their anxiety, which will help them experience clinical significant reduction in their anxiety symptoms.

Anxiety Sensitivity as a Predictor of Program Response

Anxiety sensitivity is characterized as an interpretation bias in which individuals who experience physiological anxiety symptoms believe negative things will happen to them (i.e., catastrophizing thoughts). In other words, it is what individuals think will happen to them when they experience anxiety (Reiss, Peterson, Gursky, & McNally, 1986). For example, someone may believe he or she will have a heart attack if/when he or she experiences anxiety symptoms such as rapid heartbeats (Reiss, 1991; Silverman, Fleisig, Rabian, & Peterson, 1991).

Anxiety sensitivity is seen as a risk modifier for anxiety disorders (Hayward et al., 1997; Reiss, 1991; Weems, Hayward, Killen, & Taylor, 2002). Someone with high anxiety sensitivity may begin to worry and anticipate negative things will occur because of their anxiety, which can increase the risk of an anxiety disorder. However, individuals

with low anxiety sensitivity may view their anxiety as a temporarily unpleasant emotion of nervousness that will eventually go away (Reiss, 1991).

There is a positive relation between anxiety sensitivity and reports of fearfulness in children (Reiss, 1991). Anxiety sensitivity has been related to higher reports of agoraphobia, simple phobia, posttraumatic stress disorder, and panic disorder (Reiss, 1991). Anxiety sensitivity was also found to be higher in younger children (ages 6 to 11) than older children (ages 12 to 17); however, age did not moderate the relation between anxiety sensitivity and anxiety symptoms (Weems, Costa, Watts, Taylor, & Cannon, 2007). Anxiety sensitivity has also been found to relate to anxiety symptoms in both clinically anxious samples and community samples with no anxiety diagnoses (Kearney, Albano, Eisen, Allan, & Barlow, 1997; Marin, Rey, Nichols-Lopez, & Silverman, 2008; Rabian, Peterson, Richters, & Jensen, 1993; Weems, Hammond-Laurence, Silverman, & Ginsburg, 1998). Furthermore, it was found that higher levels of anxiety sensitivity prospectively related to higher levels of anxiety symptoms in a community sample (Weems et al., 2007). To our knowledge, anxiety sensitivity has not been examined as a predictor of program response. This possible risk modifier may predict negative program response for those with higher levels of anxiety sensitivity at baseline. These risk modifiers will provide more information on children who may or may not respond to an intervention beyond just examining demographic variables.

Depressive Symptoms as a Predictor of Program Response

There are various studies that have examined depressive symptoms as a predictor to program response in anxiety outcome studies. For example, in a study with an ethnically diverse group of children (6 to 17 years of age; 36% Hispanic/Latino and 59%

White) seeking services for anxiety problems, it was found that children classified as being in the treatment failure group (i.e., not recovering from anxiety diagnosis) who completed measures on their depressive symptoms had higher scores than children in the treatment success group (i.e., children no longer having an anxiety diagnosis based on the Diagnostic and Statistical Manual of Mental Disorders or a reduction of anxiety severity; Berman et al., 2000).

There is also evidence that comorbid anxiety diagnosis was related to negative outcomes for children undergoing treatment for depression (Brent et al., 1998). One suggestion is that this is influenced by the tripartite model where anxiety and depression share negative affect, but what distinguishes anxiety is that there is a hyperarousal and for depression there is anhedonia (Clark, Watson, & Mineka, 1994). Therefore, children who are not only experiencing a negative affect from anxiety might also have a low interest to engage in treatment due to the anhedonia.

Not all studies found that depressive symptoms were related to program response in an anxiety protocol. In one study with youth (ages 7 to 17) participating in a treatment protocol for social phobia, depressive symptoms measured by the Child Depressive Inventory (CDI; Kovacs, 1981) did not predict program response (Alfano et al., 2009). The authors indicated that this lack of findings may have been the result of the variable impact of depressive symptoms on specific types of anxiety disorders. Social phobia with the comorbid depression symptoms might not be common in young children, as often as it is reported in the adult literature.

Furthermore, depression has been specifically examined with children (ages 6 to 18) receiving anxiety treatment through a CBT protocol (O'Neil & Kendall, 2012; Rapee

et al., 2013). In one study of children (ages 7 to 14) receiving treatment for an anxiety disorder, it was found that poor program response was related to higher levels of child-reported depressive symptoms measured via CDI (O'Neil & Kendall, 2012). In another study, children (ages 6 to 18) were placed into four groups based on comorbid problems: (1) no comorbidity, (2) anxiety disorders comorbidity, (3) externalizing disorders comorbidity, and (4) mood disorders comorbidity (Rapee et al., 2013). Although all of the children who participated in the CBT protocol experienced reduction in anxiety symptoms, it was found that anxious children with comorbid depression had the highest level of anxiety compared to the other groups. Other important information was gained from this study, which indicated that CBT anxiety protocols are able to have an impact on depressive symptoms. However, children with both comorbid depressive symptoms and multiple anxiety problems (compared to no comorbidity) might begin the anxiety protocol with higher levels of anxiety and continue to have higher levels of anxiety after participating in an anxiety protocol. Given the current findings on depressive symptoms and their relation to poorer program response, it is important to continue examining this child risk psychological modifier within the current study.

Anxiety Control as a Predictor of Program Response

Anxiety control can be conceptualized as a risk modifier. Individuals with high perceived control can help reduce the development of anxiety symptoms, while individuals with low anxiety control can increase the risk of anxiety symptoms. For example, there are theories regarding the role of control in the development and maintenance of anxiety. Some of the current theories suggest that individuals who have a perception that they cannot control negative emotional experiences are more likely to

develop anxiety (Barlow, 2004). Initially, perceptions of control have been seen as a mediator, but it has also been conceptualized as a moderator that can influence the impact of stressors in the environment and the development of anxiety disorders (Barlow, 2004).

There are many studies that have found a negative association with perceived anxiety control and various anxiety disorders. For example, it was found that anxiety control was a predictor when children (ages 9 to 12) who participated in a group CBT intervention had reduced anxiety symptoms from pre- to posttest (Muris, Mayer, den Adel, Roos, & van Wamelen, 2009). Therefore, having higher perceived control over anxiety symptoms can be related to individuals having more skills to respond to anxiety-provoking situations and increase their ability to reduce the maintenance of anxiety.

In another study with clinically referred anxious children, anxiety control was negatively associated with anxiety symptoms (Marin et al., 2008). In this cross-sectional study, the subscales of anxiety control as measured by the Anxiety Control Questionnaire for Children (i.e., perceived control over Internal Reactions and perceived control over External Threats; Weems, Silverman, Rapee, & Pina, 2003) were mediators between anxiety sensitivity and anxiety symptoms. Perceived control over Internal Reactions describes an individual's sense of control for negative internal emotions and bodily reactions of anxiety, such as rapid heart beating and shaking. Perceived control over External Threats describes an individual's sense of control for fear provoking situations, events, or objects (Marin et al., 2008; Weems et al., 2007, 2003). The mediational relation of anxiety control between anxiety sensitivity and anxiety symptoms differed by sex. Perceived control over Internal Reactions was a mediator between anxiety sensitivity and anxiety control in boys. Whereas perceived control External Reactions was a

mediator between anxiety sensitivity and anxiety symptoms in girls (Marin et al., 2008). However, this study was cross-sectional, so it is difficult to determine if perceived control is a mediator.

Consistent with other research, anxiety control has also been negatively associated with anxiety symptoms in a community sample within a longitudinal design (Weems et al., 2007). Building upon the theory regarding the role of control in the development of anxiety, it has been proposed that perceived control may act as a mediator but later become a more crystalized component and serve as a moderator (Barlow, 2004; Chorpita & Barlow, 1998). This study examined the role of anxiety control as a predictor of program response within a sample of youth.

The above studies with youth are consistent with results in the adult literature on anxiety control. Adults who participated in a CBT protocol and had higher levels of perceived control were more likely to recover from having an anxiety diagnosis after completing the intervention (Gallagher, Naragon-Gainey, & Brown, 2014). Therefore, it was hypothesized that anxiety control would be a predictor of anxiety symptom reduction.

Social Competence as a Predictor of Program Response

Social competence is another characteristic that may be associated with better program response. For example, there was a higher response to an anxiety protocol for children who reported they had higher friendship quality at baseline before the intervention (Baker & Hudson, 2013). However, these results were not reciprocal for the friend reporting on the friendship quality of the anxious child (Baker & Hudson, 2013). Regardless of actual friendship quality, it was the anxious child's perception of their

friendship quality that was related to lower anxiety symptoms. For this dissertation study, it was hypothesized the quality of social relationships can be a predictor of program response for anxious children. In a study that examined program response in children (ages 7 to 17) with a primary diagnosis of social phobia, ratings of the child's social effectiveness with same-age peers predicted program response at posttest (Alfano et al., 2009). Ratings of the child's social competence as reported by their mother was examined in this study to see if social competence is a predictor of a higher level of program response.

Present Study

This present study seeks to address several gaps in the existing literature examining predictors of outcome studies for anxiety disorders. First, there is a paucity of outcome studies focused on predictors for program response in anxiety prevention programs. Most of the work on predictors for program response is on treatment studies. To my knowledge, there is one study that identified predictors in an anxiety prevention program (Dadds et al., 1999). Furthermore, the present study examined other factors beyond demographic characteristics that may influence treatment outcomes. For example, there is research supporting the association of child anxiety sensitivity and child depressive symptoms as risk modifiers, but these identified psychological risk modifiers have not been examined in anxiety prevention studies. This study was also the first to examine anxiety control as a predictor of program response in the children literature. There is already support for anxiety control as a predictor of treatment response in the adult treatment literature. There has also been a shift in the anxiety literature as well as within the promotion of mental health to identify competencies. Therefore, the identification of

social competencies was examined in this study to see if it can play a role in children facing their fears.

Aims, Research Questions, and Hypotheses

The aim of the current study is to identify child characteristics that predict response to a child anxiety indicated prevention and early intervention protocol. In particular, two domains were used to predict program response at posttest: (1) child demographic characteristics and (2) child risk modifiers. More specifically, the present study examines the following research questions. (1) What child demographic characteristics predict program response to an indicated anxiety prevention and early intervention protocol? (2) What child psychological risk modifiers predict program response to an indicated anxiety prevention and early intervention protocol? (3) Does sex or protocol condition interact with one of the risk modifiers, via a two-way interaction (e.g., CASI by sex; CASI by condition), to predict program response? The following hypotheses were expected based on the reviewed literature.

Hypothesis 1: It was expected that child demographic characteristics of being a girl and being younger will predict program response. Some of the previous literature has identified younger children and girls to show higher program response (Barrett et al., 1996; Dummit et al., 1996; Southam-Gerow et al., 2001). Although no specific hypotheses were developed for race and protocol condition, it was determined that both race/ethnicity and protocol condition (i.e., child-only vs. child-plus-parent) should be considered in the analyses. No hypothesis was developed for race/ethnicity in this study because it did not emerge as a moderator in the previous outcome study (Pina et al., 2012). Also, no hypothesis was developed for protocol condition because there was a

significant reduction of anxiety symptoms across both protocols. The only exception was that two measures (i.e., pre- to posttest child-reported anxiety symptoms and parent-rated child anxiety symptoms) reached statistically significant levels for the child-plus-parent condition only. Based on the previous findings from Pina et al. (2012), ethnicity and condition were included in the analyses, but few to no differences were expected.

Hypothesis 2a: It is expected that some child risk modifiers (i.e., anxiety sensitivity and depressive symptoms) will negatively predict program response. The literature review provides evidence that both higher levels of anxiety sensitivity and higher levels of depressive symptoms are related to higher anxiety symptoms (Hayward et al., 1997; Marin et al., 2008; O’Neil & Kendall, 2012; Rapee et al., 2013; Weems et al., 2002). Furthermore, it appears that those who are at a higher risk (i.e., severity and impairment of anxiety symptoms) are less likely to respond to the intervention.

Hypothesis 2b: It was expected that some child risk modifiers (i.e., anxiety control and social competence) will be positively related to program response. The literature in this area is limited, but there is research that suggests that every individual (with an anxiety diagnosis or not) possesses some level of anxiety control. Those with higher levels of anxiety control are less likely to experience higher anxiety symptoms. Although there is less research on social competence, the research on competence in general suggests a positive relation with positive outcomes.

Hypothesis 3: It was hypothesized that the relation between the risk modifier and program response would be weaker for boys while the association between the risk modifier and program response would be stronger for girls. It was also hypothesized that the relation between the risk modifier and program response would be stronger for the

child-plus-parent condition compared to the child-only-condition because there were a few more significant outcomes found in the child-plus-parent condition from the Pina et al. (2012) study.

CHAPTER 2

METHOD

Participants

The data drawn from Pina et al. (2012) provided the sample size of this study. The sample size consisted of 88 children (45 girls, $M_{age} = 10.36$ years, $SD = 2.73$; age range = 6 to 17 years). In this study, 52 children (59.1%) who served as participants self-identified as Hispanic/Latino and 36 (40.9%) children self-identified as European-American/White (see Table 1). The median family income in this sample ranged from \$21,000 to \$41,000.

Children and their parents were referred to this study by their public school staff regarding the child's excessive anxiety. An inclusion and exclusion criterion for the study was based on the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions (ADIS-C/P; Silverman & Albano, 1996). The exclusion criteria for children included developmental delays, schizophrenia, psychosis, suicidal ideation, or those currently participating in another intervention. Children were included in the study if they exhibited high levels of anxiety symptoms and/or met criteria for an anxiety diagnosis. Based on the ADIS-C/P, 32 children met criteria for separation anxiety disorder (SAD), 14 met criteria for generalized anxiety disorder (GAD), 11 met criteria for social anxiety disorder, and 10 met criteria for specific phobia disorder (SP). While 16 children did not meet criteria for an anxiety disorder based on the ADIS-C/P, they were still included because they reported major anxiety symptoms. The group of children that did not meet the criteria for a diagnosis is similar to individuals who would meet the borderline criteria for an indicated prevention program (Haggerty & Mrazek, 1994).

Measures

Childhood Anxiety Sensitivity Index (CASI; see Appendix A) was developed by Silverman et al. (1991) and measures children and adolescent's sensitivity to their aversive anxious symptoms by how they view their anxiety symptoms. There are 18 items in that index that use a "None," "Some," and "A lot" response scale. Scores can range from 18 to 54, with higher scores indicating higher anxiety sensitivity. A .87 Cronbach's alpha internal consistency estimate for the CASI total score has been reported in past published research (Silverman et al., 1991).

Children's Depression Inventory (CDI; see Appendix B) measures depressive symptoms as reported by the child (Kovacs, 1981). The child can choose from 27 items using a list of three statements of varying levels of severity. Scores can range from 0 to 54, with higher scores indicating more depressive symptoms. Good internal consistency has also been reported for this scale (Klein, Dougherty, & Olino, 2005).

Anxiety Control Questionnaire for Children-Short Form (ACQ; see Appendix C) measures control over anxiety-related events as reported by the child (Weems, 2005). The ACQ is used with children between 6 to 17 years old. The current measure is a shortened version of 10 items that originally come from the 30-item ACQ-C (Weems et al., 2003). There is a 5-point Likert response scale from 0 (none) to 4 (very, very much). Scores can range from 0 to 40, with higher scores indicating higher anxiety control. A .85 alpha internal consistency estimate has been reported for this scale (Weems, 2005).

Revised Children's Manifest Anxiety Scale (RCMAS; see Appendix D) measures anxiety symptoms in children as reported by the child (Reynolds & Richmond, 1978). There are 37 items using a "yes" or "no" response scale. There are nine items that form a

composite for a Lie score. The other 28 items are summed to create a Total Anxiety score, with higher scores indicating higher anxiety symptoms. A .98 test-retest reliability was previously found (Pela & Reynolds, 1982).

Child Behavior Checklist (CBCL measures behavioral problems and social competencies as reported by the parent (Achenbach & Rescorla, 2001). The CBCL is used with children between 6 to 18 years old. There are 118 items, and each item is rated using a 0 (not true), 1 (somewhat or sometimes true), or 2 (very true or often true) response scale. Normative data is also available for this scale. The CBCL Social Competence scale is also significantly related to other measures of social skills (Frankel & Myatt, 1994). Given the focus of this present study, the CBCL Social Competence scale and the CBCL Internalizing Scale were analyzed separately.

ADIS–Parent and Child Versions for DSM–IV (Silverman & Albano, 1996). The ADIS-C (child version) and the ADIS-P (parent version) are structured diagnostic interviews that measure symptoms of the child’s anxiety, mood, and disruptive behavior problems according to the DSM, fourth edition, to determine if a diagnosis is present. The child and their parents were interviewed separately. Then a severity rating by the interviewer was made for each anxiety diagnosis given to the child. When generating this rating, the interviewer asks the child and parent separately, “How much does the problem mess up/interfere with things in the child’s life?” The Clinician Severity Ratings (CSRs) range from 0 (no interference/distress) to 8 (severe interference/distress), where a score of a 4 or higher from the child or parent interviewing indicates a disorder (Silverman & Albano, 1996).

Procedure

The University Internal Review Board first approved this study. Participants in this study were recruited through referrals from public schools. A total of 79 public schools hosted a two-hour workshop on anxiety in students. The focus of the workshop was to provide psycho-education on (a) the types of anxiety (e.g., separation anxiety disorder, social phobia, generalized anxiety, specific phobias), (b) clinical phenomenology of anxiety in Hispanic/Latino children, and (c) the process for referring their anxious students to the study. Next, school staff (i.e., teachers, nurses, school counselors, social workers, and school psychologists) were given a handout that summarized the information from the workshop and provided tips to identify anxious students based on questions from the ADIS-C/P. Discretion was left to each school to refer students to the study.

After parents signed consent forms and children provided assent, the parents and the children completed the ADIS-CP and questionnaires. The children who met the study's criteria were randomized to one of two conditions: child-only protocol or a child-plus-parent protocol. The focus of the Pina et al. (2012) study was to also examine the role of ethnicity and language within the child-plus-parent condition, so the randomization ratio was 1:2 (child only: child plus parent). Both the intervention and the assessments (pre-, post-, and six-month follow-up) took place at the university clinic by blinded research assistants.

Conditions

After the pre-assessment, children and their parents were randomly assigned to one of the two protocol conditions. All children received the CBT protocol, but the level

of parental involvement varied with the child-plus-parent condition. The CBT protocol focused on using cognitive-behavioral strategies to reduce child anxiety with systematic and gradual exposures to anxiety-provoking situations as well as culturally responsive implementation strategies (Pina, Villalta, & Zerr, 2009; Silverman & Albano, 1996). The sessions were 60 minutes each and occurred once a week over 12 weeks. In the child-only protocol condition, the mother would attend the last 10 minutes of the individual session to provide an update on the child's progress. For the child-plus-parent protocol, the mother remained in the room with the child during the entire session. Although there was a child-only condition, each parent and child were seen together in both conditions, but the level of participation by the parent varied as a function of the randomized condition. The Interventionists were doctoral students who participated in weekly on-site supervisory meetings. Further details about the treatment are provided in the original study (see Pina et al., 2012).

Data Analytic Plan

The final analytic plan for this study resulted in 20 separate analyses. The final analytic plan was pursued because the five separate hierarchical/sequential regression analyses originally proposed for this study could not be estimated, as the number of parameters was not supported by the sample size in this study. Before discussing the two different data analytic approaches, preliminary analyses and corresponding findings are described below.

Preliminary Analyses

Using Statistical Package for the Social Sciences (SPSS), descriptive statistics were conducted to identify the mean, standard deviation, range, skewness, and kurtosis.

Variables usually have the potential to bias analyses if they are beyond the limits of normality, which is when skewness is greater than the cutoff of 2 and kurtosis is greater than the cutoff of 7 (West, Finch, & Curran, 1995). Pearson correlations (r) were also conducted for all variables of interest in this study.

As planned, regression analyses were conducted using MPlus 7.31 (Muthén & Muthén, 2006). When conducting regression analyses, Full Information Maximum Likelihood (FIML) estimation was used to account for any missing data. Researchers believe this method yields a robust estimation for handling missing data (Schafer & Graham, 2002). FIML also generally demonstrates less bias, requires less stringent assumptions, provides greater accuracy, and improves power compared to other traditional missing data techniques, such as list-wise deletion, pairwise deletion, and mean imputation (Baraldi & Enders, 2010; Enders, 2001; Peugh & Enders, 2004).

For the purpose of this study, child characteristics were examined as predictors of program response to a Child Anxiety Indicated Prevention and Early Intervention protocol. Predictors of program response were organized across two domains: (1) child demographic characteristics and (2) child risk modifiers. All of the predictors were assessed at pretest. Child demographic characteristics included the child's sex and age. The four child risk modifiers were: (1) anxiety sensitivity (as measured by CASI), (2) depressive symptoms (as measured by CDI), (3) anxiety control (as measured by ACQ-C), and (4) social competence (as measured by CBCL-Social Competence Scale).

Separate regression analyses were used to examine predictors of program response for five outcome measures: (1) child-reported negative affectivity (as measured by RCMAS), (2) mother-rated child's internalizing problems (as measured by CBCL-

Internalizing), (3) child-reported anxiety symptoms (as measured by ADIS-C), (4) mother-rated anxiety symptoms about the child (as measured by ADIS-P), and (5) clinician-rated severity of child anxiety (as measured by ADIS-Clinician's Severity Rating Scale). Each outcome measure was assessed before and after the intervention (i.e., pretest and posttest, respectively).

Original Data Analytic Plan

There were five hierarchical multiple regressions originally proposed to provide an opportunity to examine multiple predictors and identify their unique contribution to the five separate outcomes of program response while also accounting for the different interrelations among the predictors. For example, to examine program response of child-reported negative affectivity measured via the RCMAS variables were entered in sets for the following steps (see Appendix F, Table A for illustration): (a) Step 1—"fixed" demographic covariates (sex, age), (b) Step 2—pretest covariates (pretest negative affectivity, protocol condition [i.e., child-only vs. child-plus-parent condition]), (c) Step 3—lower-order effect of risk modifiers predictors (anxiety sensitivity, depressive symptoms, anxiety control, and social competence), and (d) Step 4—interactions (anxiety sensitivity by sex, anxiety control by sex, anxiety sensitivity by protocol condition, and anxiety control by protocol condition; see Appendix F). The proposed data-analytic model for conducting hierarchical multiple regressions with these aforementioned steps was intended to be repeated for the other four outcomes of program response (i.e., CBCL-Internalizing, ADIS-C, ADIS-P, and ADIS-CSR) are included in Appendix F, Tables A through E.

The original data-analytic plan, however, was not possible because the model could not be estimated in Mplus given there were more parameters (i.e., 90 parameters) than the study's sample size ($n = 88$). The large number of parameters was due to the 12 total predictors in each of the five original proposed models (see Appendix F, Tables A through E). These 12 predictors included the following (a) four covariate variables (i.e., age, sex, protocol condition, and pretest scores of the dependent variable), (b) four risk modifiers as predictors (i.e., anxiety sensitivity [as measured by CASI], depressive symptoms [as measured by CDI], anxiety control [as measured by ACQ-C-S], and social competence [as measured by CBCL-Social Competence Scale]), and (c) four continuous by dichotomous interaction terms (e.g., CASI by sex, ACQ-C by sex, CASI by condition, and ACQ-C X condition).

Revised Data Analytic Plan

To simplify this original proposed regression model and reduce the number of parameters in each regression model, each of the four risk modifiers (e.g., CASI, CDI, ACQ-C, and CBCL-Social Competence) was examined separately across the five outcomes: (1) RCMAS, (2) CBCL-I, (3) ADIS-C, (4) ADIS-P, and (5) ADIS-CSR. This revised data analytic plan resulted in 20 separate regression models compared to the original data analytic plan that examined all of the predictors in five separate hierarchical regressions that were based on the different outcomes of program response. An additional approach to reduce the number of variables was that the five outcomes were calculated by pretest scores minus posttest scores. The pretest to posttest change scores are denoted by delta symbol (Δ). Therefore, a positive Δ is associated with an improvement in program response of anxiety symptoms or related anxiety outcomes (e.g., internalizing symptoms).

Below, the revised data analytic plan is described in terms of how each research question was examined.

The first research question of this study was put forth to examine whether child demographic characteristics were associated with program response to an indicated anxiety prevention and early intervention protocol. The predictors of child demographic characteristics included age, sex, protocol condition, and race/ethnicity. Although race/ethnicity was not part of the original data analytic plan, it was added in the revised model to explore whether it would emerge as a significant predictor given that half of the sample identified as Hispanic/Latino and the other half identified as White. The second research question was to examine what child risk modifiers at baseline (i.e., pretest) were associated with program response to an indicated anxiety prevention and early intervention protocol. There were four child risk modifiers identified for this study (i.e., CASI, CDI, ACQ-C, and CBCL-Social Competence). The third research question examined if sex or protocol conditions interacted with one of the risk modifiers, via a two-way interaction (e.g., CASI by sex; CASI by condition), associated with program response. For the three research questions, maximum likelihood was used to estimate multiple regression models with interaction terms with 20 separate regression analyses. The following seven variables were added simultaneously in each of the 20 regression models: (1) age, (2) race/ethnicity, (3) protocol condition, (4) sex, (5) a risk modifier (e.g., CASI), (6) the same risk modifier by protocol condition (e.g., condition by CASI), (7) the same risk modifier by sex (e.g., sex by CASI). Before completing the multiple regression analyses, age and the continuous risk modifiers were centered at the maximum likelihood estimate of the grand mean. A product term was created by multiplying

protocol condition (where 0 = child-only protocol and 1 = child-plus-parent protocol) and the centered risk modifier. A second product term was created by multiplying sex (where 0 = girl and 1 = boy) and the centered risk modifier.

In summary, the first research question examined whether child demographic characteristics were associated with program response to an indicated anxiety prevention and early intervention protocol. The second research question was to examine what child risk modifiers at baseline (i.e., pretest) were related to program response to an indicated anxiety prevention and early intervention protocol. The third research question examined if sex or protocol conditions interacted with one of the risk modifiers, via a two-way interaction (e.g., CASI by sex; CASI by condition), related to program response. Each of the three research questions were examined simultaneously in the same regression models because the first and second research questions examined both the child demographics characteristics and the risk modifiers as lower-order effects while the third research question examined the higher-order interactive effect of whether either sex and/or protocol condition interacted with one of the risk modifiers, via a two-way interaction (e.g., CASI by sex; CASI by condition).

If any of the interactions emerged to be statistically significant, the interaction was probed in two different ways. This was done because of the dichotomous by continuous interaction. The first approach included calculating simple slopes based on the dichotomous variable (i.e., sex or condition). Simple slopes by the dichotomous variable allowed further exploration if the association between the risk modifier and program response was significant within the subsamples of the dichotomous variable (e.g., girl and/or boys). The second approach to probe the significant interaction was through the

Johnson-Neyman (J-N) and the “pick-a-point” approach (Johnson & Neyman, 1936; Preacher, Curran, & Bauer, 2006). For example, this was used to identify on what points of the continuous risk modifier boys and girls were significantly different when examining the association between the risk modifier and the outcome of program response. The J-N plot was used to identify when the curved confidence interval bands of the continuous variable crossed the x-axis. These particular points on the risk modifier were examined, and the percentage of the current sample that was observed within these regions of significance of the interaction was reported.

CHAPTER 3

RESULTS

Descriptive Statistics and Zero-Order Correlations

Descriptive statistics of the study variables were obtained using SPSS. The means, standard deviations, ranges, skewness, and kurtosis of the study variables are presented in Table 2. One of the variables in this study was above the recommended level of 2 for skewness and 7 for kurtosis, based on criteria by West, Finch, and Curran (1995). The posttest score of the ADIS-P had a skewness value of 2.93 and a kurtosis value of 11.32. As a result of this data being non-normal, the estimator of MLR was used in subsequent analyses for the Mplus analyses (Muthén & Muthén, 2006).

Preliminary Analyses

SPSS was also used to conduct correlation analyses, t-tests, and chi-square tests. Table 3 provides information about the inter-correlations for the variables examined in this study. T-tests and chi-square tests were used to determine if there were any differences among the demographic variables (i.e., age, sex, and race/ethnicity) across the study variables (i.e., predictor and outcome variables). There were no differences found for sex on any of the study variables. However, there were differences found for study variables across race and age. In particular, there were significant differences in social competence by race, where White parents reported higher social competence for their children ($M = 7.67, SD = 10.05$) than Hispanic/Latino parents ($M = 3.41, SD = 3.04$); $t(38.75) = -2.42, p = .02$. Degrees of freedom were adjusted from 79 to 38.75 because Leven's tests indicated unequal variances ($F = 4.95, p = .03$). There was also a significant difference in pretest RCMAS scores by race, where Hispanic/Latino children reported

higher scores ($M = 14.33$, $SD = 7.64$) than White children ($M = 10.52$, $SD = 6.38$); $t(74) = 2.29$, $p = .03$). There was also a significant difference in age across protocol conditions, where the children in the child-only protocol were significantly older ($M = 11.41$, $SD = 3.1$) compared to the children in the child-plus-parent protocol ($M = 9.85$, $SD = 2.40$); $t(86) = 2.60$, $p = .011$). In the Pina et al. (2012) study, there were no outliers or attrition biases between the child-only and child-plus-parent protocol condition. Furthermore, all of the study variables were within the potential range of scores that could be obtained within the respective measures, so none of the study variables were considered to be outliers. See Table 2 for information about the range of scores for all of the study variables.

Results with Child Anxiety Sensitivity

As shown in Table 4, there were significant lower-order effects for child age, ethnicity, and child anxiety sensitivity, as well as interaction effects for baseline levels of child anxiety sensitivity in the prediction of intervention-related changes at posttest. In the models evaluating whether baseline levels of child anxiety sensitivity (based on the CASI) predicted intervention-related changes at posttest, child age emerged as a marginally significant predictor of pretest to posttest change of anxiety symptoms via the ADIS-C. More specifically, each one-unit increase in child age was related to reductions on the ADIS-C ($b = 0.45$, $p = .09$). Moreover, results showed that child race/ethnicity emerged as a significant predictor of pretest to posttest change on anxiety symptom severity measured via the ADIS-CSR. Compared to White children, Hispanic/Latino children had greater reductions on ADIS-CSR ($b = -1.59$, $p = .002$). As shown in Table 4,

these significant results occurred while controlling for the other lower-order and high-order factors examined (i.e., protocol condition).

In terms of interactions, significant effects for condition (child only vs. child plus parent) by child anxiety sensitivity and also sex by child anxiety sensitivity were found. The condition by anxiety sensitivity was marginally significant in the prediction of child internalizing behavior problems based on the CBCL-I. The association between child anxiety sensitivity and changes on the CBCL-I was significantly moderated by protocol condition ($b = 0.83, p = .06$). Given the significant interaction, simple slopes were further conducted following the guidelines of Aiken and West (1991). Although the difference between the simple slopes of the two protocol conditions were significantly different, the simple slopes for child-only ($b = -0.86, p = .13$) and child-plus-parent protocol were not significant ($b = -0.03, p = .95$). For more details on this interaction, see Figure 1. The child-only and the child-plus-parent conditions differed significantly on the CBCL-I when scores were within the range of 11 points above the sample mean of the CASI scale ($M = 28.00$; 14% or five children had scores within the identified range and of those three were in the child-plus-parent condition). The sex by child anxiety sensitivity interaction was significant in the prediction of anxiety symptoms based on the ADIS-P ($b = 0.54, p = .01$). After probing this significant interaction for boys and girls separately, the simple slopes for boys ($b = 0.12, p = .02$) and girls were significant ($b = -0.41, p = .04$). For more details on this interaction, see Figure 2. Girls and boys differed significantly on ADIS-P when scores were within the range of three points below the sample mean of CASI ($M = 27.97$). Within this range of scores, 44% or 34 of the 77 children had scores three points below the mean, and of those 20 children were boys. The sex by child

anxiety sensitivity interaction was significant in the prediction of anxiety symptom severity based on the ADIS-CSR ($b = 0.21, p = .02$). Although the difference between the simple slopes for boys and girls were significantly different, the simple slopes for boys ($b = 0.10, p = .10$) and girls were not significant ($b = -0.11, p = .30$). For more details on this interaction, see Figure 3. Girls and boys differed significantly on ADIS-CSR when scores were within the range of two points above the sample mean of the CASI ($M = 28.02$). Within this range of scores, 38% or 29 of the 77 children had scores two points above the mean, and of those 14 children were boys.

Results with Child Depressive Symptoms

Results also showed significant lower-order effects for child age, ethnicity, and child depressive symptoms, as well as interaction effects for baseline levels of child depressive symptoms in the prediction of intervention-related changes at posttest. As shown in Table 5, in the models evaluating whether baseline levels of child depressive symptoms (based on the CDI) predicted intervention-related changes at posttest, child age emerged as a significant predictor of pretest to posttest change of anxiety symptoms via the ADIS-C. More specifically, each one-unit increase in child age was related to reductions on the ADIS-C ($b = 0.50, p = .05$). Child race/ethnicity emerged as a significant predictor of pretest to posttest change on anxiety symptom severity measured via the ADIS-CSR. Compared to White children, Hispanic/Latino children had greater reductions on ADIS-CSR ($b = -1.69, p = .001$). Moreover, results showed that child race/ethnicity emerged as a marginally significant predictor of pretest to posttest change on number of anxiety symptoms based on the ADIS-C. Compared to White children, Hispanic/Latino children had greater reductions on ADIS-C ($b = -1.85, p = .09$). As

shown in Table 5, these significant results occurred while controlling for the other lower-order and high-order factors examined (i.e., protocol condition and sex).

In terms of interactions, significant effects for condition (child only vs. child plus parent) by child depressive symptoms and sex by child depressive symptoms were found. The sex by child depressive symptoms interaction was significant in the prediction of anxiety symptoms based on the ADIS-C ($b = 0.97, p = .01$). After probing this significant interaction for boys and girls separately, only the simple slope for girls was significant ($b = -0.87, p = .03$); the simple slope for boys was not significant ($b = 0.11, p = .68$). For more details on this interaction, see Figure 4. Girls and boys differed significantly on ADIS-C when scores were within the range of five points below and two points above the sample mean on the CDI ($M = 25.31$). Within this range of scores, 24% or 19 of the 79 children had scores two points above the mean, and of those 12 children were boys. The condition by child depressive symptoms interaction was significant in the prediction of anxiety symptom severity based on the ADIS-CSR ($b = 0.38, p = .04$). After probing this significant interaction for each protocol condition separately, only the simple slope for the child-only protocol condition was significant ($b = -0.49, p = .03$); the simple slope for child-plus-parent protocol condition was not significant ($b = -0.11, p = .39$). For more details on this interaction, see Figure 5. The child-only and the child-plus-parent conditions differed significantly on ADIS-CSR when scores were within the range of five points below the sample mean on the CDI ($M = 25.271$). Within this range of scores, 5% or four of the 79 children had scores five points below the mean, and of those four were in the child-plus-parent condition.

Results with Child Anxiety Control

In addition, there were significant lower-order effects for child age, ethnicity, and child anxiety control, as well as interaction effects for baseline levels of child anxiety control in the prediction of intervention-related changes at posttest. As shown in Table 6, in the models evaluating whether baseline levels of child anxiety control (based on the ACQ-C) predicted intervention-related changes at posttest, child age emerged as a significant predictor of pretest to posttest change of anxiety levels via the RCMAS. Child age also emerged as a significant predictor of pretest to posttest change on anxiety symptom severity measured via the ADIS-CSR. Child age also emerged as a marginally significant predictor of pretest to posttest change on the number of anxiety symptoms based on the ADIS-C. More specifically, each one-unit increase in child age was related to reductions on the RCMAS ($b = 0.92, p = .05$). Each one-unit increase in child age was related to reductions on the ADIS-CSR ($b = 0.19, p = .05$). Each one-unit increase in child age was related to reductions on the ADIS-C ($b = 0.48, p = .07$). Child race/ethnicity emerged as a significant predictor of pretest to posttest change on anxiety symptom severity measured via the ADIS-CSR. Compared to White children, Hispanic/Latino children had greater reductions on ADIS-CSR ($b = -1.41, p = .004$). As shown in Table 6, these significant results occurred while controlling for the other lower-order and high-order factors examined (i.e., protocol condition, sex, sex by ACQ-C).

In terms of interactions, significant effects for condition (child only vs. child plus parent) by child anxiety control were found. The condition by child anxiety control interaction was significant in the prediction of child internalizing behavior problems based on the CBCL-I ($b = -0.86, p = .04$). Although the difference between the simple

slopes of the two protocol conditions were significantly different, the simple slope for child-only protocol ($b = 0.65, p = .14$) and child-plus-parent protocol were not significant ($b = -0.21, p = .29$). For more details on this interaction, see Figure 6. The child-only and the child-plus-parent conditions differed significantly on the CBCL-I when scores were within the range of 13 points above the sample mean on the ACQ-C ($M = 21.81$). Within this range of scores, 10% or six of the 60 children had scores 13 points above the mean, and of those four children were in the child-plus-parent condition. The condition by child anxiety control interaction was significant in the prediction of anxiety symptom severity based on the ADIS-CSR ($b = -0.17, p = .02$). After probing this significant interaction for each protocol condition separately, only the simple slope for the child-only protocol condition was significant ($b = 0.18, p = .02$); the simple slope for child-plus-parent protocol condition was not significant ($b = 0.02, p = .64$). For more details on this interaction, see Figure 7. The child-only and the child-plus-parent conditions differed significantly on ADIS-CSR when scores were within the range of seven points below the sample mean on the ACQ-C ($M = 21.85$). Within this range of scores, 38% or 16 of the 60 children had scores seven points below the mean, and of those 15 were in the child-plus-parent condition.

Results with Child Social Competence

Lastly, and as shown in Table 7, there were significant lower-order effects for child age, ethnicity, and child social competence, as well as interaction effects for baseline levels of child social competence in the prediction of intervention-related changes at posttest. In the models evaluating whether baseline levels of child social competence predicted intervention-related changes at posttest, child age emerged as a

significant predictor of pretest to posttest change on anxiety levels measured via the RCMAS. Child age also emerged as a marginally significant predictor of pretest to posttest change on the number of anxiety symptoms based on the ADIS-C. More specifically, each one-unit increase in child age was related to reductions on the RCMAS ($b = 1.58, p = .001$). Each one-unit increase in child age was related to anxiety symptom reductions on the ADIS-C ($b = 0.53, p = .07$). Moreover, results showed that child race/ethnicity emerged as a significant predictor of pretest to posttest change on anxiety symptom severity measured via the ADIS-CSR. Compared to White children, Hispanic/Latino children had greater reductions on ADIS-CSR ($b = -1.53, p = .03$). As shown in Table 7, these significant results occurred while controlling for the other lower-order and high-order factors examined (i.e., sex).

In terms of interactions, significant effects for condition (child only vs. child plus parent) by CBCL-Social Competence and also for sex by CBCL-Social Competence were found. The condition by CBCL-Social Competence was significant in the prediction of anxiety levels based on the RCMAS ($b = 2.30, p = .04$). After probing this significant interaction for each protocol condition separately, only the simple slope for the child-only protocol was significant ($b = -2.20, p = .05$; the simple slope for child-plus-parent protocol was not significant: $b = .10, p = .77$). For more details on this interaction, see Figure 8. The child-only and the child-plus-parent conditions differed significantly on the RCMAS when scores were within the range of 0.5 points above the sample mean of the CBCL-Social Competence scale ($M = 4.28$; 48% or 39 children had scores within the identified range, and of those seven were in the child-plus-parent condition). The sex by CBCL-Social Competence was significant in the prediction of child internalizing

behavior problems based on the CBCL-I ($b = -2.52, p = .02$). After probing this significant interaction for boys and girls separately, only the simple slope for boys was significant ($b = -2.86, p = .001$); the simple slope for girls was not significant ($b = -0.34, p = .78$). For more details on this interaction, see Figure 9. Girls and boys differed significantly on CBCL-I when scores were within the range of four points below and six points above the sample mean of the CBCL-Social Competence scale ($M = 4.24$). Within this range of scores, 27% or 22 of the 81 children had scores four points below the mean, and of those 10 children were boys.

CHAPTER 4

DISCUSSION

The purpose of this dissertation study was to examine child characteristics that predict program response to a Child Anxiety Indicated Prevention and Early Intervention protocol using the same data from a previously published outcome study by Pina et al. (2012). A positive program response would indicate that the child who participated in the intervention experienced a stronger reduction in their anxiety symptoms. Program response was evaluated in this current study using five different anxiety measures: parent-rated child internalizing behavior problems (via the CBCL-I), child-reported anxiety levels (via the RCMAS), child-reported anxiety symptoms (via the ADIS-C), parent-rated anxiety symptoms (via the ADIS-P), and clinician-rated anxiety symptom severity (ADIS-CSR). Each child's program response was measured before they initially began the anxiety protocol (i.e., pretest) and after they completed the anxiety protocol (i.e., posttest). Two domains were used to predict program response: (1) child demographic characteristics and (2) child psychological risk modifiers.

In general, regarding the first domain of child demographic characteristics, age and self-identified race/ethnicity were significantly related to reductions in child anxiety symptoms. Specifically, older age and self-identifying as Hispanic/Latino (compared to White) were related to more reductions in child anxiety symptoms (i.e., positive program response) based on the RCMAS, ADIS-C, and ADIS-CSR. Concerning the second domain of child psychological risk modifiers, the results of this study suggested that lower levels of child anxiety sensitivity, lower levels of child depressive symptoms, and lower levels of social competence were associated with stronger rates of reductions in

child-, parent-, and clinician-rated child anxiety symptoms and parent-rated child internalizing problems (based on the CBCL-Internalizing scale, ADIS-C, ADIS-P, ADIS-CSR, respectively). Higher levels of anxiety control were associated with a more pronounced change in reductions along parent-rated and clinician-rated child anxiety symptoms (based on ADIS-P and ADIS-CSR). Furthermore, the relation between each of the four risk modifiers and program response was moderated, either by (1) sex and/or (2) type of intervention (protocol condition: child only vs. child plus parent). The major findings of this study showed that hypotheses for this dissertation were partially supported. Additional details about the findings and possible interpretations are discussed below.

Child Demographic Characteristics

The first set of primary analyses examined which child demographic characteristics predicted program response to an indicated anxiety prevention and early intervention protocol. It was hypothesized that the demographic characteristics of age and sex would be significantly related to program response. Specifically, it was anticipated that sex and age (girls and younger) would be positively associated with program response. Contrary to what was expected, younger age was negatively associated with program response (i.e., negative program response) when measured by child-reported anxiety symptoms from the ADIS-C. Important to note, however, that the relation between age and program response was marginally significant. In past research, age was not significantly related to program response (Nilsen et al., 2013). It also is important to note that age was positively related to child-reported anxiety symptoms on the ADIS-C at

pretest in this current study. With this in mind, findings suggest greater improvement for older children along child-reported anxiety symptoms compared to the younger children.

Anxiety is a chronic condition and does not typically remit overtime, so older children might be more aware of how anxiety is creating problems in their life compared to younger children. Participating in an anxiety protocol may allow these older children to become more aware of their increased ability to adaptively cope with their anxiety-related problems. For instance, it could have been more developmentally appropriate for older children to understand the cognitive aspects of the anxiety protocol (e.g., older children could have had a higher ability to identify and replace their anxious feelings/thoughts with more adaptive thoughts). Outside of the field of anxiety, similar findings have been found with older children who participated in a CBT protocol for other mental health problems (e.g., depression). It was found that older children (ages 11 to 13) experienced more improvement in their mental health problems compared to younger children (ages 5 to 11) who experienced half as much improvement (Durlak, Fuhrman, & Lampman, 1991). Although the marginally significant relation between age and program response was found for older children, younger children also experienced anxiety reductions but perhaps at a lesser degree for some. The age finding should be interpreted with caution because it was only significant for child-reported anxiety symptoms (i.e., ADIS-C). No significant findings emerged between age and any other child outcome measure (i.e., CBCL-Internalizing, RCMAS, ADIS-P, and ADIS-CSR).

The positive relation with age and program response is not consistent with previous studies that found positive program response to be related to younger children (Bodden et al., 2008; Legerstee et al., 2009; Southam-Gerow et al., 2001). The authors of

these studies argued that compared to younger children, older children may be less cooperative if they viewed the anxiety intervention as something for younger children. It was also suggested in past literature that older children might have experienced a greater severity of anxiety symptoms if the onset of the anxiety started at an earlier age. Most of the studies with significant results for younger children also used child-report anxiety measures, while the significant results of the current dissertation study were from children's self-reports of their anxiety symptoms through semi-structured diagnostic interviews that involved a doctoral student clinician asking probing questions and engaging in discussions with the youth about the anxiety they experienced. In this research, older children responding better to intervention might be linked to possible greater awareness of changes in their anxiety symptoms. This greater awareness has been documented in a reliability study where it was found that younger children might not be reliable in reporting all of their anxiety symptoms within the ADIS-C because they may only be aware of anxiety symptoms from certain anxiety disorders such as specific phobia but might have more difficulties detecting symptoms related to social phobia (Silverman & Eisen, 1992). That was not the case, however, in the version of the diagnostic interview used in the present study (DSM-III-R versus DSM-IV; Silverman, Saavedra, & Pina, 2001). More specifically, the ADIS-C for DSM-IV has been shown to have excellent test-retest reliability for both young children (ages 7 to 11) and older children (ages 12 to 16) to report on their anxiety symptoms (Silverman et al., 2001). The diagnostic interview based on the ADIS is also considered to be a gold measure for assessing anxiety problems, including validity for the DSM-IV criteria, against a widely used self-report measure call the Multidimensional Anxiety Scale for Children (MASC;

March, Parker, Sullivan, Stallings, & Conners, 1997), and across age groups (Wood, Piacentini, Bergman, McCracken, & Barrios, 2002).

For this research, it was determined that both race/ethnicity and protocol condition should be considered in the analyses. In Pina, Silverman, Fuentes, Kurtines, and Weems (2003), some Hispanic/Latino children did not improve as much as their White counterparts between the posttest and the three-month follow-up and those differences dissipated at the 12-month follow-up. In another study, Pina et al. (2012) showed no evidence of variations in program response at the 12-month follow-up (neither language nor ethnicity moderated program response). Concerning protocol condition, and using the same data examined in this dissertation, Pina et al. (2012) showed that youth randomized to a child-only or child-plus-parent condition responded nearly identically. The only difference was that two measures (i.e., pre- to posttest anxiety symptoms based on RCMAS and ADIS-P) reached statistically significant levels for the child-plus-parent condition only. In light of these findings, ethnicity and condition were included in the analyses, but few to no differences were expected.

The results of this dissertation study suggest that children who self-identified as Hispanic/Latino was associated with enhanced reductions in the severity of clinician-rated child anxiety symptoms (measured by ADIS-CSR). The significant findings for race/ethnicity were not anticipated given the lack of significant differences found in the Pina et al. (2012) study, where race/ethnicity was not associated with reductions in anxiety symptoms. The difference in these two findings may be related to the different types of analyses used in this dissertation study versus the Pina et al. (2012) study. This dissertation study used change scores to understand the pre-to-posttest changes in anxiety

outcomes, while the Pina et al. (2012) study used residual change scores (see Cole & Maxwell, 2003). Further studies can compare these two statistics and determine if the results of these findings by race/ethnicity represent true differences or are due to different statistics employed.

In addition to how race/ethnicity was analyzed in this study, two other potential reasons could explain why there were enhanced reductions in anxiety symptoms for Hispanic/Latino children. The significant findings for clinician-rated anxiety severity might possibly be due to interviewer effects. Although each graduate student was blinded to the protocol condition of each child, they were all aware of and trained on how to implement the diagnostic interview in a culturally sensitive manner when working for Hispanic/Latino children. The same graduate students who conducted the interviews also were involved in the research as therapists who delivered the program. Since all graduate students involved in the research were aware that the intervention was conceptualized as a culturally robust protocol, contamination or bias in the rating of gains for Hispanic/Latino youth could have occurred via the ADIS-CSR. Another possibility is that Hispanic/Latino children and parents were more descriptive and enthusiastic about intervention gains than White children and parents during the posttest interview. This is possible as there is some research showing that some Hispanic/Latino individuals demonstrate a pattern of social interaction that follows a cultural script called “simpatia,” which is often displayed as being agreeable, sympathetic, friendly, expressive, and polite (Ramirez-Esparza, Gosling, & Pennebaker, 2008; Triandis, Marín, Lisansky, & Betancourt, 1984). As described by Pina et al. (2009) of a case study with a Hispanic/Latino boy and his family who participated in the anxiety intervention, the

Hispanic/Latino families in this current study might have been willing to display *simpatia*, especially when considering the context of low resources and given that the intervention was free of charge.

Significant findings relevant to this first set of primary analyses should be interpreted with caution for several reasons. First, a positive correlation between age and protocol condition was found showing that older children (compared to younger children) were more likely to be randomized to the child-only condition versus the child-plus-parent condition. Second, Hispanic/Latino (compared to White) children had lower parent-reported social competence scores at pretest. Third, Hispanic/Latino (compared to White) children self-reported higher RCMAS anxiety levels at pretest. Fourth, significant findings were not consistent across reporters (i.e., child-reported versus parent-rated and clinician-rated).

Child Psychological Risk Modifiers

The second set of analyses examined which child psychological risk modifiers predicted program response to an indicated anxiety prevention and early intervention protocol. It was hypothesized that some child risk modifiers (i.e., anxiety sensitivity and depressive symptoms) would negatively predict program response while other child risk modifiers (i.e., anxiety control and social competence) will be positively related to program response. All of the four risk modifiers (low child anxiety sensitivity, low child depressive symptoms, low child social competence, and high child anxiety control) were predictive of reductions of anxiety outcomes. The second hypothesis was partially supported. It was found that higher levels of anxiety sensitivity and depressive symptoms were related to lower levels of anxiety symptom reduction (e.g., negative program

response). Also, only higher levels of anxiety control were related to higher levels of anxiety symptom reduction (i.e., positive program response). It was not anticipated that higher levels of social competence would relate to higher levels of anxiety symptom reduction (i.e., positive program response). However, the relation between the risk modifiers and anxiety outcomes depended on the role of the moderator (sex or protocol condition). Although neither sex nor protocol condition was uniquely predictive of the targeted outcomes, they did influence the relation between the risk modifiers and the five anxiety outcomes for program response.

The third set of analyses examined whether either sex and/or protocol condition interacted with one of the risk modifiers to predict program response (e.g., anxiety sensitivity by sex; anxiety sensitivity by condition). It was hypothesized that the relation between the risk modifier and program response would be weaker for boys while the association between the risk modifier and program response would be stronger for girls. It was also expected that the relation between the risk modifier and program response would be weaker for the child-only protocol while the association between the risk modifier and program response would be stronger for the child-plus-parent protocol condition. The major results of this study suggested that the hypothesized relation between each risk modifier and program response was in the opposite direction with sex as a moderator. It was found that the relation between three of the four risk modifier and program response was stronger for boys (compared to girls), with the exception of child social competence. As hypothesized, the relation between the risk modifier and program response was stronger for the child-plus-parent condition (compared to the child-only condition).

Moderating Role of Sex

In general, girls and boys with existing child psychological risk modifiers at pretest experienced significantly different rates of anxiety reductions after the intervention. For girls, higher levels of child anxiety sensitivity and higher levels of child depressive symptoms were associated with a less pronounced change after the intervention. When these risk modifiers influenced outcomes for boys, the risk modifiers appeared to have an opposite effect where lower levels of anxiety sensitivity and higher levels of child social competence were associated with a less pronounced change after the intervention. The discussion of these significant results below is focused on when the relation between the child psychological risk modifier and program response differed within the subsample of girls and/or boys separately.

Anxiety Sensitivity and Sex

The relation between anxiety sensitivity and reduction of anxiety symptoms differed by sex, where the relation between anxiety sensitivity and program response was opposite for boys and girls. The results of the current study suggested that boys experienced a more pronounced change in program response at higher levels of anxiety sensitivity. However, this relation was the opposite for girls; higher levels of anxiety sensitivity were related to less pronounced change after the intervention. The significant findings for program response were based on parent-rated child anxiety symptoms through ADIS-P and clinician-rated child anxiety symptom severity through ADIS-CSR.

There is research that might shed light on how the relation between anxiety sensitivity and program response might be opposite for girls and boys. For girls, initial levels of anxiety sensitivity may relate to a lower pronounced change since it might

create more severity of anxiety symptoms for girls, thus creating a barrier for them to engage in the intervention. The results of this study regarding anxiety sensitivity are consistent with other studies that used CBT. For example, in the adult treatment literature, higher anxiety sensitivity was related to less favorable outcomes (Wolitzky-Taylor et al., 2012). It was believed that these adults might have more rigid beliefs about their anxiety and be less likely to engage in the CBT protocol. The role of anxiety sensitivity was also a risk factor in previous studies with children that causes these children to worry and anticipate negative things will happen to them when they experience anxiety symptoms (Kearney et al., 1997; Muris, Mayer, et al., 2009; Weems et al., 2007). From a theoretical perspective, it is believed that anxiety sensitivity is one risk factor that may increase someone's negative perception to anxiety and lead to the development of more anxiety problems (Silverman et al., 1991). For girls, higher anxiety sensitivity might have been a barrier for them to engage fully in the CBT protocol because they ruminated on experiencing their anxiety symptoms and become reluctant to do some of the gradual exposure tasks within the anxiety protocol. This is possible because each protocol is tailored to the specific fears/anxiety of each child, where a hierarchy of fears and anxiety-provoking situations are developed with each child. When the clinicians had to gradually expose the girls to their fears, the clinicians may have had to make some adjustments for the girls with higher anxiety sensitivity by exposing these girls to their fears at a slower pace than other children with lower levels of anxiety sensitivity.

In some studies, it was found that the children who were more likely to benefit from participating in an intervention where children with the highest levels of

externalizing problems at pretest (Hipke, Wolchik, Sandler, & Braver, 2002; Wolchik et al., 1993, 2000). Gender differences were not reported in these studies regarding children benefiting from the intervention when they had higher levels of externalizing problems, so it is unclear if these results are representative of boys predominately (or also equally among girls) since externalizing problems are usually higher among boys (Leadbeater, Kuperminc, Blatt, & Hertzog, 1999; Zahn-Waxler, Shirtcliff, & Marceau, 2008).

Furthermore, the positive relation between externalizing problems and program response may be similar to the findings for the positive relation between anxiety sensitivity and program response among boys in this current study. The higher pronounced change among boys might suggest that as higher levels of anxiety sensitivity in boys at pretest there is a more pronounced change in reduction of anxiety symptoms at posttest. It is possible that higher anxiety sensitivity may create a higher perception among boys that they are having difficulties dealing with their anxiety problems, which may create an opportunity for boys to seek the help to reduce their anxiety symptoms. Considering the stages of change model (Prochaska & Velicer, 1997), boys with higher levels anxiety sensitivity may also be in the action phase to change their behaviors which will make it more likely they will be engaged and learn coping skills from the anxiety intervention.

This study is the first to investigate the role of anxiety sensitivity as a predictor of program response, so the interpretation of these results for anxiety sensitivity are speculative given the lack of research in this area. However, there have been gender differences found for anxiety sensitivity based on the CASI (Walsh, Stewart, McLaughlin, & Comeau, 2004). In particular, the CASI measures three types of categories that children think will happen to them when they experience anxiety

symptoms. These three areas include: (1) physical concerns (e.g., scared that when heart beats fast something is wrong), (2) social/control concerns (e.g., do not want others to know when they feel afraid), or (3) psychological concerns (e.g., thinking they will go crazy when they are afraid). (See Appendix A for complete list of CASI items). Walsh et al. (2004) found that girls more frequently ranked items related to physical concerns more highly than did boys relative to the items for social/control and psychological concerns. This might suggest that the girls with higher anxiety sensitivity would have a harder time learning how to gradually face their fears in the anxiety intervention because they may worry about experiencing more physical concerns. Consistent with other research findings, it has been demonstrated that being a girl was related to more rumination and higher levels of anxious/depressed symptoms when compared to boys (Jose & Weir, 2013; Sethi & Nolen-Hoeksema, 1997; Tompkins, Hockett, Abraibesh, & Witt, 2011). For example, girls may refuse to face anxiety-provoking situations during the sessions or with out-of-session homework practice because they worry about experiencing negative feelings, such as a fast heartbeat or feeling shaky.

Walsh et al. (2004) also reported that when boys completed the CASI, they endorsed more items related to psychological concerns about “going crazy” relative to items regarding social/control and physical concerns. It is possible that boys in the current study with higher anxiety sensitivity would less likely deny that their anxiety symptoms are creating impairment in their life because boys who endorse anxiety sensitivity are more likely to endorse psychological concerns on the CASI, such as item 15 that is listed as, “When I am afraid, I worry that I might be crazy.” As a result, boys with higher anxiety sensitivity might be more willing to engage in the anxiety

intervention because they might be aware that their anxiety symptoms are negatively impacting their life.

Depressive Symptoms and Sex

The relation between child depressive symptoms and anxiety symptoms differed by sex, where the association was only significant for girls. This association between child depressive symptoms and anxiety symptoms was negative for girls, which suggested girls experienced a less pronounced change in reduction of anxiety symptoms with higher levels of depressive symptoms at pretest. The significant findings for program response were based on child self-report of anxiety symptoms through ADIS-C. It has been documented that anxiety and depressive symptoms have a high co-occurrence (Merikangas et al., 2010). This might also suggest that girls with high levels of depressive symptoms may benefit from a CBT protocol that addresses both their anxiety and depressive symptoms. Given the role that depression might have on anxiety focused interventions, some research has shifted toward investigating transdiagnostic treatment approaches that could potentially address the shared cognitive vulnerabilities between anxiety and depressive symptoms (Queen, Barlow, & Ehrenreich-May, 2014; Seager, Rowley, & Ehrenreich-May, 2014).

Other studies have also found that children who participated in an anxiety CBT intervention with comorbid depressive symptoms were able to see reductions in their anxiety, but the reduction in anxiety was to a lesser extent than children who had no comorbid depressive symptoms (Bennett et al., 2013; O'Neil & Kendall, 2012).

Anhedonia is one potential aspect of depression, unique from anxiety, in which it has been suggested that lack of interest might account for low engagement in an intervention

with girls who are dealing with comorbid depressive symptoms (Clark et al., 1994). Compared to boys, many studies have supported that girls ruminate more (Muris, Fokke, & Kwik, 2009; Rood, Roelofs, Bögels, Nolen-Hoeksema, & Schouten, 2009; Schwartz & Koenig, 1996). It has also been suggested that when both girls and women ruminate, they tend to respond with inactivity to their depressive symptoms compared to boys and men who report a more active response style to lessen their depressive symptoms (Nolen-Hoeksema, 1987). Therefore, girls with higher levels of depression might find it difficult for girls to engage in the anxiety protocol because of the impact of the cognitive vulnerabilities from their depressive symptoms.

Social Competence and Sex

The relation between social competence and internalizing problems differed by sex, where the association was significant within the boy subsample only. This association between child social competence and internalizing problems was negative for boys, which suggested boys experienced a less pronounced change in reduction of internalizing problems at higher levels of social competence at pretest. The significant findings for program response were based on parents' reports of child internalizing problems through the CBCL-Internalizing scale.

On one hand, not everyone who experiences anxiety symptoms experience will have social competence problems. Although experiencing social competence problems has been found with children diagnosed with social anxiety disorder, it was found that children diagnosed with generalized anxiety disorder did not differ in having a best friend or in their level of participation in group/organization compared to non-anxious children (Scharfstein & Beidel, 2015). Therefore, some of the boys with higher levels of social

competence in this study may have been concerned that participating in the anxiety intervention may have a negative influence on them being able to spend time with their existing friendships. Boys with lower levels of social competence might not have this same problem because they may not have as many friends and see the intervention as an opportunity for them to develop more friendships in the future.

On the other hand, it might be expected that children with low social competence would benefit from the program because anxiety problems have been related to impairments in social relationships (Costello et al., 2005; Ezpeleta et al., 2001; Kessler et al., 2005; Wittchen et al., 1999). Therefore, participating in an anxiety intervention would be beneficial for children with low social competence. In particular, anxious boys with low social competence may represent children with a greater level of severity, which could also result in them receiving a stronger benefit than those not experiencing impairments in their social relationships. It was also reported that Hispanic/Latino parents rated lower child social competence compared to White parents. These findings in social competence might be confounded by cultural variables within the Hispanic/Latino families that were not examined in this study, such as ability to participate in social activities due to lack of financial resources or living in a neighborhood that is culturally different and/or accepting than their Hispanic/Latino cultural values (Birman, 1998; Galindo & Fuller, 2010; Kao & Travis, 2005).

Moderating Role of Protocol Condition

In general, the relation between the child psychological risk modifier and program response varied depending on whether the child was randomized to the child-only protocol condition or the child-plus-parent protocol condition. In particular, higher levels

of child anxiety sensitivity, higher child depressive symptoms, and higher child social competence were associated with lower levels of program response for those within the child-only protocol condition. Also, lower levels of anxiety control were associated with lower levels of program response for those within the child-only protocol condition. However, these same risk modifiers that were significant in the child-only protocol condition did not appear to influence program response for children within the child-plus-parent condition given that the simple slopes within the child-plus-parent condition were not significant. As a result of the child psychological risk modifiers only being significant within the child-only protocol condition, these child risk modifiers are consistent with the literature that they are predictors that represent “intervention-specific” moderators (Kraemer et al., 2002). An advantage of identifying intervention-specific moderators is that it will be possible to identify what characteristics of the children in anxiety intervention might benefit from a child-only intervention versus a child-plus intervention. Unlike sex, which cannot be changed, it is possible to suggest what types of interventions in which a child may be less or more likely to experience program response.

Depressive Symptoms and Condition

The relation between child depressive symptoms and reduction of anxiety symptoms also differed among the two protocol conditions, where the association was only significant for the child-only condition. This association between child depressive symptoms and anxiety symptoms was negative for the child-only condition, which suggested children who did the intervention primarily without their parents’ experienced a less pronounced change in reduction of anxiety symptoms at higher levels of depressive symptoms at pretest. The significant findings for program response were based on

clinician-rated child anxiety symptom severity through ADIS-CSR. It is possible that the child's depressive symptoms may relate to poorer program response in the child-only condition because these children are not only experiencing negative affect from the anxiety-related hyperarousal symptoms but these children might be also dealing with the depression-related symptoms of low interest and low motivation. With these comorbid symptoms, children receiving the child-only protocol may also benefit from a transdiagnostic treatment approach that would help them address both their anxiety and depression at the same time (Queen et al., 2014; Seager et al., 2014).

Anxiety Control and Condition

The relation between anxiety control and anxiety severity varied as a function of condition, where the relation was only significant for the child-only condition. This association between anxiety control and anxiety symptoms was positive for the child-only condition, which suggested that children in the child-only condition experienced a more pronounced change in the reduction of anxiety symptoms when they had higher levels of their anxiety control at pretest. The significant findings for program response were based on parents' reports of child internalizing problems through CBCL-Internalizing and based on the severity of child anxiety symptoms through ADIS-CSR. Higher levels of anxiety control related to higher levels of anxiety reduction are consistent with the adult literature that found anxiety control to be related to recovering from an anxiety diagnosis after participating in an intervention (Gallagher et al., 2014). The potential reason for the significant findings with the child-only condition may represent that children who start the intervention with higher levels of control may relate to them having more autonomy. All of the questions from the Anxiety Control

Questionnaire are focused on what the child can do when they are anxious, such as (item 1) “I can take charge and control my feelings,” or (item 8) “When I am anxious or nervous, I can still think about things other than my feelings of anxiety.” Many of the anxiety interventions that involves parents usually provide psychoeducation to teach parents to be less overprotecting and find ways to increase the autonomy of the anxious child (Chorpita & Barlow, 1998; Jongerden & Bögels, 2015; Silverman et al., 2008). Therefore, the positive relation between higher levels of anxiety control and higher program response within the child-only-condition might suggest that children with higher levels of control can be more autonomous within the child-only-protocol compared to the child-plus parent protocol condition.

Social Competence and Condition

The relation between social competence and internalizing problems varied as a function of protocol condition, where the association was marginally significant for the child-only condition. This association between child social competence and anxiety levels was negative for the child-only condition, which suggested that the children in the child-only condition experienced a less pronounced change in reduction of anxiety symptoms for those with higher levels of social competence at pretest. The significant findings for program response were based on child-reported anxiety symptoms through the RCMAS. The interpretation of this significant interactions has to be considered with significant preliminary findings for (1) Hispanic-Latino children (compared to White children) reported higher RCMAS at pre-test, (2) Hispanic/Latino parents reported lower child social competence (compared to White children), and (3) older children were more likely randomized within the child-only condition (compared to the child-plus-parent

condition). As result of these potential factors of Hispanic/Latino mother reported lower child social competence and Hispanic/Latino children reporting higher RCMAS at pretest, it is possible that other variables that were not examined in this study might have an influence on the results of these findings.

Some cultural variables that may have influenced how parents rated child social competence could be cultural factors such as collectivism, assimilation, family cohesion, parent-child communication, and simpatia. For example, attachment to family (i.e., family cohesion) was negatively related to anxiety symptoms in Hispanic/Latino children (Varela, Sanchez-Sosa, Biggs, & Luis, 2009). Since significant differences in the rates of change of anxiety reductions were noticed between the two protocol conditions at higher levels of social competence, it might be that a more positive relationship was found among the child-plus-parent condition because social competence might have also been related to the cultural values of working with others and supporting family members. However, further research is needed to understand how social competence may be negatively related to program response, especially within a child-focused intervention and considering the potential influence of Hispanic/Latino cultural values.

Limitations

One of the first limitations of this study was the sample size. As a result of this lower sample size of 88 children (49% boys), power might have been reduced. However, this sample size is common in most anxiety studies that are focused on delivering an anxiety protocol within an individual format. Also, the lack of power did not allow an examination of all the psychological risk modifiers at the same time. Instead, each of the risk modifiers had to be examined separately, which did not allow comparison to

determine which psychological risk modifiers remained significant after controlling for the other psychological risk modifiers.

A second limitation is that relations that were moderated by sex may be due to a lack of measurement invariance. Measurement invariance will further support whether the relation between risk modifiers and program outcomes were based on sex as a moderator or if the differences were a result of measurement error. The sample size did not allow a further examination of measurement invariance with the measures used in the current study.

A third limitation is there were no measures of parents' mental health, which can also contribute to the stress of anxious children. There is research to suggest that parenting variables and stress in parents can predict anxiety outcomes and how well a child responds to an anxiety protocol (Southam-Gerow et al., 2001). When these parental variables might have an influence, encouraging parental involvement might be a way for parents to learn coping skills to apply to their personal lives in addition to monitoring the usage of the skills with their children.

Clinical Implications and Future Research Directions

The protocol used in the Pina et al. (2012) study included principles from CBT, which included various techniques like relaxation training (e.g., diaphragmatic breathing), cognitive restricting, and systematic desensitization through gradual exposure. The CBT protocol allows children who are receiving services for anxiety to receive psychoeducation about the nature of anxiety and when to apply these coping strategies (e.g., relaxation and cognitive reappraisal techniques). With these strategies, children can then learn how to use the coping skills during gradual anxiety-provoking exposure

situations. Therefore, children who start the intervention with lower levels of anxiety sensitivity and depressive symptoms may have fewer cognitive negative biases and less difficulty learning how to change maladaptive thoughts when learning cognitive reappraisal techniques. For example, in the Pina et al. (2012) study, children learn how to identify and track their thoughts for situations when they become anxious. After identifying these anxious thoughts, children learn ways to replace maladaptive thoughts with adaptive thoughts. Children with higher anxiety sensitivity and depressive symptoms might catastrophize their situations and find it difficult to think of more adaptive thoughts. Furthermore, children with higher anxiety control may be willing to try relaxation techniques because they might have higher confidence that the impact of their anxiety symptoms can be reduced with effective coping strategies.

This area of research is very important to make certain that every child benefits from the existing evidenced-based anxiety intervention protocols. However, not every child will benefit from these protocols. Therefore, identifying existing characteristics of the child at pretest are associated with anxiety symptom reductions in children after an intervention at posttest is crucial for improving program response. Furthermore, there are usually measures that clinicians and researchers provide children and their parents before children participate in these interventions. When clinicians and researchers identify children with higher anxiety sensitivity, higher depressive symptoms, higher social competence, and low anxiety control, they can possibly make some adjustments to these areas to boost the likelihood that children will receive the most benefit from the anxiety protocol. This can be of particular importance when one of the risk modifiers may have more influence on girls and/or boys. When a clinician or researcher suspects that these

characteristics are present, the interventions can be tailored to modify these characteristics, when possible. When one of these child psychological risk modifiers appears to have a stronger influence in one anxiety protocol compared to another (e.g., child-only versus child-plus parent condition), the clinician or researcher could then implement the protocol that will most likely provide the stronger program response based on the child's existing risk modifier. For example, if a child completes a questionnaire and endorses high levels anxiety control, the clinician or researcher could then inform the parents that anxiety intervention would be focused on the child with minimal parental involvement compared to a child who endorses lower anxiety and might benefit with higher levels of parental involvement when implementing the intervention. These are a few ways to continue to improve the non-response rate of children participating in anxiety protocols. However, the results of this study are preliminary and future research should be used to replicate the results of this study with a larger sample size.

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Table 1*Sample Demographics*

Variables	<i>n</i>	Mean (<i>SD</i>)
Age	88	10.36 (2.73)
	<i>n</i>	(Sub-group %)
Sex	88	
Girls	45	(51.1%)
Boys	43	(48.9%)
Race/Ethnicity	88	
Hispanic/Latino	52	(59.1%)
European-American/White	36	(40.9%)
Language	88	
English	63	(71.6%)
Spanish	25	(28.4%)
Protocol Condition	88	
Child Only	29	(33%)
Child Plus Parent	59	(67%)

Note. Sex = 0 (Girl) or 1 (Boy); Race/Ethnicity = 0 (Hispanic/Latino) or 1 (European-American/White); Protocol Condition = 0 (child-only protocol) or 1 (child-plus-parent protocol)

Table 2*Descriptive Statistics and Percentage of Missing of Study Variables in the Total Sample*

	Mean (<i>SD</i>)	Range		Skewness	Kurtosis	Missing	
		Potential	Actual			<i>n</i>	%
Risk Modifiers							
CASI	28.03 (8.05)	18-54	18-54	0.95	0.73	11	12.50%
CDI	25.34 (3.04)	0-54	17-33	-0.25	0.41	9	10.20%
ACQ-C	21.27 (10.01)	0-40	0-40	0.04	-0.69	28	31.80%
CBCL-Social	5.25 (7.25)	0-14	0-12	0.22	-1.02	7	8.00%
Pre to Post Program Response							
Pretest RCMAS	12.78 (7.35)	0-28	0-27	-0.01	-1.17	12	13.60%
Posttest RCMAS	6.23 (6.73)	0-28	0-25	1.28	0.89	48	54.50%
Pretest CBCL-Intern.	20.63 (14.27)	0-64	2-52	0.75	0.07	8	9.10%
Posttest CBCL-Intern.	7.59 (6.36)	0-64	0-32	1.69	3.97	44	50.00%
Pretest ADIS-C	4.39 (3.74)	0-71	0-18	1.27	1.86	8	9.10%
Posttest ADIS-C	1.42 (2.06)	0-71	0-8	1.41	1.07	33	37.50%
Pretest ADIS-P	5.42 (3.93)	0-68	0-16	0.84	-0.03	7	8.00%
Posttest ADIS-P	2.29 (3.72)	0-68	0-21	2.93	11.32	32	36.40%
Pretest ADIS-CSR	5.39 (1.91)	0-8	1-8	-0.51	-0.43	0	0.00%
Posttest ADIS-CSR	1.61 (1.89)	0-8	0-8	1.44	2.13	31	35.20%

Note. CASI = Childhood Anxiety Sensitivity Index; CDI = Children's Depressive Inventory; ACQ = Anxiety Control Questionnaire; CBCL-Social = CBCL Social Competence Scale; RCMAS = Revised Children's Manifest Anxiety Scale; CBCL-Internalizing = Child Behavior Checklist Internalizing Scale (raw scores); ADIS-C = Anxiety Disorders Interview Schedule for DSM-IV (child version); ADIS-P = Anxiety Disorders Interview Schedule for DSM-IV (parent version); ADIS-CSR = Anxiety Disorders Interview Schedule for DSM-IV (Clinician's Severity Rating).

Table 3

Summary of Intercorrelation for Variables of Interest

Measures	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<i>Fixed Covariates</i>	1.00																	
1. Sex																		
2. Age	0.07	1.00																
3. Race	-0.03	0.08	1.00															
<i>Pretest Covariates</i>	-0.14	-0.27*	0.04	1.00														
4. Protocol Condition																		
<i>Risk Modifiers</i>	-0.14	0.26*	-0.14	-0.09	1.00													
5. CASI																		
6. CDI	-0.04	0.00	-0.04	0.08	0.01	1.00												
7. ACQ-C	0.16	-0.15	0.09	-0.12	-0.08	-0.03	1.00											
8. CBCL-Social	-0.05	0.05	0.30**	0.39**	-0.22	-0.09	-0.01	1.00										
<i>Outcomes</i>	-0.02	0.22	-0.26*	-0.14	0.76**	-0.10	-0.13	-0.27*	1.00									
9. Pre RCMAS																		
10. Post RCMAS	0.05	-0.08	-0.04	-0.24	0.52**	-0.16	-0.10	-0.18	0.46**	1.00								
11. Pre CBCL-Intern.	-0.07	0.05	0.02	0.07	0.12	0.07	-0.17	-0.16	0.30*	0.15	1.00							
12. Post CBCL-Intern.	0.02	-0.01	0.14	0.13	0.13	0.02	-0.34*	-0.01	0.15	0.37*	0.23	1.00						
13. Pre ADIS-C (symptoms)	0.03	0.35**	-0.10	-0.06	0.26*	0.09	-0.19	-0.05	0.45**	-0.05	0.16	0.04	1.00					
14. Post ADIS-C (symptoms)	-0.26	0.00	0.14	0.16	0.09	0.16	-0.06	0.08	0.04	0.39*	-0.01	0.37*	-0.03	1.00				
15. Pre ADIS-P (symptoms)	-0.19	0.21	0.12	0.19	-0.06	0.07	-0.04	0.29*	0.07	-0.14	0.32**	-0.02	0.45**	0.00	1.00			
16. Post ADIS-P (symptoms)	-0.11	0.03	-0.09	0.21	0.02	0.20	-0.28	0.02	0.00	-0.07	0.17	0.56**	0.10	0.37**	0.15	1.00		
17. Pre ADIS-CSR	-0.13	0.10	-0.14	0.04	0.35**	-0.18	0.00	-0.18	0.42**	0.21	0.13	-0.09	0.38**	0.17	0.17	0.14	1.00	
18. Post ADIS-CSR	-0.23	-0.03	0.18	0.27*	0.09	0.16	-0.35*	0.16	0.08	0.23	0.08	0.43**	0.00	0.67**	0.17	0.67**	0.23	1.00

Note. Sex = 0 (*Girl*) or 1 (*Boy*); Race/Ethnicity = 0 (Hispanic/Latino) or 1 (European-American/White); Protocol Condition = 0 (*child-only protocol*) or 1 (*child-plus-parent protocol*); CASI = Childhood Anxiety Sensitivity Index; CDI = Children's Depressive Inventory; ACQ = Anxiety Control Questionnaire; CBCL-Social = CBCL Social Competence Scale (raw scores); RCMAS = Revised Children's Manifest Anxiety Scale; CBCL-Intern = Child Behavior Checklist Internalizing Scale (raw scores); ADIS-C = Anxiety Disorders Interview Schedule for DSM-IV (child version); ADIS-P = Anxiety Disorders Interview Schedule for DSM-IV (parent version); ADIS-CSR = Anxiety Disorders Interview Schedule for DSM-IV (Clinician's Severity Rating); CASI = Childhood Anxiety Sensitivity Index; CDI = Children's Depressive Inventory; ACQ-C = Anxiety Control Questionnaire for Children; CBCL-Social = Child Behavior Checklist Social Competence Scale.

** $p < 0.01$, * $p < .05$.xx

Table 4
Findings from the Multiple Regression Analyses for Demographics and CASI Predicting the Targeted Outcomes

Program Response	R ²	B	SE	p	95% CI	
					LL	UL
Δ RCMAS	.20			.13		
Intercept		6.91	4.94	.16	-2.77	16.60
Age		0.52	0.53	.33	-0.52	1.55
Race/Ethnicity		-1.89	2.54	.46	-6.87	3.10
Condition		0.51	5.21	.93	-9.70	10.72
Sex		1.99	2.68	.46	-3.26	7.24
CASI		-0.28	0.39	.48	-1.04	0.49
Condition X CASI		0.64	0.39	.10	-0.11	1.40
Sex X CASI		0.15	0.36	.68	-0.55	0.85
Δ CBCL-Intern	.11			.31		
Intercept		11.52	4.48	.01	2.73	20.31
Age		0.21	0.65	.75	-1.07	1.49
Race/Ethnicity		-1.22	3.55	.73	-8.18	5.74
Condition		0.34	3.65	.93	-6.81	7.48
Sex		2.76	3.44	.42	-3.99	9.51
CASI		-0.86	0.56	.13	-1.96	0.25
Condition X CASI		0.83	0.44 †	.06	-0.04	1.70
Sex X CASI		0.27	0.51	.60	-0.73	1.27
Δ ADIS-C	.15			.09		
Intercept		2.68	1.35	.05	0.04	5.33
Age		0.45	0.27 †	.09	-0.07	0.97
Race/Ethnicity		-1.56	1.11	.16	-3.73	0.62
Condition		0.63	1.23	.61	-1.77	3.04
Sex		1.04	1.20	.38	-1.30	3.38
CASI		-0.09	0.10	.37	-0.28	0.11
Condition X CASI		0.11	0.12	.39	-0.14	0.35
Sex X CASI		0.18	0.13	.16	-0.07	0.42
Δ ADIS-P	.20			.04		
Intercept		2.88	1.56	.07	-0.18	5.94
Age		0.27	0.28	.33	-0.27	0.81
Race/Ethnicity		0.80	1.23	.51	-1.60	3.20
Condition		1.05	1.31	.42	-1.52	3.61
Sex		-1.15	1.28	.37	-3.65	1.35
CASI		-0.41	0.20 *	.04	-0.80	-0.03
Condition X CASI		0.15	0.17	.39	-0.19	0.48
Sex X CASI		0.54	0.21 *	.01	0.14	0.94
Δ ADIS-CSR	.29			.01		
Intercept		3.78	0.80	.000	2.21	5.36
Age		0.04	0.13	.75	-0.21	0.29
Race/Ethnicity		-1.59	0.52 **	.002	-2.60	-0.57
Condition		-0.01	0.75	.99	-1.48	1.46
Sex		0.92	0.56	.10	-0.18	2.02
CASI		-0.11	0.10	.30	-0.31	0.10
Condition X CASI		0.07	0.10	.46	-0.13	0.28
Sex X CASI		0.21	0.09 *	.02	0.03	0.39

Note. Sex = 0 (Girl) or 1 (Boy); Race/Ethnicity = 0 (Hispanic/Latino) or 1 (European-American/White); Protocol Condition = 0 (Child-only protocol) or 1 (child-plus-parent protocol); CASI = Child Anxiety Sensitivity Index; RCMAS = Revised Children's Manifest Anxiety Scale; CBCL-Intern = Child Behavior Checklist Internalizing Scale (raw scores); ADIS-C = Anxiety Disorders Interview Schedule for DSM-IV (child version); ADIS-P = Anxiety Disorders Interview Schedule for DSM-IV (parent version); ADIS-CSR = Anxiety Disorders Interview Schedule for DSM-IV (Clinician's Severity Rating); CI = confidence interval; LL = lower limit; UL = upper limit; Δ = pretest minus posttest change score.

** $p < 0.01$, * $p < .05$, † $p < .10$.

Table 5
Findings from the Multiple Regression Analyses for Demographics and CDI Predicting the Targeted Outcomes

Program Response	<i>R</i> ²	B	SE	<i>p</i>	95% CI	
					<i>LL</i>	<i>UL</i>
Δ RCMAS	.22			.06		
Intercept		6.72	4.46	.13	-2.02	15.46
Age		0.66	0.48	.17	-0.13	1.60
Race/Ethnicity		-1.45	2.37	.54	-5.36	3.20
Condition		1.12	4.69	.81	-6.59	10.31
Sex		0.31	2.22	.89	-3.34	4.65
CDI		-0.55	0.99	.58	-2.18	1.39
Condition X CDI		-0.89	0.84	.29	-2.28	0.76
Sex X CDI		1.06	0.80	.19	-0.26	2.63
Δ CBCL-Intern	.04			.55		
Intercept		11.90	4.20	.01	3.67	20.12
Age		0.21	0.67	.75	-1.11	1.53
Race/Ethnicity		-1.40	3.46	.69	-8.19	5.39
Condition		-0.01	3.83	.99	-6.64	6.63
Sex		1.95	3.48	.58	-4.86	8.76
CDI		-0.92	2.04	.65	-4.92	3.08
Condition X CDI		1.10	1.70	.52	-2.23	4.43
Sex X CDI		0.56	1.43	.70	-2.24	3.37
Δ ADIS-C	0.24			.05		
Intercept		3.13	1.29	.02	0.60	5.26
Age		0.50*	0.25	.05	0.01	1.00
Race/Ethnicity		-1.85†	1.10	.09	-4.00	0.30
Condition		0.11	1.24	.93	-2.32	2.54
Sex		0.91	1.12	.42	-1.28	3.10
CDI		-0.87*	0.40	.03	-1.65	-0.09
Condition X CDI		0.29	0.36	.42	-0.41	0.99
Sex X CDI		0.97*	0.36	.01	0.26	1.68
Δ ADIS-P	.07			.22		
Intercept		3.70	1.65	.03	0.07	1.29
Age		0.30	0.28	.30	-0.26	0.85
Race/Ethnicity		1.21	1.30	.35	-1.34	3.75
Condition		0.22	1.53	.89	-2.78	3.22
Sex		-1.78	1.39	.20	-4.51	0.95
CDI		0.16	0.59	.79	-0.99	1.31
Condition X CDI		-0.14	0.38	.71	-0.89	0.60
Sex X CDI		-0.18	0.53	.74	-1.20	0.85
Δ ADIS-CSR	.29			.004		
Intercept		3.82	0.75	.000	2.35	5.28
Age		0.16	0.12	.19	-0.08	0.39
Race/Ethnicity		-1.69**	0.51	.001	-2.68	-0.70
Condition		0.05	0.77	.95	-1.46	1.55
Sex		0.64	0.52	.21	-0.37	1.66
CDI		-0.49*	0.22	.03	-0.93	-0.06
Condition X CDI		0.38*	0.19	.04	0.02	0.75
Sex X CDI		-0.01	0.17	.97	-0.35	0.33

Note. Sex = 0 (Girl) or 1 (Boy); Race/Ethnicity = 0 (Hispanic/Latino) or 1 (European-American/White); Protocol Condition = 0 (Child-only protocol) or 1 (child-plus-parent protocol); CDI = Children's Depressive Inventory; RCMAS = Revised Children's Manifest Anxiety Scale; CBCL-Intern = Child Behavior Checklist Internalizing Scale (raw scores); ADIS-C = Anxiety Disorders Interview Schedule for DSM-IV (child version); ADIS-P = Anxiety Disorders Interview Schedule for DSM-IV (parent version); ADIS-CSR = Anxiety Disorders Interview Schedule for DSM-IV (Clinician's Severity Rating); CI = confidence interval; *LL* = lower limit; *UL* = upper limit; Δ = pretest minus posttest change score.
** *p* < 0.01, * *p* < .05, † *p* < .10.

Table 6
Findings from the Multiple Regression Analyses for Demographics and ACQ Predicting the Targeted Outcomes

Program Response	<i>R</i> ²	B	SE	<i>p</i>	95% CI	
					<i>LL</i>	<i>UL</i>
Δ RCMAS	.15			.22		
Intercept		4.50	2.94	.13	-1.27	10.26
Age		0.92*	0.45	.05	-0.25	1.81
Race/Ethnicity		-1.46	2.53	.56	-7.96	3.49
Condition		3.22	3.05	.29	-4.65	9.21
Sex		0.47	2.20	.83	-5.21	4.79
ACQ		0.12	0.43	.79	-1.00	0.96
Condition X ACQ		-0.25	0.42	.55	-1.32	0.57
Sex X ACQ		0.26	0.26	.31	-0.40	0.76
Δ CBCL-Intern	.09			.25		
Intercept		9.67	4.37	.03	1.11	18.23
Age		0.14	0.72	.85	-1.28	1.55
Race/Ethnicity		0.15	3.72	.97	-7.13	7.44
Condition		1.35	3.78	.72	-8.37	8.76
Sex		1.69	3.15	.59	-6.43	7.87
ACQ		0.65	0.44	.14	-0.48	1.51
Condition X ACQ		-0.86*	0.42	.04	-1.93	-0.04
Sex X ACQ		-0.06	0.35	.85	-0.96	0.62
Δ ADIS-C	.13			.17		
Intercept		2.42	1.42	.09	-0.36	5.21
Age		0.48†	0.27	.07	-0.05	1.01
Race/Ethnicity		-1.32	1.21	.28	-3.70	1.05
Condition		0.59	1.26	.64	-1.88	3.06
Sex		0.90	1.22	.46	-1.50	3.30
ACQ		0.07	0.14	.62	-0.20	0.34
Condition X ACQ		-0.12	0.11	.27	-0.33	0.09
Sex X ACQ		0.02	0.12	.86	-0.21	0.25
Δ ADIS-P	.12			.11		
Intercept		3.41	1.73	.05	0.02	6.80
Age		0.35	0.30	.24	-0.23	0.93
Race/Ethnicity		1.32	1.31	.31	-1.24	3.89
Condition		0.94	1.45	.52	-1.90	3.78
Sex		-2.19	1.46	.14	-5.06	0.68
ACQ		0.28	0.17	.10	-0.05	0.62
Condition X ACQ		-0.13	0.13	.29	-0.38	0.12
Sex X ACQ		-0.11	0.17	.54	-0.44	0.23
Δ ADIS-CSR	.36					
Intercept		3.49	0.70	.00	2.12	4.86
Age		0.19*	0.10	.05	0.001	0.38
Race/Ethnicity		-1.41*	0.48	.004	-2.36	-0.46
Condition		0.36	0.61	.55	-0.84	1.57
Sex		0.57	0.49	.25	-0.39	1.52
ACQ		0.18*	0.08	.02	0.04	0.33
Condition X ACQ		-0.17*	0.07	.02	-0.30	-0.03
Sex X ACQ		0.06	0.07	.40	-0.08	0.20

Note. Sex = 0 (Girl) or 1 (Boy); Race/Ethnicity = 0 (Hispanic/Latino) or 1 (European-American/White); Protocol Condition = 0 (Child-only protocol) or 1 (child-plus-parent protocol); ACQ = Anxiety Control Questionnaire; RCMAS = Revised Children's Manifest Anxiety Scale; CBCL-Intern = Child Behavior Checklist Internalizing Scale (raw scores); ADIS-C = Anxiety Disorders Interview Schedule for DSM-IV (child version); ADIS-P = Anxiety Disorders Interview Schedule for DSM-IV (parent version); ADIS-CSR = Anxiety Disorders Interview Schedule for DSM-IV (Clinician's Severity Rating); CI = confidence interval; *LL* = lower limit; *UL* = upper limit; Δ = pretest minus posttest change score.

** *p* < 0.01, * *p* < .05, † *p* < .10.

Table 7
Findings from the Multiple Regression Analyses for Demographics and Social Competence Predicting the Targeted Outcomes

Program Response	R^2	B	SE	p	95% CI	
					LL	UL
Δ RCMAS	.40			.01		
Intercept		3.24	3.60	.37	-3.80	10.29
Age		1.58	0.46**	.001	0.69	2.48
Race/Ethnicity		-1.15	2.32	.62	-5.70	3.41
Condition		5.54	3.32 [†]	.10	-0.96	12.04
Sex		-0.27	2.29	.91	-4.76	4.22
Social Competence		-2.20	1.12*	.05	-4.40	-0.003
Condition X Social Competence		2.30	1.12*	.04	0.12	4.49
Sex X Social Competence		-0.63	0.51	.21	-1.62	0.36
Δ CBCL-Intern	.24			.02		
Intercept		6.55	4.29	.13	-1.85	14.95
Age		0.87	0.72	.23	-0.54	2.29
Race/Ethnicity		-3.16	3.40	.35	-9.83	3.51
Condition		5.37	3.80	.16	-2.08	12.82
Sex		3.41	3.63	.35	-3.69	10.52
Social Competence		-0.34	1.23	.78	-2.74	2.07
Condition X Social Competence		-1.66	1.18	.16	-0.66	3.98
Sex X Social Competence		-2.52	1.10*	.02	-4.68	-0.36
Δ ADIS-C	.14			.11		
Intercept		2.36	1.59	.14	-0.75	5.47
Age		0.53	0.30[†]	.07	-0.05	1.12
Race/Ethnicity		-1.57	1.47	.29	-4.44	1.31
Condition		0.86	1.73	.62	-2.52	4.24
Sex		1.08	1.25	.39	-1.37	3.53
Social Competence		0.06	0.40	.88	-0.72	0.85
Condition X Social Competence		-0.01	0.30	.97	-0.60	0.57
Sex X Social Competence		-0.20	0.30	.50	-0.80	0.39
Δ ADIS-P	.09			.35		
Intercept		3.75	1.83	.04	0.16	7.35
Age		0.30	0.30	.32	-0.29	0.89
Race/Ethnicity		0.88	1.40	.53	-1.87	3.63
Condition		0.25	1.84	.89	-3.37	3.86
Sex		-2.15	1.77	.25	-5.62	1.33
Social Competence		-0.36	0.60	.54	-1.53	0.81
Condition X Social Competence		0.48	0.49	.33	-0.49	1.45
Sex X Social Competence		0.08	0.48	.88	-0.88	1.03
Δ ADIS-CSR	.18			.05		
Intercept		4.37	0.89	.00	2.62	6.12
Age		0.11	0.40	.40	-0.14	0.36
Race/Ethnicity		-1.53	0.68*	.03	-2.86	-0.19
Condition		-0.55	0.91	.55	-2.32	1.23
Sex		0.57	0.61	.35	-0.62	1.76
Social Competence		-0.04	0.26	.89	-0.54	0.47
Condition X Social Competence		-0.02	0.23	.93	-0.48	0.44
Sex X Social Competence		0.07	0.17	.71	-0.27	0.40

Note. Sex = 0 (Girl) or 1 (Boy); Race/Ethnicity = 0 (Hispanic/Latino) or 1 (European-American/White); Protocol Condition = 0 (Child-only protocol) or 1 (child-plus-parent protocol); Social Competence = CBCL Social Competence Scale; RCMAS = Revised Children's Manifest Anxiety Scale; CBCL-Intern = Child Behavior Checklist Internalizing Scale (raw scores); ADIS-C = Anxiety Disorders Interview Schedule for DSM-IV (child version); ADIS-P = Anxiety Disorders Interview Schedule for DSM-IV (parent version); ADIS-CSR = Anxiety Disorders Interview Schedule for DSM-IV (Clinician's Severity Rating); CI = confidence interval; LL = lower limit; UL = upper limit; Δ = pretest minus posttest change score.

** $p < 0.01$, * $p < .05$, [†] $p < .10$.

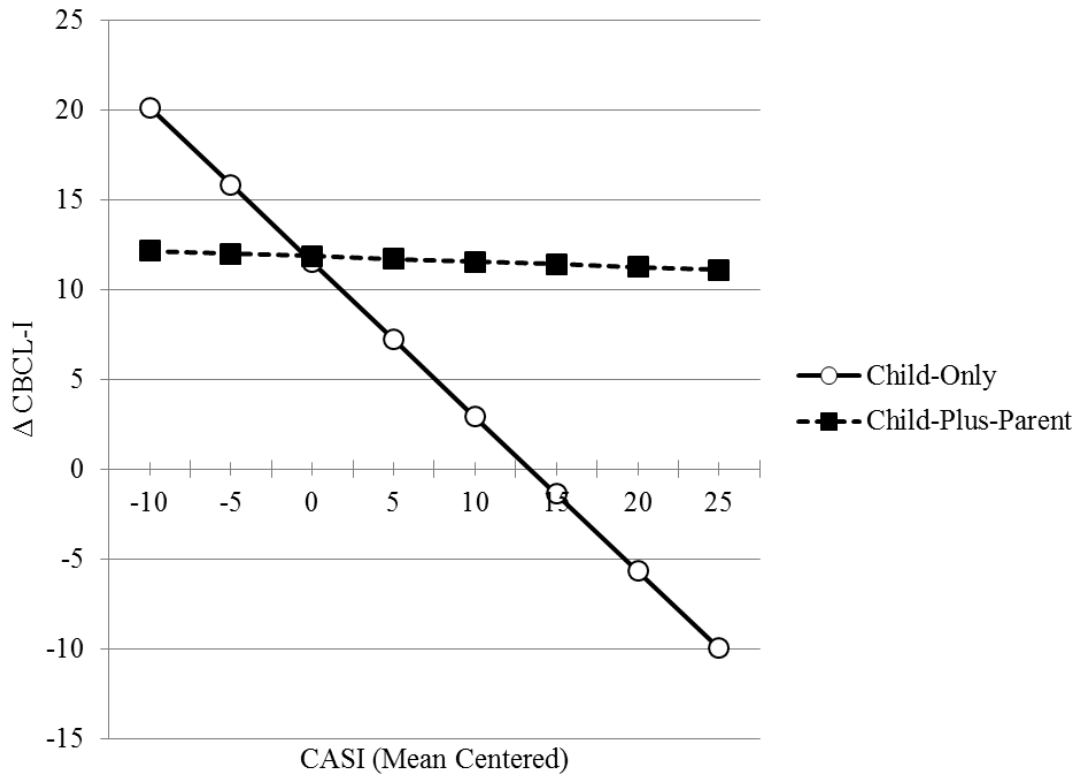


Figure 1. Protocol condition by CASI interaction plot predicting Δ CBCL-Internalizing. CASI = Child Anxiety Sensitivity Index; CBCL-I = Child Behavior Checklist Internalizing Scale (raw scores); Δ = pretest minus posttest change score.

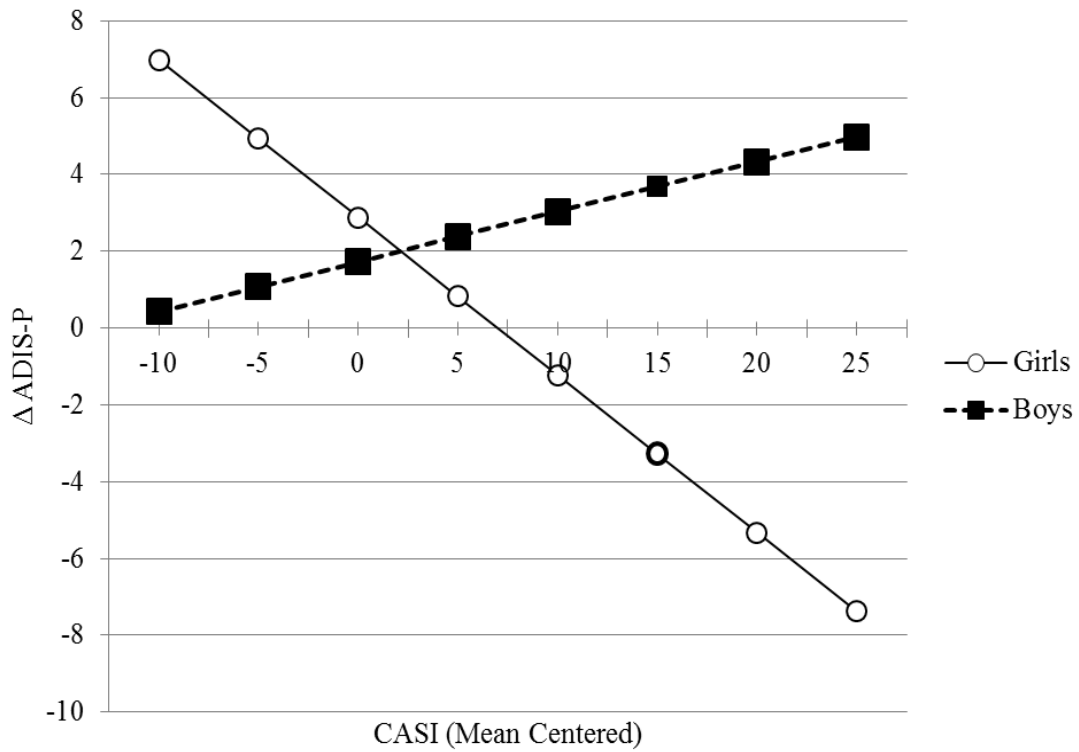


Figure 2. Sex by CASI interaction plot predicting Δ ADIS- P.
 CASI = Child Anxiety Sensitivity Index; ADIS-P = Anxiety Disorders Interview
 Schedule for DSM-IV (parent version);
 Δ = pretest minus posttest change score.

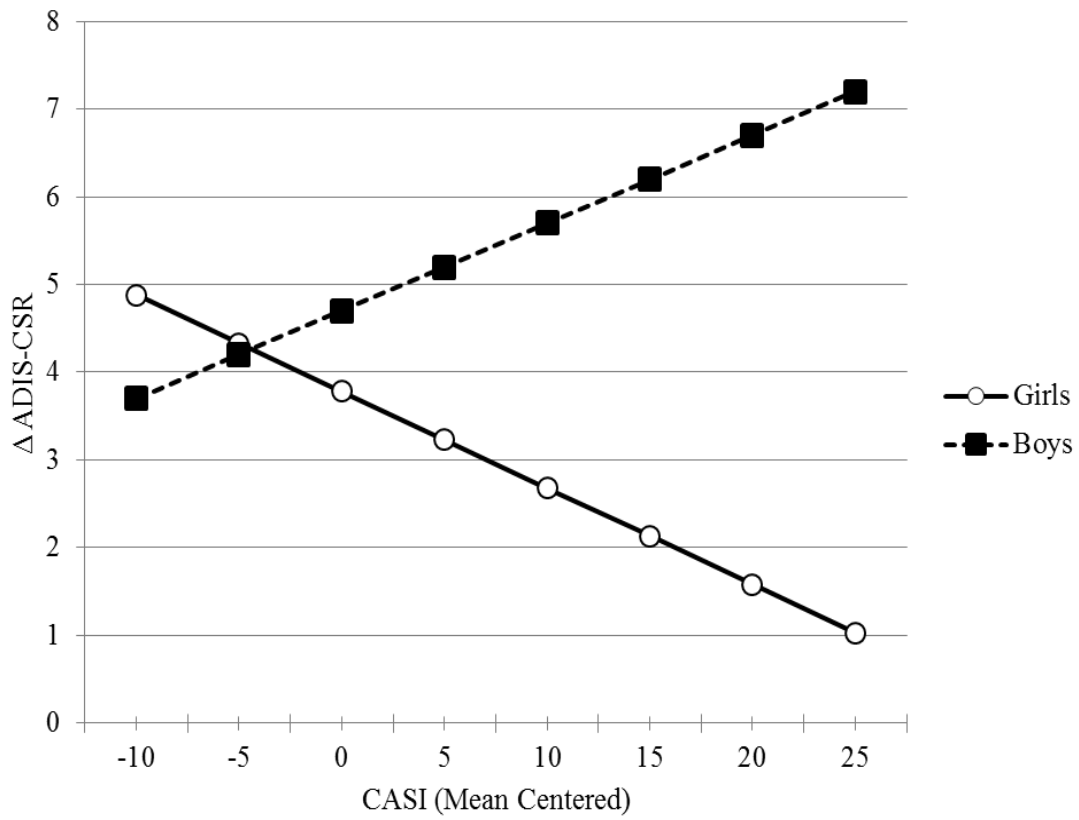


Figure 3. Sex by CASI interaction plot predicting Δ ADIS-CSR.
Note. CASI = Child Anxiety Sensitivity Index; ADIS-CSR= Anxiety Disorders Interview Schedule for DSM-IV (Clinician’s Severity Rating); Δ = pretest minus posttest change score.

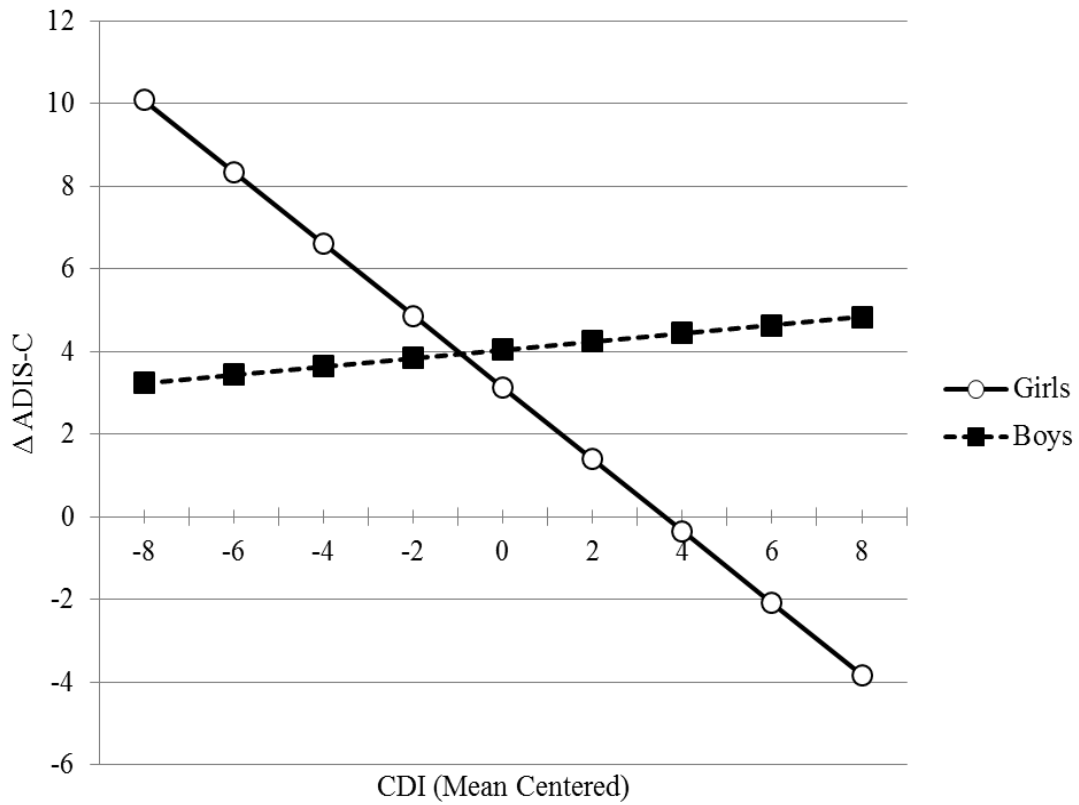


Figure 4. Sex by CDI interaction plot predicting Δ ADIS-C.
 CDI = Children's Depressive Inventory; ADIS-CSR= Anxiety Disorders Interview Schedule for DSM-IV (Clinician's Severity Rating); Δ = pretest minus posttest change score.

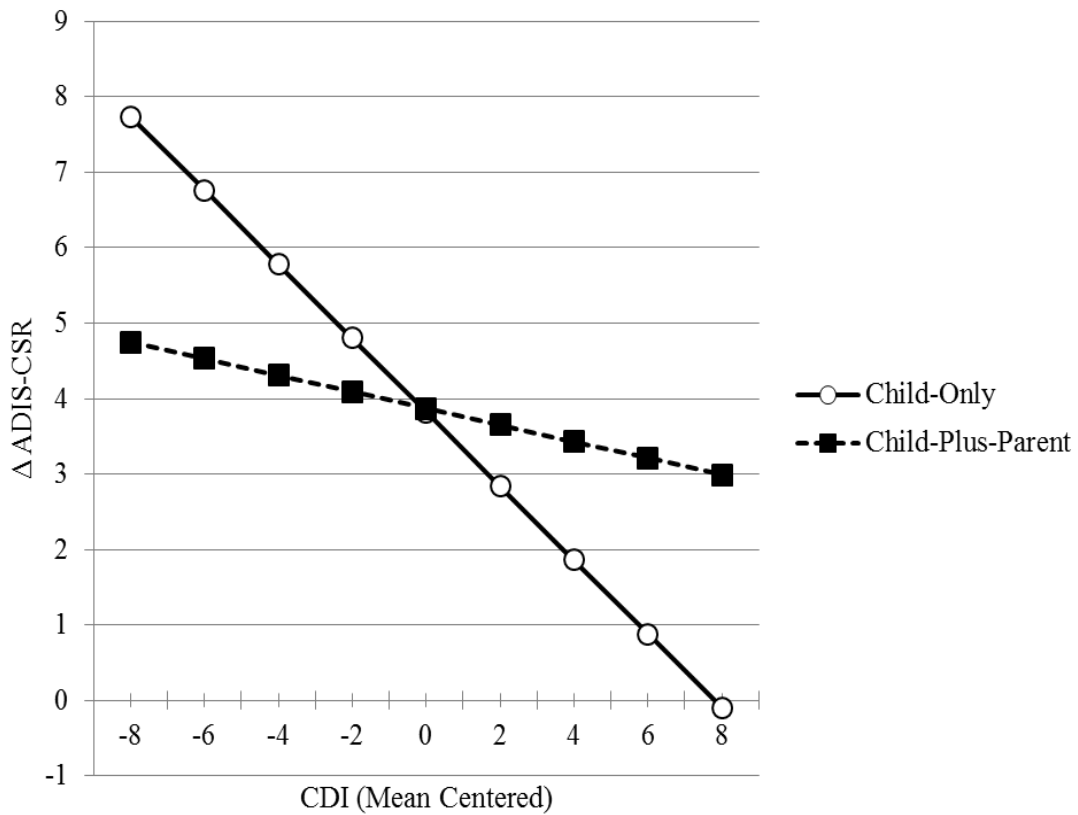


Figure 5. Protocol Condition by CDI interaction plot predicting Δ ADIS-CSR. CDI = Children's Depressive Inventory; ADIS-CSR= Anxiety Disorders Interview Schedule for DSM-IV (Clinician's Severity Rating); Δ = pretest minus posttest change score.

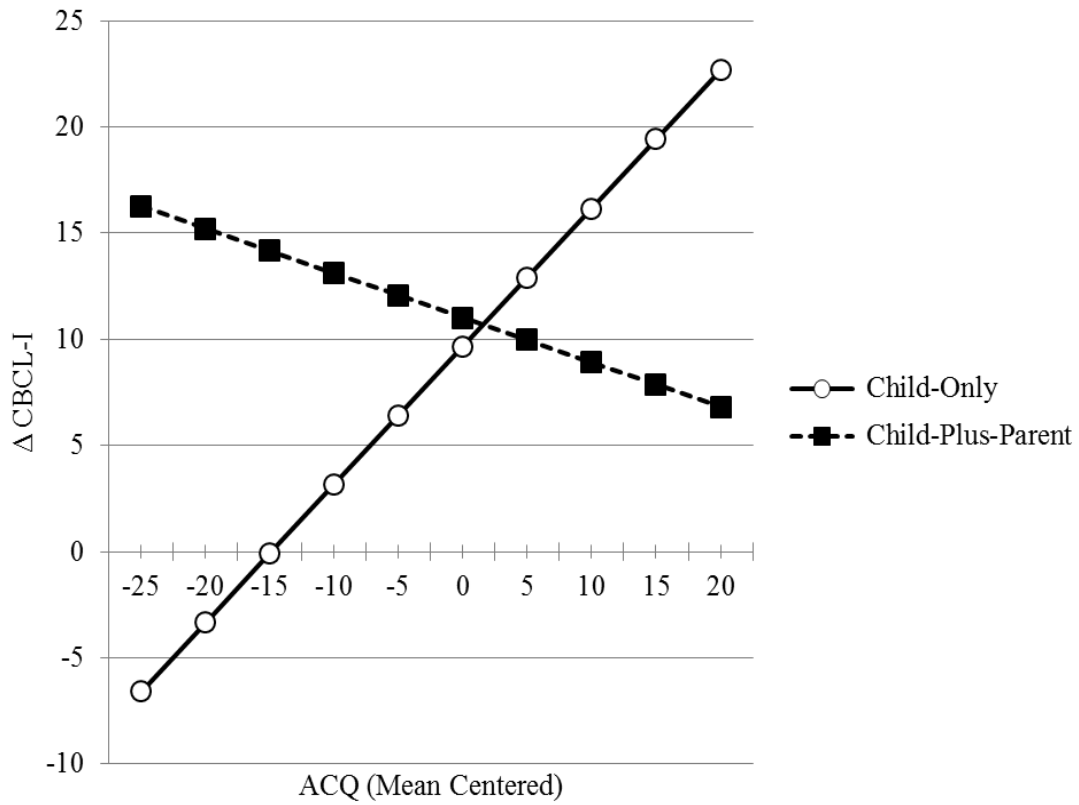


Figure 6. Protocol Condition by ACQ interaction plot predicting Δ CBCL-Internalizing. ACQ = Anxiety Control Questionnaire; CBCL-I = Child Behavior Checklist Internalizing Scale (raw scores); Δ = pretest minus posttest change score.

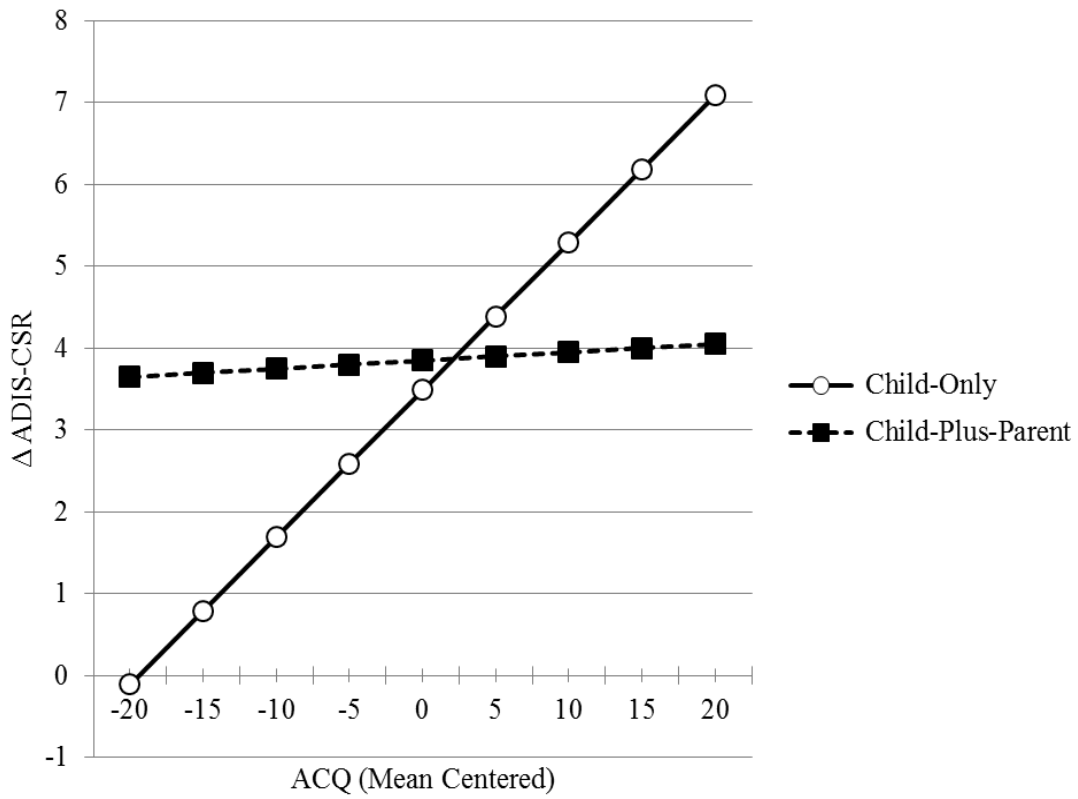


Figure 7. Protocol Condition by ACQ interaction plot predicting Δ ADIS-CSR. ACQ = Anxiety Control Questionnaire; ADIS-CSR= Anxiety Disorders Interview Schedule for DSM-IV (Clinician’s Severity Rating); Δ = pretest minus posttest change score.

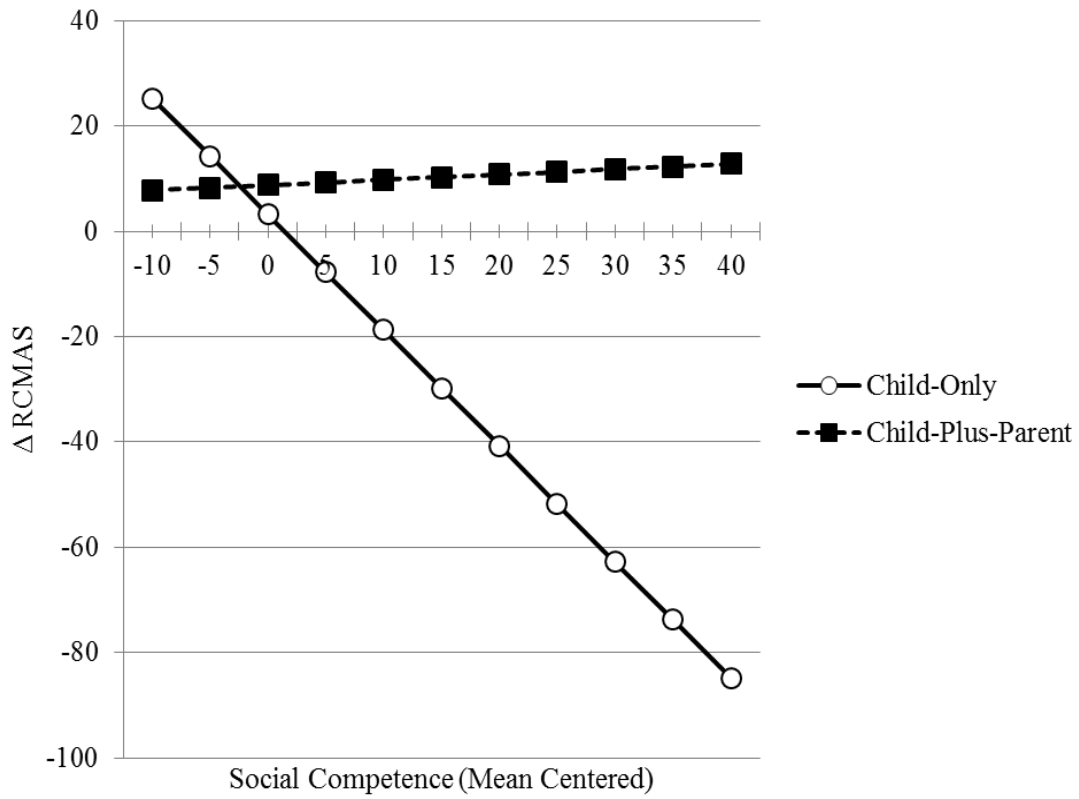


Figure 8. Protocol Condition by Social Competence interaction plot predicting Δ RCMAS.

Social Competence = CBCL Social Competence Scale; RCMAS = Revised Children's Manifest Anxiety Scale;

Δ = pretest minus posttest change score.

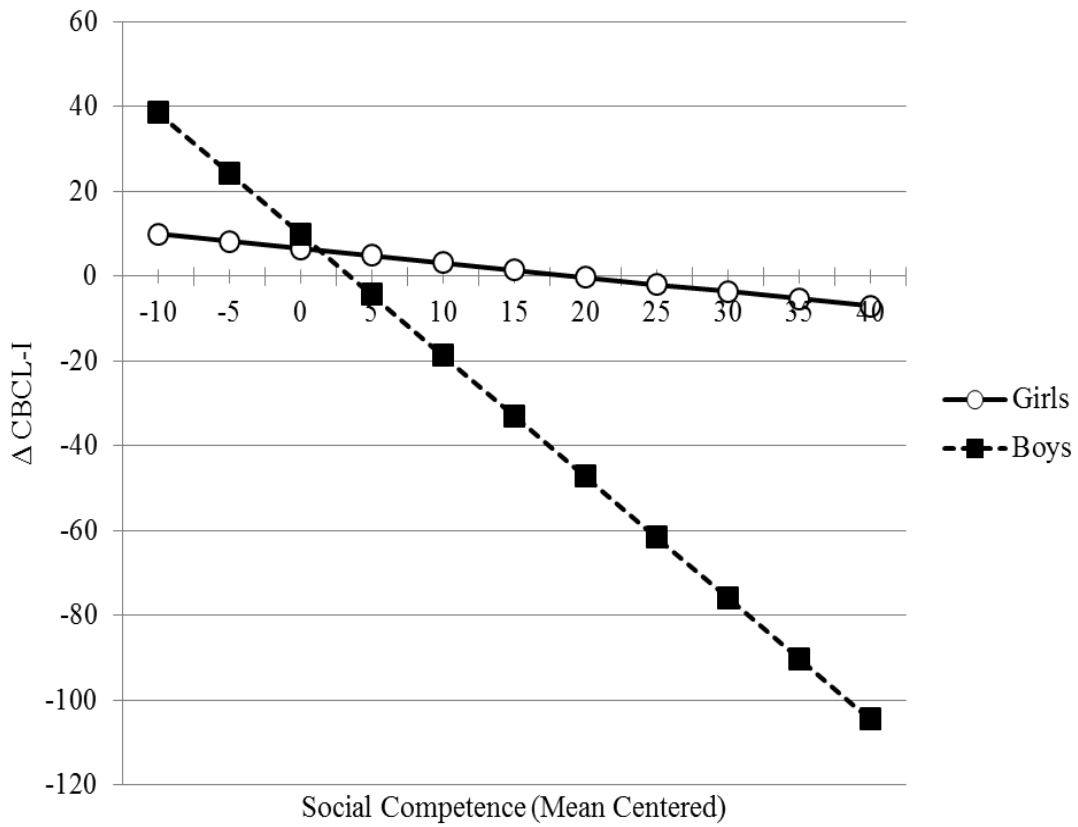


Figure 9. Sex by Social Competence interaction plot predicting Δ CBCL-Internalizing. Social Competence = CBCL Social Competence Scale; CBCL-I = Child Behavior Checklist Internalizing Scale (raw scores); Δ = pretest minus posttest change score.

APPENDIX A

CHILDHOOD ANXIETY SENSITIVITY INDEX (CASI)

CASI

DIRECTIONS: A number of statements which boys and girls use to describe themselves are given below. Read each statement carefully and put an X on the line in front of the words that describe you. There are no right or wrong answers. Remember, find the words that best describe you.

Name: _____ Age: _____ Date: _____

1. I don't want other people to know when I feel afraid. ___ None ___ Some ___ A lot
2. When I cannot keep my mind on my schoolwork
 I worry that I might be going crazy. ___ None ___ Some ___ A lot
3. It scares me when I feel "shaky". ___ None ___ Some ___ A lot
4. It scares me when I feel like I am going to faint. ___ None ___ Some ___ A lot
5. It is important for me to stay in control of my feelings. ___ None ___ Some ___ A lot
6. It scares me when my heart beats fast. ___ None ___ Some ___ A lot
7. It embarrasses me when my stomach
 growls (makes noise). ___ None ___ Some ___ A lot
8. It scares me when I feel like I am going to throw up. ___ None ___ Some ___ A lot
9. When I notice that my heart is beating fast, I worry that
 there might be something wrong with me. ___ None ___ Some ___ A lot
10. It scares me when I have trouble getting my breath. ___ None ___ Some ___ A lot
11. When my stomach hurts, I worry that I might be
 really sick. ___ None ___ Some ___ A lot

12. It scares me when I can't keep my mind on my schoolwork. ___ None ___ Some ___ A lot
13. Other kids can tell when I feel shaky. ___ None ___ Some ___ A lot
14. Unusual feelings in my body scare me. ___ None ___ Some ___ A lot
15. When I am afraid, I worry that I might be crazy. ___ None ___ Some ___ A lot
16. It scares me when I feel nervous. ___ None ___ Some ___ A lot
17. I don't like to let my feelings show. ___ None ___ Some ___ A lot
18. Funny feelings in my body scare me. ___ None ___ Some ___ A lot

APPENDIX B
CHILDREN'S DEPRESSION INVENTORY (CDI)

CDI

Kids sometimes have different feelings and ideas. This form lists the feelings and ideas in groups. From each group, pick one sentence that describes you best for the past two weeks. After you pick a sentence from the first group, go on to the next group.

There is no right answer or wrong answer. Just pick the sentence that best describes the way you have been recently. Put a mark like this X next to your answer. Put the mark on the line next to the sentence that you pick.

Here is an example of how this form works. Try it. Put a mark next to the sentence that describes you best.

Example: I read books all the time
 I read books once in a while
 I never read books

Remember, pick out the sentence that describes your feelings and ideas in the past two weeks.

1. I am sad once in a while
 I am sad many times
 I am sad all the time

2. Nothing will ever work out for me
 I am not sure if things will work out for me
 Things will work out for me o.k.

3. I do most things o.k.
 I do many things wrong
 I do everything wrong

4. I have fun in many things
 I have fun in some things
 Nothing is fun at all

5. I am bad all the time
 I am bad many times
 I am bad once in a while

6. I think about bad things happening to me once in a while
 I worry that bad things will happen to me
 I am sure that terrible things will happen to me

Remember, describe how you have been in the past two weeks.

7. _____ I hate myself
_____ I do not like myself
_____ I like myself
8. _____ All bad things are my fault
_____ Many bad things are my fault
_____ Bad things are not usually my fault
9. _____ I do not think about killing myself
_____ I think about killing myself but I would not do it
_____ I want to kill myself
10. _____ I feel like crying every day
_____ I feel like crying many days
_____ I feel like crying once in a while
11. _____ Things bother me all the time
_____ Things bother me many times
_____ Things bother me once in a while
12. _____ I like being with people
_____ I do not like being with people many times
_____ I do not want to be with people at all
13. _____ I cannot make up my mind about things
_____ It is hard to make up my mind about things
_____ I make up my mind about things easily
14. _____ I look o.k.
_____ There are some bad things about my looks
_____ I look ugly
15. _____ I have to push myself all the time to do my schoolwork
_____ I have to push myself many times to do my schoolwork
_____ Doing schoolwork is not a big problem
16. _____ I have trouble sleeping every night
_____ I have trouble sleeping many nights
_____ I sleep pretty well
17. _____ I am tired once in a while
_____ I am tired many days
_____ I am tired all the time

Remember, describe how you have been in the past two weeks.

18. _____ Most days I do not feel like eating
_____ Many days I do not feel like eating
_____ I eat pretty well
19. _____ I do not worry about aches and pains
_____ I worry about aches and pains many times
_____ I worry about aches and pains all the time
20. _____ I do not feel alone
_____ I feel alone many times
_____ I feel alone all the time
21. _____ I never have fun at school
_____ I have fun at school only once in a while
_____ I have fun at school many times
22. _____ I have plenty of friends
_____ I have some friends but I wish I had more
_____ I do not have any friends
23. _____ My schoolwork is alright
_____ My schoolwork is not as good as before
_____ I do very badly in subjects I used to be good in
24. _____ I can never be as good as other kids
_____ I can be as good as other kids if I want to
_____ I am just as good as other kids
25. _____ Nobody really loves me
_____ I am not sure if anybody loves me
_____ I am sure that somebody loves me
26. _____ I usually do what I am told
_____ I do not do what I am told most times
_____ I never do what I am told
27. _____ I get along with people
_____ I get into fights many times
_____ I get into fights all the time

APPENDIX C

ANXIETY CONTROL QUESTIONNAIRE FOR CHILDREN-SHORT FORM (ACQ)

ACQ

Listed below are a number of statements which boys and girls use to describe themselves. Please read each question and answer them as honestly as you can. There are no Right or Wrong answers.

Use the numbers to show how much each question is true for you:

0	1	2	3	4
None	A little	Some	A lot	Very Very Much

- _____ 1. I can take charge and control my feelings.
- _____ 2. When I am scared or nervous, I am able to stop myself from breathing too hard.
- _____ 3. I am able to change how much nervousness or fear I feel.
- _____ 4. I can make myself feel good again when bad things happen to me.
- _____ 5. I can usually calm myself down when I want to.
- _____ 6. I know how to deal with feeling scared or anxious so I do not care if I become scared or anxious.
- _____ 7. I can usually deal with hard problems.
- _____ 8. When I am anxious or nervous, I can still think about things other than my feelings of anxiety.
- _____ 9. I can handle scary things I did not expect or think would happen as good as I can handle scary things that I expected or thought would happen.
- _____ 10. I am good at taking care of things that go wrong.

APPENDIX D

REVISED CHILDREN'S MANIFEST ANXIETY SCALE (RCMAS)

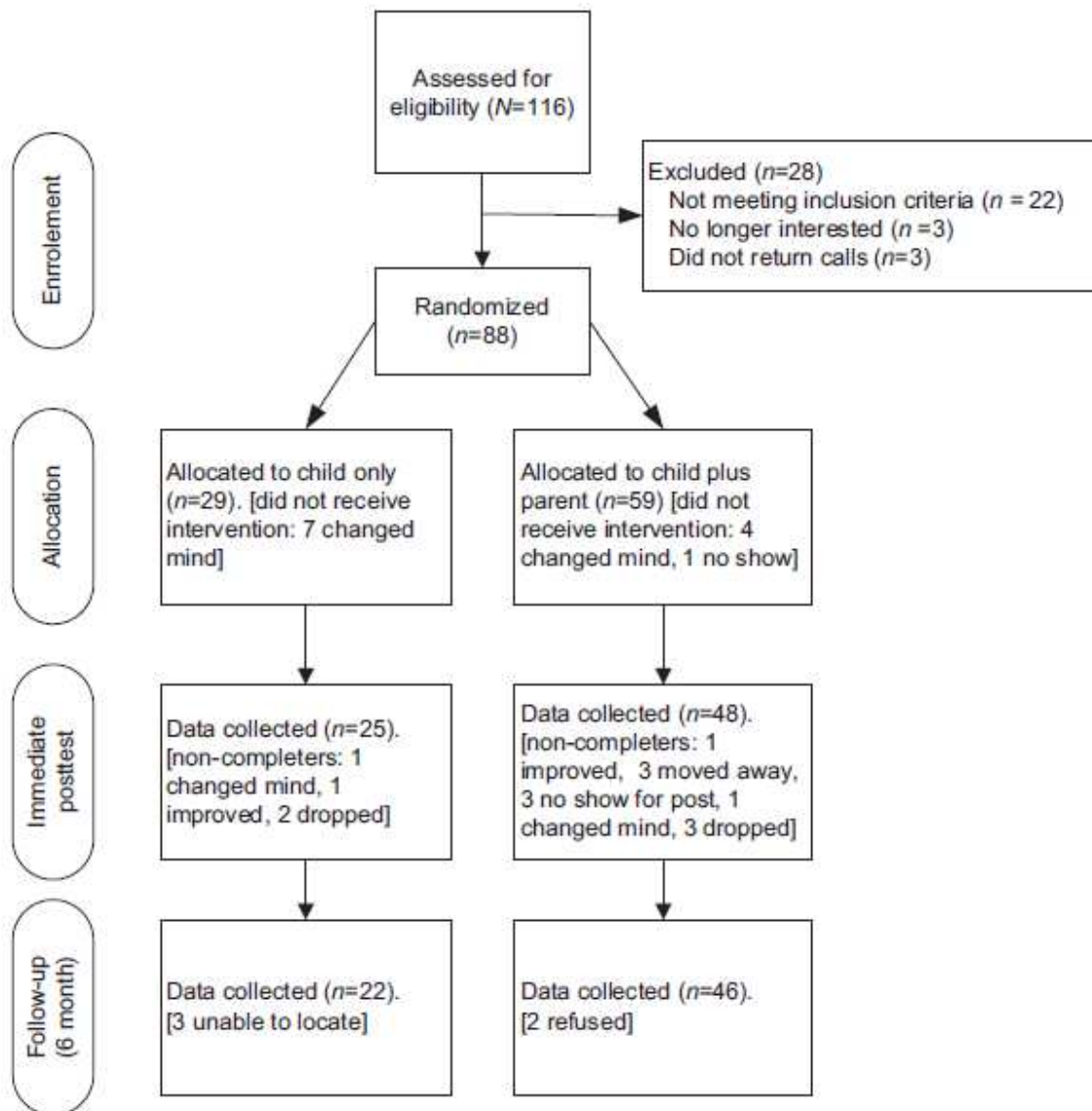
RCMAS

Instructions: Read each question carefully. Put a circle around the word YES if you think it is true about you. Put a circle around the word NO if you think it is not true about you.

- | | | |
|--|-----|----|
| 1. I have trouble making up my mind. | yes | no |
| 2. I get nervous when things do not go the right way. | yes | no |
| 3. Others seem to do things easier than I can. | yes | no |
| 4. I like everyone I know. | yes | no |
| 5. Often I have trouble getting my breath. | yes | no |
| 6. I worry a lot of the time. | yes | no |
| 7. I am afraid of a lot of things. | yes | no |
| 8. I am always kind. | yes | no |
| 9. I get mad easily. | yes | no |
| 10. I worry about what my parents will say to me. | yes | no |
| 11. I feel that others do not like the way I do things. | yes | no |
| 12. I always have good manners. | yes | no |
| 13. It is hard for me to get to sleep at night. | yes | no |
| 14. I worry about what other people think about me. | yes | no |
| 15. I feel alone even when there are people with me. | yes | no |
| 16. I am always good. | yes | no |
| 17. Often I feel sick in my stomach. | yes | no |
| 18. My feelings get hurt easily. | yes | no |
| 19. My hands feel sweaty. | yes | no |
| 20. I am always nice to everyone. | yes | no |
| 21. I am tired a lot. | yes | no |
| 22. I worry about what is going to happen. | yes | no |
| 23. Other children are happier than I. | yes | no |
| 24. I tell the truth every single time. | yes | no |
| 25. I have bad dreams. | yes | no |
| 26. My feelings get hurt easily when I am fussed at. | yes | no |
| 27. I feel someone will tell me I do things the wrong way. | yes | no |
| 28. I never get angry. | yes | no |
| 29. I wake up scared some of the time. | yes | no |
| 30. I worry when I go to bed at night. | yes | no |
| 31. It is hard for me to keep my mind on my schoolwork. | yes | no |
| 32. I never say things I shouldn't. | yes | no |
| 33. I wiggle in my seat a lot. | yes | no |
| 34. I am nervous. | yes | no |
| 35. A lot of people are against me. | yes | no |
| 36. I never lie. | yes | no |
| 37. I often worry about something bad happening to me. | yes | no |

APPENDIX E

CONSORT FLOWCHART FOUND IN PINA ET AL. (2012)



APPENDIX F

INITIAL PROPOSED DATA ANALYTIC PLANS BY FIVE SEPARATE
OUTCOMES OF PROGRAM RESPONSE

Table A

Hierarchical Multiple Regression Analyses Predicting Program response for RCMAS from Risk Modifiers

Variable	ΔR^2	<i>B</i>	<i>SE B</i>	β
Step 1: Fixed Covariates				
Sex				
Age				
Step 2: Pretest Covariates				
Pretest RCMAS				
Protocol Condition				
Step 3: Risk Modifiers				
CASI				
CDI				
ACQ-C-S				
CBCL-Social				
Step 4: Interactions				
CASI X sex				
ACQ-C-S X sex				
CASI X condition				
ACQ-C-S X condition				

Note. Sex = 0 (*girl*) or 1 (*boy*); RCMAS = Revised Children’s Manifest Anxiety Scale; Protocol Condition = 0 (*Child-only protocol*) or 1 (*child-plus-parent protocol*); CASI = Childhood Anxiety Sensitivity Index; CDI = Children’s Depressive Inventory; ACQ-C-S = Anxiety Control Questionnaire for Children-Short Form; CBCL-Social = Child Behavior Checklist Social Competence Scale.

** $p < 0.01$, * $p < .05$

Table B

Hierarchical Multiple Regression Analyses Predicting Program response for Internalizing Problems from Risk Modifiers

Variable	ΔR^2	<i>B</i>	<i>SE B</i>	β
Step 1: Fixed Covariates				
Sex				
Age				
Step 2: Pretest Covariates				
Pretest CBCL-Intern.				
Protocol Condition				
Step 3: Risk Modifiers				
CASI				
CDI				
ACQ-C-S				
CBCL-Social				
Step 4: Interactions				
CASI X sex				
ACQ-C-S X sex				
CASI X condition				
ACQ-C-S X condition				

Note. Sex = 0 (girl) or 1 (boy); CBCL-Intern = Child Behavior Checklist Internalizing Scale; Protocol Condition = 0 (*Child-only protocol*) or 1 (*child-plus-parent protocol*); CASI = Childhood Anxiety Sensitivity Index; CDI = Children’s Depressive Inventory; ACQ-C-S = Anxiety Control Questionnaire for Children-Short Form; CBCL-Social = Child Behavior Checklist Social Competence Scale.

** $p < 0.01$, * $p < .05$

Table C

Hierarchical Multiple Regression Analyses Predicting Program response for Child-reported Anxiety from Risk Modifiers

Variable	ΔR^2	<i>B</i>	<i>SE B</i>	β
Step 1: Fixed Covariates				
Sex				
Age				
Step 2: Pretest Covariates				
Pretest ADIS-C				
Protocol Condition				
Step 3: Risk Modifiers				
CASI				
CDI				
ACQ-C-S				
CBCL-Social				
Step 4: Interactions				
CASI X sex				
ACQ-C-S X sex				
CASI X condition				
ACQ-C-S X condition				

Note. Sex = 0 (girl) or 1 (boy); ADIS-CSR= Anxiety Disorders Interview Schedule for DSM-IV (child version); Protocol Condition = 0 (*Child-only protocol*) or 1 (*child-plus-parent protocol*); CASI = Childhood Anxiety Sensitivity Index; CDI = Children's Depressive Inventory; ACQ-C-S = Anxiety Control Questionnaire for Children-Short Form; CBCL-Social = Child Behavior Checklist Social Competence Scale.

** $p < 0.01$, * $p < .05$

Table D

Hierarchical Multiple Regression Analyses Predicting Program response for Mother-Rated Child's Anxiety from Risk Modifiers

Variable	ΔR^2	<i>B</i>	<i>SE B</i>	β
Step 1: Fixed Covariates				
Sex				
Age				
Step 2: Pretest Covariates				
Pretest ADIS-C				
Protocol Condition				
Step 3: Risk Modifiers				
CASI				
CDI				
ACQ-C-S				
CBCL-Social				
Step 4: Interactions				
CASI X sex				
ACQ-C-S X sex				
CASI X condition				
ACQ-C-S X condition				

Note. Sex = 0 (girl) or 1 (boy); ADIS-CSR= Anxiety Disorders Interview Schedule for DSM-IV (parent version); Protocol Condition = 0 (*Child-only protocol*) or 1 (*child-plus-parent protocol*); CASI = Childhood Anxiety Sensitivity Index; CDI = Children's Depressive Inventory; ACQ-C-S = Anxiety Control Questionnaire for Children-Short Form; CBCL-Social = Child Behavior Checklist Social Competence Scale.

** $p < 0.01$, * $p < .05$

Table E

Hierarchical Multiple Regression Analyses Predicting Program response for Anxiety Severity from Risk Modifiers

Variable	ΔR^2	<i>B</i>	<i>SE B</i>	β
Step 1: Fixed Covariates				
Sex				
Age				
Step 2: Pretest Covariates				
Pretest ADIS-CSR				
Protocol Condition				
Step 3: Risk Modifiers				
CASI				
CDI				
ACQ-C-S				
CBCL-Social				
Step 4: Interactions				
CASI X sex				
ACQ-C X sex				
CASI X condition				
ACQ-C X condition				

Note. Sex = 0 (girl) or 1 (boy); ADIS-CSR= Anxiety Disorders Interview Schedule for DSM-IV (Clinician’s Severity Rating); Protocol Condition = 0 (*child-only protocol*) or 1 (*child-plus-parent protocol*); CASI = Childhood Anxiety Sensitivity Index; CDI = Children’s Depressive Inventory; ACQ-C-S = Anxiety Control Questionnaire for Children-Short Form; CBCL-Social = Child Behavior Checklist Social Competence Scale.

** $p < 0.01$, * $p < .05$