

Treatment of Comorbid Anxiety and Oppositionality in Children:  
Targeting the Underlying Processes

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The purpose of this study was to develop, implement, and evaluate a psychosocial treatment specifically designed for families with a child who experiences a generalized anxiety disorder (GAD) and an oppositional defiant disorder (ODD). Research suggests emotion regulation and information processing in the child and parenting behaviors directed towards the child may contribute to, and maintain, generalized anxiety and oppositionality. A treatment protocol, integrating emotion focused cognitive-behavioral therapy and collaborative problem solving was designed. Five families participated in assessment, an average of 13 treatment sessions, and follow up. The hypothesis that both GAD and ODD could be treated within the same treatment plan was partially supported. All of the children experienced reductions in symptoms. Eighty percent of the children (4/5) had subclinical or no GAD diagnosis at post. At the 1 month follow-up, 3 children maintained these gains and 1 child showed more improvement at one month (compared to post). Forty percent of the children (2/5) had a subclinical ODD diagnosis at post, with 80% (4/5) subclinical at the 1 month follow-up. The study provided important considerations for future directions.

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## Introduction

The primary purpose of this dissertation was to develop, implement, and evaluate a psychosocial treatment specifically designed for families with a child who experiences a generalized anxiety disorder and an oppositional defiant disorder. While research is emerging which supports similar underlying mechanisms can contribute to both anxiety and oppositionality in children, current treatment options focus more on one disorder over the other.

The relationship between anxiety disorders and oppositional defiant disorder has garnered a great deal of interest in recent years (e.g., Boylan, Vaillancourt, Boyle, & Szatmari, 2007; Bubier & Drabick, 2009; Cunningham & Ollendick, 2010). Youth with a generalized anxiety disorder (GAD) experience excessive worries that are hard to stop, and that occur more days than not, and are associated with a high degree of interference and impairment. These children also experience high physiological arousal and can report a wide variety of reoccurring worries, including school, friends, family, health, and world events. Oppositional defiant disorder (ODD), on the other hand, is marked by angry/irritable, defiant, disobedient, and hostile behavior, particularly towards authority figures (APA, 1994; APA 2013). Research continues to emerge which not only highlights a relationship between these two seemingly disparate disorders, but also suggests they share underlying etiologies which include individual (e.g., emotion regulation and informational processing) and contextual (e.g., parenting behaviors) influences (e.g., Fraire & Ollendick, 2013).

While there are those who have raised important points regarding methodological issues that affect rates of comorbidity of disorders (e.g., informant reporting, halo effect,

sampling bias, symptom overlap; see Cunningham & Ollendick, 2010 for a thorough review), “true” comorbidity between ODD and anxiety has been empirically documented (Angold, Costello, & Erkanli, 1999; Boylan et al., 2007). Boylan and colleagues (2007) found the prevalence of comorbid anxiety disorders and oppositional disorder to range from 7% to 14% in a community sample. Additionally, using a large national comorbidity survey, Nock and colleagues found the lifetime prevalence of ODD to be approximately 10%, and within that 10%, approximately 62% reported an anxiety disorder (Nock, Kazdin, Hiripi, & Kessler, 2007).

Understanding and targeting the comorbidity between anxiety and ODD is especially important given that children with comorbidity are at higher risks for negative life outcomes. For example, children who have a comorbid anxiety and externalizing disorder are at a higher risk of fewer extracurricular activities, poorer quality in peer relationships, poorer academic performance, and information processing deficits (Brunnekreef et al., 2007; Franco, Saavedra, & Silverman, 2007). While these studies defined anxiety more broadly (i.e., trait anxiety), it is probable that a child who experiences GAD (and hence high trait anxiety) and ODD would also be at a higher risk for negative life outcomes, much like their trait anxious counterparts.

When working with children and families, it is important to take into account developmental considerations. Epidemiological studies suggest that ODD has an earlier age of onset than GAD. ODD age of onset has been documented at a young age in multiple studies (e.g., as young as 3-4 years of age, see Kessler et al., 2005; Loeber, Burke, Lahey, Winters & Zera, 2000). On the other hand, a review of the literature suggests that GAD in children is most likely to onset around the age of 10, with an



increase in symptoms as the child moves into adolescence (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003; Hale, Raaijmakers, Muris, van Hoof, & Meeus, 2008; Van Oort, Greaves-Lord, Verhulst, Ormel, & Huizink, 2009). Given that a cardinal symptom of GAD is worry, which has a cognitive component, GAD may not appear in children until middle childhood and early adolescence, due to cognitive development (Ellis & Hudson, 2010). Age, although not necessarily a good marker of development, is an important consideration for treatment. In order to be developmentally appropriate, treatments should target specific age ranges given that treatment should be flexible to accommodate age specific needs (Barrett, 2000). In addition to developmental considerations, there are important underlying mechanisms which should be part of a comprehensive comorbidity treatment.

### *Emotion Regulation*

An underlying process that is related to both GAD and ODD in children is emotion regulation. Emotion regulation is the ability to monitor, evaluate, and modify emotional states, particularly the intensity and duration of the emotion, to achieve specified goals (see Eisenberg & Spinrad, 2004). Behaviors associated with the ability to regulate emotion include: re-appraisal, distraction, avoidance, escape, suppression, and emotion and problem-focused coping (Cisler, Olatunji, Feldner, & Forsyth, 2010). Emotion regulation can be automatic and occur outside of immediate awareness (e.g., Cisler, et al., 2010; Eisenberg & Spinrad, 2004; Muris & Ollendick, 2005).

Importantly, difficulties in emotion regulation are seen in both anxious children and children with oppositional behaviors. Inappropriate emotion regulation style (i.e., under or over-control) are maladaptive attempts to regulate high emotional arousal

(Zeman, Cassano, Perry-Parrish, & Stegall, 2006). Research has shown that children who are anxious tend to report an over-controlled emotion regulation style, whereas children with oppositionality report under-controlled emotion regulation (Southam-Gerow & Kendall, 2000). Children with anxiety report greater difficulty managing negative emotions, high emotional intensity, and low self-efficacy in their ability to regulate their emotions (Suveg & Zeman, 2004). While this research focused on anxiety more broadly, these findings were also replicated in a sample of adults with GAD. Those who reported GAD experienced emotions more intensely, had a poorer understanding of their own emotions, had stronger negative reactions to emotions, and reported more difficulty self-soothing, compared to controls (Mennin, Heimberg, Turk, & Fresco, 2005). In addition, children who experience emotion regulation deficits, particularly when they also experience high negative emotionality, are susceptible to the development of oppositionality (Eisenberg et al., 2001). Children with oppositionality display their emotional regulation difficulties through a higher likelihood of expressing anger and being impulsive (Zeman et al., 2006).

There is some research to suggest there is a “nonspecific emotion dysregulation factor,” which includes the dysregulation of sadness, anger, and anxiety, which is shared by both internalizing and externalizing disorders (Silk, Steinberg, & Morris, 2003; Steinberg & Avenevoli, 2000). While research with anxious and oppositional youth highlights deficits in a variety of emotions, anger emerges as a particularly pertinent emotion for both anxiety and oppositionality. A deficit in the ability to regulate anger is associated with internalizing problems, and anger has been shown to be a significant predictor of externalizing problems as well (Eisenberg et al., 2001; Rydell, Berlin, &

Bohlin, 2003; Zeman, Shipman, & Suveg, 2002). This suggests anger could be an important component for both internalizing and externalizing behaviors, including GAD and ODD. How children regulate their anger may be particularly important to understanding comorbidity, and especially pertinent to the treatment of these disorders.

An important aspect of emotion regulation is the relation between emotion and effortful control. High levels of emotionality, combined with low levels of effortful control, are predictive of psychopathology in children (e.g., Muris, van der Pennen, Sigmond, & Mayer, 2008; Rothbart, 2007). Effortful control can be defined as, “the ability to inhibit a dominant response to perform a subdominant response” (Rothbart & Bates, 1998). It has been found that both externalizing and internalizing children experience low levels of effortful control (Eisenberg et al., 2001). While it has yet to be examined empirically specifically within children who experience both GAD and ODD, the research suggests a possible effortful control deficit for children who exhibit both internalizing and externalizing behaviors.

Effortful control is important because it provides a link between emotions and cognitive processing, specifically, executive functioning. Executive functioning deficits, including effortful control, have gained attention as etiological factors in the development of oppositional behaviors (Greene & Doyle, 1999). These connections suggest low effortful control may be an important component for emotion regulation deficits. As noted, both anxiety and oppositionality contain elements of emotion regulation deficits. Therefore, emotion regulation may be an underlying process which would be particularly pertinent for children who experience both GAD and ODD, and as such, should be an important component of treatment.

### *Information Processes*

Information processing has been examined in both anxious and oppositional children. Discussing information processing more broadly, Crick and Dodge (1994) theorized that after information is encoded and interpreted, goals are specified and responses (in order to achieve these goals) are selected. An overview of this literature highlights specific areas where cognitive biases can develop. For example, in anxious children, Muris and Field (2008) emphasized the information encoding stage as vulnerable to attention bias, and the interpretation stage as vulnerable to both interpretation bias and memory bias. Dodge and Crick (1990) discuss how aggressive children are more likely to display deficits in interpreting social cues and a higher probability of choosing aggressive responses. Interpretation emerges as a potential information processing deficit for both anxious and aggressive children.

There are multiple avenues through which information processing biases may develop. For example, interpretation and attention biases may be learned behaviors. Children look to their parents and peers for cues on how to act. Attention can be directed through verbal instructions and interpretations can be shaped by observing others (Muris & Field, 2008). How information processing deficits are developed and how they influence behavior is important to aid our focus on what to target in treatment. As will be discussed below, cognitive behavioral techniques (e.g., challenging automatic thoughts, cognitive restructuring) target information processing deficits.

Research has shown that both anxious and oppositional children experience difficulties with information processing. Weems and colleagues (2001) found that anxiety in children was related to cognitive biases of catastrophizing (e.g., expecting the worst

outcome), personalizing (e.g., attributing outcomes solely based on oneself), and overgeneralization (e.g., a single negative outcome is indicative of all future outcomes). Additionally, it was found as children became older the relationship between catastrophizing and personalizing, and anxiety became stronger. This again highlights the important role that development plays in cognitive biases. In addition, research has shown that children with oppositional behaviors are more likely to interpret ambiguous situations as threatening and aggressive, while anxious children are more likely to interpret ambiguous situations as harmful and withdraw (Barrett, Rapee, Dadds, & Ryan, 1996; Muris et al., 2008). Research conducted by Reid and colleagues (2006) found that high levels of anxiety and aggression were related to negative cognitive biases, including attention to negative information, interpretation of ambiguous situations as negative, and preferential recall of negative words. Children who experience information processing biases are not only at risk for the development of generalized anxiety and/or oppositionality, these biases serve as maintenance factors as well. As such, how information is processed is an important treatment component for a combined GAD and ODD treatment.

### *Parenting Behaviors*

Family factors have been related to the development of both anxiety and oppositionality (e.g., Bogels & Brechman-Toussaint, 2006; Gaylord, Kitzmann, & Lockwood, 2003; Roelofs, Meesters, Huurne, Bamelis, & Muris, 2006; Siqueland, Kendall, & Steinberg, 1996; van der Bruggen, Stams, Bogels, & Paulussen-Hoogeboom, 2010). Higher levels of parental control and rejection, as well as less autonomy granting and less emotional warmth, are related to child anxiety (Bogels & Brechman-Toussaint,

2006; McLeod, Wood, & Weisz, 2007; Rapee, 1997; van der Bruggen et al., 2010). For example, anxious children are more likely to experience a parenting style that is more controlling and less warm, compared to both their siblings and a control group (Lindhout et al., 2009). Parents of children with ODD have been characterized as using psychological aggression, parental rejection, fewer positive parenting techniques, and having a lower sense of parental self-efficacy (Kolko, Dorn, Bukstein, & Burke, 2008). These examples highlight how parenting behaviors, albeit somewhat different behaviors, relate to both anxiety and oppositionality in children.

While studies specifically pertaining to comorbid anxious and oppositional children are lacking, the interactive nature of parent and child behaviors has been examined in the context of anxiety and aggression. For example, Dumas and colleagues (1995) found that aggressive children and their parents were more likely to display behaviors suggesting they were trying to control each other and parents were indiscriminate in whether they responded to positive or negative behaviors displayed by the child. Mothers of anxious children, on the other hand, exhibited more controlling behaviors than mothers in either of the other groups (aggressive or socially competent). Additionally, when mothers of anxious children did comply with their child's demands, they were more likely to comply when a child used negative rather than positive behaviors. This study illustrates not only the interactive nature of parent child interactions, which can be extended to anxious and oppositional children, but additionally highlights the important role of control.

Within both the anxiety and the oppositionality literature, an area that has received a great deal of attention has been parental control. Parental control can be

conceptualized in a positive (e.g., appropriate limit setting and monitoring) or negative manner (e.g., overcontrol). Control can be subdivided into behavioral control and psychological control (Barber, Olsen, & Shagle, 1994; Pettit, Laird, Dodge, Bates, & Criss, 2001; Walling, Mills, & Freeman, 2007). Parents who may be categorized as psychologically over-controlling exercise excessive regulation over their child's routines, discourage independent problem-solving, and have higher levels of vigilance and intrusiveness (Ballash, Leyfer, Buckley, & Woodruff-Borden, 2006; Bogels & Brechman-Toussaint, 2006; Chorpita, Brown, & Barlow, 1998; McLeod et al., 2007). Through overcontrol, a parent can limit the child's sense of mastery, autonomy, and contribute to the perception of lack of control in one's environment (Ballash et al., 2006).

Psychological control has been explored in both oppositional and anxious children (Campbell, March, Pierce, Ewing, & Szumowski, 1991; Pettit et al., 2001). Notably, psychological control is not only associated with both oppositional and anxious symptoms, the level of development may be particularly relevant. For example, in a longitudinal study, Pettit and colleagues (2001) found that youth who were low in delinquent behavior as younger children, but reported high levels of parental psychological control, were more likely to experience delinquent behaviors as adolescents. Additionally, children who experienced anxiety and who reported their parents to have high psychological control experienced more anxiety symptoms in adolescence. These findings taken together illustrate that high psychological control exerted over children can lead to both oppositional and anxious behavioral outcomes. As such, parental psychological control may be particularly influential to the development of comorbid anxiety and oppositionality.

More specific to comorbidity, there is further observational research to suggest that parenting styles may be similar for anxious children and oppositional children. For example, Hudson and Rapee (2001) found mothers of both anxious children and oppositional children were over intrusive when assisting their child on a difficult task. One reason postulated for this over intrusiveness was that parents of the child, whether the child was anxious or oppositional, were trying to prevent their child's distress, regardless of how that stress might manifest itself (e.g., worry or avoidance for the anxious child or a temper tantrum from the oppositional child). Interestingly, a difference noted between parents of oppositional children and parents of anxious children was that parents of anxious children were *more* negative than parents of oppositional children. Thus, there is substantial evidence to support a link between parental overcontrol and both child anxiety and oppositionality, suggesting that parenting overcontrol may be an important target for treatment.

There is some research to suggest the relationship between control and anxiety and oppositionality may be moderated by parental emotional expressivity. An important variable in parental behaviors is parental rejection/warmth. Rejection can take many forms, ranging from hostility to neglect. Research has shown that children who experience parents high in control, but low in warmth or positive emotions, were more likely to experience anxiety and oppositionality (e.g., Kolko et al., 2008; Weaver & Prelow, 2005). For example, in a longitudinal study, McCarty and colleagues (2005) found children who reported their parents as less emotionally supportive (defined by not giving warm, responsive, or involved parenting) were at greater risk for the development of externalizing disorders. Research conducted in adolescents with GAD found a strong



association between parental rejection and their GAD symptoms (Hale, Engels, & Meeus, 2006). Indeed, perceptions of parental rejection predicted GAD symptoms in adolescents, more so than perceptions of parental control.

It is important to consider how parents express their emotions because it elucidates not only how parents' model emotional expression to their children but also the types of emotions to which children are exposed. For example, Suveg and colleagues (2005), using both observational and self-report methods, found mothers of anxious children had a tendency to use fewer positive words, as well as discouraged children if they tried and/or expressed emotions. Additionally, both mothers and anxious children reported their families to be less emotionally expressive, when compared to families with non-clinical anxious children. Similarly, it has been shown that children with oppositional behaviors were more likely to have parents who express anger and hostility (Denham et al., 2000), thus both modeling these emotions and exposing children to negative emotional environments. Parents who are warm and responsive are more likely to have well regulated children; whereas parents who minimize or punish children for expressing emotions are teaching their children not to express their emotions and to not seek support (for a review see Zeman et al., 2006). It has been shown that both oppositional and anxious children can experience a lack of parental positive emotions. Therefore, it is possible that parents of comorbid GAD and ODD children in particular may struggle with expressing positive emotions.

Taken together, the current literature suggests the potential for similar underlying processes to contribute to both generalized anxiety and oppositionality in children. While the literature in this area continues to flourish, treatment options which target both areas

are limited. This review of the literature suggests emotion regulation, information processing and parenting behaviors are all underlying factors that may influence GAD and ODD. Children who experience comorbidity between these disorders may be particularly susceptible to deficits associated with these processes. In turn, a treatment which targets these specific areas may be particularly beneficial in the treatment of youth with these comorbid disorders.

### *Current Treatments*

There is currently a vast array of literature which looks at the treatment for children with oppositional behaviors and children with anxiety, separately. A review of treatment options specifically for children with anxiety disorders, including GAD, suggests multiple treatment options with empirical support. These include individual cognitive behavioral therapy (CBT), group CBT, and group CBT with parental involvement (for a review, see Silverman, Pina, & Viswesvaran, 2008). There are those who have found that adding a parent component to treatment does not enhance treatment outcome (for a review, see Creswell & Cartwright-Hatton, 2007). However, there has been additional research which suggests a parent component increases long term effects of treatment (Wood, McLeod, Piacentini, & Sigma, 2009).

For oppositional youth and their families there are also a variety of evidence-based treatments including, but not limited to, The Incredible Years, Helping the Noncompliant Child, Parent-Child Interaction Therapy, and Parent Management Training Oregon Model, (for a review, see Eyberg, Nelson, & Boggs, 2008). Although not an evidence-based treatment at this time, an example of an ODD treatment which targets families is Collaborative Problem Solving (CPS; Greene, 2010; Greene & Ablon, 2006).

CPS stems from a conceptualization of an incompatibility between the child's skill set and demands placed on him or her by the environment, which leads to oppositional behaviors. CPS approaches oppositionality as a product of lagging skills in the child and unsolved problems between the child and his or her environment. Lagging skills encompass different factors in the child including emotion dysregulation, executive functioning deficits, cognitive inflexibility, language/communication skills deficits, and social skills deficits. Unsolved problems are viewed as demands placed on the child which exceed the child's ability to respond in an adaptive manner. Collaborative problem solving teaches the parents to not only re-conceptualize their children in terms of lagging skills and their environment; it provides a format for the parent and child to solve problems together. While research on CPS has yet to investigate the model specifically with anxious children, this approach strives to target a child's emotion dysregulation and cognitive processes within a family context. Theoretically, this suggests there could be potential for CPS to be used with comorbid children.

### *Treating Comorbidity*

While the literature on treating anxiety and oppositionality continues to expand, fewer treatments are specifically geared towards children who experience comorbid anxiety and oppositionality. However, there have been a few studies which addressed co-occurring anxiety and aggression. For example, Levy and colleagues (2007) used group CBT to target children with anxiety disorders and aggressive symptoms, compared to a group who only received CBT for anxiety. The modified treatment contained a parent component, designed to teach parents behavioral management techniques, education on anxiety and anger, and information on what children were learning in group.

Interestingly, Levy and colleagues (2007) found both the combined anxiety/anger program and anxiety only group showed significant reduction in symptoms, with no significant differences between the two groups. However, the percent of children with an anxiety disorder, combined with aggression, had higher rates of improvement in the modified group. That being said, the overall findings suggested that treating and reducing anxiety alone was beneficial in the reduction of aggression as well, and this finding has been found in other studies which have investigated comorbidity (for a review, see Ollendick, Jarrett, Grills-Taquechel, Hovey, & Wolff, 2008).

This is an important point, because while treating comorbidity is complicated; there is no empirical evidence available to support that a child with comorbidity cannot benefit from a specific treatment. However, that is not to say that furthering our understanding and developing treatments specifically for comorbid children is a fruitless endeavor. Even with the significant number of children who do respond to treatment, there are a number who are not responding (e.g., about 30-40% do not respond; see Southam-Gerow, Kendall & Weersing, 2001). Additionally, the comorbid treatment literature is still in its infancy. It will be crucial to further our understanding of the comorbidity between specific groups (e.g., GAD and ODD) and conceptualize tailored treatment designs.

While there is less research which has looked specifically at treating comorbid disorders, there have been therapies which targeted the previously discussed underlying processes. For example, emotion regulation treatments for internalizing symptoms have been developed which combine emotion focused components and CBT (CBT: Suveg, Sood, Comer, & Kendall, 2009; Trostler, Buzzella, Bennett, & Ehrenreich, 2009).

Emotion-focused cognitive behavioral therapy (ECBT) follows traditional cognitive behavioral therapy practices (e.g., relaxation, cognitive restructuring, reinforcement, imaginal and in-vivo exposures) with a systematic integration of emotional concepts, in order to enhance emotional understanding and emotion regulation (Suveg, Kendall, Comer, & Robin, 2006). In addition, vignettes are used to elicit emotions (e.g., sadness, guilt, anger) so the child can develop thinking through how to identify emotions, generate ways to feel better, and problem solve consequences. Traditional CBT often only targets the regulation of worry, but not the related emotions of sadness or anger. To date, research specifically focused on GAD and emotion regulation in relation to treatment has been primarily studied in adults. For example, Mennin (2006) describes an Emotion Regulation Therapy for adults with GAD. While emotion-focused CBT has yet to be explored in oppositional children, given the established relationship between emotional regulation and oppositionality, an emotion-focused CBT could provide an oppositional child with important tools.

A child's ability to exercise control over him or herself is an important factor to consider in the treatment of comorbid GAD and ODD. In addition, emotion regulation can be defined in terms of both emotional control and attentional control (Muris & Ollendick, 2005). It has been suggested that CBT may increase effortful control. Effortful control may be implicitly taught in CBT when children learn to analyze their situations, their thoughts, and choose adaptive behavioral responses, therefore, improving their effortful control (e.g., Muris & Ollendick, 2005). Emerging research suggests effortful control may provide a buffer for the development of information processing biases (e.g., Muris et al., 2008). Cognitive behavioral therapies target information processing biases

through the development of skills such as cognitive restructuring and thought challenging. Information processing deficits may be targeted through treatments that not only use CBT to challenge cognitive biases, but also aid the child in developing their effortful control.

In addition to targeting these specific factors, another important component to treatment would be targeting the role of the parents. As noted above, an example where parents are an important component of treatment is CPS. CPS not only targets potential lagging skills in children, but also incorporates the parents in the treatment process. The CPS process involves three steps. The first step is the parent presents the unsolved problem (e.g., child refusing to do chores) and asks the child for his or her view on the problem. The parent demonstrates empathy while gathering information from the child in terms of what makes the problem an issue for the child (e.g., chores are boring, hard, rather do something else). The focus in this step is solely the child; the parent does not express his or her own concerns or provide arguments against the child's points. This not only provides the parent with a chance to show empathy, but allows the child a sense of control through discussion of the problem from his or her point of view. After the child has expressed his or her concerns, the second step is the parents presenting their concerns (e.g., why doing chores is important). The third and final step is the parent inviting the child to suggest solutions which address both of their concerns. In this process, parent and child arrive at potential solutions to try together. The theory behind CPS is that the parents are modeling for the child listening skills, empathy, perspective taking and, above all others, ways to problem solve. While research on CPS has yet to investigate the model

specifically with anxious children, this approach strives to target a child's emotion dysregulation and cognitive processes within a family context.

However, for some children, being able to have a direct conversation with parents is a novel concept, especially for a child who experiences a great deal of emotional dysregulation and processing biases. Becoming very upset in the beginning of a conversation can lead to difficulties in productive problem solving. This may be particularly true for comorbid children, given they may be susceptible to a multitude of symptoms related to the underlying processes.

#### *Evolution of a New Treatment*

Building upon the review of underlying processes and current treatment options for anxious and oppositional youth, there is great potential for a treatment which combines emotion-focused CBT, with a parent/child CPS component. The treatment would be specifically geared towards families with children who experience both GAD and ODD. This treatment would potentially target the underlying processes discussed previously. For the children, the focus would target emotional expressivity and control, as well as cognitions that have been identified as part of their information processing biases. Emotion-focused CBT (ECBT) would give children the tools to not only label and regulate emotions, but grant them the sense they are in control of their own emotions. There is significant overlap between more traditional CBT and ECBT. The CBT portion of the treatment will help the child challenge his or her cognitive distortions and negative information processing biases. The key difference between traditional CBT and ECBT is that ECBT incorporates emotion related concepts to develop emotion regulation skills and emotion understanding into all sessions of treatment (Suveg et al., 2006). This

inclusion of emotional training could have a significant impact on anxious and oppositional children because it would not only develop emotion regulation skills, it would enhance overall emotional understanding.

As children experience ECBT, parents would receive their own concurrent treatment. Parents would be given basic instruction in ECBT, in order to aid their children with assignments outside of session. However, their main focus of treatment will be utilizing CPS with their children. By using CPS, parents will begin to help their children build their cognitive skill set, for example, by learning to take the perspective of others and using higher order problem solving. These skills may be lagging in children who experience both GAD and ODD. As part of the CPS model, parents learn to understand conflict from their child's point of view. In doing so, they learn to express empathy and convey to the child their opinion is valued. This will ideally enhance a parent's expression of warmth as well as provide the child with a sense of control. As the conversation continues, children are given the opportunity to contribute to the solution. Parents learn that giving a child a voice does not mean the parents do not have a say. Asking children their thoughts on a solution grants children a greater sense of autonomy and by design may reduce a parent's psychological control.

Therefore, children in a combined ECBT and CPS treatment would potentially not only learn to express and regulate their emotions, their cognitive skills would be developed through the individual focus (with ECBT) and with attention to the family component (with CPS). The emotion focused CBT for the children will help them learn to manage their emotions and challenge their cognitive distortions. This will not only



help them as individuals, but will also allow them to be successful participants in CPS conversations to solve problems with their parents.

### *Specific Aims*

*Aim 1:* To examine the effectiveness, feasibility, and acceptability of a 12-16 week intervention specifically tailored to target youth with generalized anxiety and oppositional defiant disorders. Youth between the ages of 11 to 14 years old who met diagnostic criteria for both GAD and ODD were enrolled in the program. The design of the program was a single case multiple baseline experimental design, with six families randomly assigned to a two week, three week, or four week baseline.

*Aim 2:* To track improvement in anxiety and oppositionality.

*Aim 3:* To track improvement in the proposed underlying processes of emotion regulation, information processing, and parenting variables.

*Aim 4:* To examine the maintenance of improvement through a follow-up assessment after a one month period.

### *Hypotheses*

*Hypothesis 1:* It was hypothesized that measures recorded in baseline will remain relatively stable and unchanged during this phase. More specifically, parent ratings on the Disruptive Behavior Disorders Rating Scale (DBDRS) and parent and child ratings on the Spence Child Anxiety Scale (SCAS) will remain relatively constant across the varying baseline intervals.

*Hypothesis 2:* It was hypothesized that the ODD symptoms, based on parent ratings, will decrease as a function of treatment. More specifically, the symptoms will decrease when

the treatment phase is compared to the baseline phase. Additionally, these changes will be maintained at 1 month follow-up.

*Hypothesis 3:* It was hypothesized that anxiety symptoms, based on both parent and child ratings, will decrease as a function of treatment. More specifically, the symptoms will decrease when the treatment phase is compared to the baseline phase. Additionally, these changes will be maintained at 1 month follow-up.

*Hypothesis 4:* It was hypothesized that the underlying processes will also change as a function of treatment. More specifically, the child's emotion regulation will increase, negative information processing will decrease, and parents will display more empathy and autonomy towards their child.

*Hypothesis 5:* It was hypothesized both the parent and child will find the treatment to be feasible and acceptable.

## Method

### *Research Design*

The research design followed a nonconcurrent multiple baseline single-case experimental design. A single-case design can be used in the early stages of establishing treatment efficacy and effectiveness (Chambless & Ollendick, 2001), particularly with innovative treatment interventions. In this design, each participant serves as his or her own control and symptoms prior to intervention are compared to symptoms during or after treatment (Horner et al., 2005). This will provide a measure for change, relative to the baseline, in response to the treatment. The implementation of treatment is staggered at different times across multiple participants. A staggered multiple baseline approach

allows for experimental control and demonstrates experimental effect both across and within participants (Horner et al., 2005; Morgan & Morgan, 2009).

### *Treatment*

The treatment involved 12-16 sessions (depending upon need), each being 75 minutes in length. Approximately 45 minutes were spent with the child and 30 minutes with the parent. As the treatment progressed, more of the parent time included the child (in order to practice acquired CPS skills). The treatment manual was modeled after Collaborative Problem Solving (Greene & Ablon, 2006) with an additional child component designed to utilize emotion focused cognitive behavioral therapy components (Suveg et al. 2006). Primary components for the parents included providing the parents with a conceptualization of the child from the CPS perspective and direct training in collaborative problem solving. The collaborative problem solving focused on unsolved problems in the family's home which were leading to both oppositional and anxious behaviors in the child. Primary components for the child included relaxation skills, identification of emotions in self and others, self-talk, and emotional problem solving. The specific emotions focused on include happy, sad, anxious, and angry. For a brief description of each session, please see Appendix A. Handouts used with the families can be seen in Appendix B.

### *Participants*

Inclusion criteria were 11-14 years of age, with current DSM-IV diagnoses of Generalized Anxiety Disorder and Oppositional Defiant Disorder. This age range was selected because it was more probable that the co-occurring disorders would be present based on prevalence studies of these two disorders. Exclusion criteria included the

presence of an autism spectrum disorder (ASD), current or acute psychotic symptoms, conduct disorder, mental retardation, current treatment for either GAD or ODD (including medication), or the presence of any other diagnosis which requires immediate treatment, above and beyond the current intervention. Eligibility was initially determined by a brief phone screen and if criteria were met the family was invited for a full pre-assessment. At the pre-assessment, written informed consent was obtained from the parents and assent was obtained from the child. Parent and child were interviewed separately. Eligibility for the project was determined based on information gathered from both the parent and child Anxiety Disorder Interview Schedule (ADIS; described below). A consensus meeting was held which included the parent and child assessor, as well as the lead supervisor, Dr. Ollendick. Final eligibility was determined by the consensus diagnoses established in the meeting. Assessments were conducted pre-treatment, 1 week post treatment, and at a 1 month follow-up. Questionnaires to enhance the understanding of the child's symptoms were also administered. The assessments were administered to both parents and children by trained graduate level assessors, supervised by a licensed clinical psychologist. The primary investigator (who provided the therapy) was not directly involved with the assessment or consensus process, to insure the integrity of the study. Descriptions of the measures, including information, time point administered, and to whom they were administered, are presented next. Additionally, Table 1 reflects the purpose of each measure administered.

### *Measures*

#### *Measures of Anxiety and Oppositionality*

Anxiety Disorders Interview Schedule, Child and Parent Version (ADIS; Silverman & Albano, 1996): A semi-structured interview used to assess anxiety, mood, and externalizing behaviors. Information was collected to assess symptom frequency, intensity, and overall interference. Diagnoses were assigned by a clinical severity rating (CSR), ranging from 0 (no diagnosis) to 8 (very severe). Ratings above 4 are considered to be clinical. The ADIS has well established psychometric properties, with high levels of interrater and test-retest reliability (Silverman, Saavedra, & Pina, 2001). The ADIS was used to determine the diagnosis of GAD and ODD, which were used as inclusionary criteria for the project. Parent and child were administered the ADIS separately and a consensus on their reports was used for Clinician Severity Ratings. This interview was administered at pre-treatment, modules of clinical diagnoses established at pre-treatment were administered at post treatment, and the full interview was again administered at the one month follow-up. The diagnoses assigned at pre-treatment were tracked at post-treatment and follow-up, in order to monitor change.

Disruptive Behavior Disorders Rating Scale (DBDRS; Barkley, 1997): This measure includes DSM-IV symptoms for ADHD, ODD, and CD. It uses a 4-point scale from 0 (not at all) to 4 (very much). The DBDRS has been shown to have excellent psychometric properties (see, Pelham, Gnagy, Greenslade, & Milich, 1992). Only the ODD subscale was used in the current study. This measure was used as a secondary treatment outcome measure of ODD and was administered at pre-treatment, post-treatment, and the one month follow-up. In addition, the ODD subscale was administered at each treatment session to obtain weekly measures of oppositionality. This was a parent report measure.

Spence Child Anxiety Scale (SASC-C/P; Spence, 1998): The SCAS is a 45-item scale that measures anxiety symptoms using a 4-point Likert scale, ranging from never (0) to always (3). The scale includes an overall total anxiety score and subscale scores for panic/agoraphobia, separation anxiety, social phobia, generalized anxiety, obsessions/compulsions, and physical injury fears. The scale has good convergent and divergent validity, high internal consistency and good test-retest reliability (Spence, 1998). The parents and children were administered their version at pre-treatment, post-treatment, and the one month follow-up. The subscale for generalized anxiety was also administered at each treatment session and was used to track symptom change throughout treatment.

Strengths and Difficulties Questionnaire (SDQ-C/P; Goodman, 1997): The SDQ is a behavioral screening questionnaire designed to be used as a screening instrument. There are 5 subscales (emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior), a total scale, and an impact scale. Each subscale is comprised of 5 items, with the total problem scale comprised of 20 items. Both the parent and child versions were administered, which have been normed for children 11-17. Scoring of the SDQ leads to composite scores for each subscale, created with the child and parent reports combined. The SDQ has demonstrated good psychometric properties (Bourdon, Goodman, Rae, Simpson, & Koretz, 2005). In addition, follow-up SDQs have been shown to be sensitive to treatment effects (Goodman, 1997) and were used as an additional measure of treatment change. This measure was administered at pre-treatment, post-treatment, and the one month follow-up.

For the purpose of this study, only the emotional and conduct problems subscales were used.

Consumer Satisfaction Questionnaire (CSQ; McMahon & Forehand, 2003): The measure administered was a modified version of the Consumer Satisfaction Questionnaire, a 26 item parent-report questionnaire which serves as an evaluation of the treatment intervention. The questionnaire is divided in to three sections: Overall Program, Specific Parenting Techniques, and Opinions. The Overall Program evaluation consists of 11 items rated on a 7 point scale and assesses the degree to which the parent feels and perceives the treatment program to be effective. The Specific Parenting Techniques section evaluates the difficulty (5 items) and usefulness (5 items) of the intervention such as conveying empathy, deciding on a plan, and agreeing on a problem. Finally, the last section on Opinions consists of 5 items in a free response format, examining the degree to which the program was helpful and liked, as well as how the program could have been improved to assist the family more. A modified version was tailored specifically to the intervention and administered to both parents and children. This measure was administered to parents and children at post-treatment assessment and the 1 month follow-up.

Clinical Global Impression (CGI; Guy, 1976). The CGI includes, on a 7-point Likert scale, a rating of the current severity of the child's symptoms and the degree to which the child's symptoms improved since the beginning of treatment. The CGI was completed by the assessor during the 1 week post and 1 month follow-up assessments.

*Processes Variables*Parental Bonding Instrument – Parent and Child Versions (PBI-C/P; Parker, Tupling, &

Brown, 1979): This is a 25-item measure which is designed to assess two dimensions, care and overprotection. The care scale is formed by questions which reflect parental affection, emotional warmth, empathy and on the opposite end, emotional coldness, indifference and neglect. The overprotection scale comprises of questions which include allowance of independence, autonomy, and on the opposite end, control, overprotection, intrusion, and prevention of independent behavior. Using a Likert scale from 0 (not at all like) to 3 (very much like), the child rates how much a statement sounds like his or her parents. The parents respond to similar questions, rating both themselves as parents, and what their parents were like. The PBI has been shown to have good psychometric properties (Parker, 1989). This instrument allows for the measurement of parental expression of empathy and autonomy towards the children. This measure was administered at pre-treatment, post-treatment, and the 1 month follow-up. For the purpose of this study, parental empathy and overprotection towards the child (parent and child report) were used.

Alabama Parenting Questionnaire (APQ; Shelton, Frick, & Wootton, 1996): The APQ is a 42-item measure of parenting practices using a 5-point scale from never (1) to always (5). Subscales include Positive Parenting (6 items), Involvement, (10 items), Poor Monitoring/Supervision (10 items), Inconsistent Discipline (6 items), and Corporal Punishment (10 items). Shelton and colleagues (1996) reported acceptable internal consistency (.63 – .80) and convergent validity across interview and rating methods. This provided an additional measure of parenting behaviors, and was administered at pre-



treatment, post-treatment, and the 1 month follow-up. For the purpose of this study, the inconsistent discipline measure was used to analyze changes in parenting behavior.

Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997): The Emotion Regulation Checklist is a 24 item parent-report measure of a child's self-regulation. The measure assesses affective lability, intensity, valence, flexibility, and situation appropriateness of emotions. The checklist includes both positively and negatively weighted items rated on a 4 point Likert scale; never, sometimes, often, almost always. The checklist is comprised of two factors, Lability/Negativity and Emotional Regulation (Shields & Cicchetti, 1997). The Lability/Negativity factor includes items representing lack of flexibility, mood lability and dysregulated negative affect. The Emotional Regulation factor includes items representing situationally appropriate affective displays, empathy and emotional self-awareness. Internal consistency ranges from good to excellent (Shields & Cicchetti, 1997). This measure provided information on how the parent viewed his or her child's emotion regulation skills. This measure was administered to parents at pre-treatment, post-treatment, and 1 month follow-up.

Children's Emotion Management Scales (CEMS; Suveg & Zeman, 2004; Zeman, Cassano, Suveg, & Shipman, 2010; Zeman, Shipman, & Penza-Clyve, 2001): The CEMS is a self-report on a child's management of sadness (11 items), anger (12 items) and worry (10 items). There are three subscales (inhibition, dysregulated expression, and emotion regulation coping) for each emotion. This scale has been used with both internalizing and externalizing children, and has been found to have good psychometric properties (Zeman et al., 2001). This scale was used to assess the child's own

management of emotions, as a measure of emotion regulation. It was given to the children at pre-treatment, post-treatment, and the 1 month follow-up.

Emotion Expression Scale for Children (EESC; Penza-Clyve & Zeman, 2002): The EESC is designed to examine deficits in emotion expressions. Specifically, the measure is comprised of two subscales measuring the lack of emotional awareness and the lack of motivation to express negative emotions. The EESC has been shown to have good internal consistency and test-retest reliability (Penza-Clyve & Zeman, 2002). This scale was used as an additional measure of emotion regulation and was administered at the pre-treatment, post-treatment, and 1 month follow-up assessments.

Child Automatic Thoughts Scale (CATS; Schniering & Rapee, 2002): The CATS is a self-report measure designed to assess the frequency of negative self-statements in children and adolescents who experience internalizing and externalizing symptoms. The measure consists of 4 subscales (physical threat, social threat, personal failure, and hostility), as well as a total scale score. The CATS has been shown to have good psychometric properties, including good discriminant validity between controls, anxious, depressed, and behavior disorders children (Schneiring & Rapee, 2002). This scale was used to assess the child's information processing, specifically, cognitive biases through negative self-statements. Total scores were used to evaluate overall negative automatic thoughts. This measure was administered at pre-treatment, post-treatment, and the 1 month follow-up.

## Results

A blend of qualitative and quantitative statistical approaches was employed to analyze the data. Given the small sample size and lack of normal distribution for some of

the variables, non-parametric Friedman tests (which make no assumptions about data distribution) were conducted to look at the mean of symptoms at baseline, compared to the mean of symptoms at post and the 1 month follow-up. Wilcoxon tests were used for the post-hoc tests when Friedman tests were significant. It should be noted that a Bonferroni correction was considered when conducting the post hoc analyses. However, due to the exploratory nature of this study, it was not employed.

For ADIS CSRs, the approach recommended by Jacobson and Truax (1991) was used, which involves calculating a Reliable Change Index (RCI) to determine the amount of change from the treatment, accounting for the possibility that such change may be due to imprecise measurement  $\left( \frac{X_P - X_{BL}}{S_{DIFF}} \right)$ . In order to infer statistically significant and meaningful change, the recommended cutoff of the RCI is 1.96 (Jacobson & Truax, 1991). The CSRs were averaged at pre, post, and 1 month separately, and these scores were used to calculate the RCI (Jacobson & Truax, 1991). This procedure was used for the GAD CSRs as well as the ODD CSRs from the ADIS.

Finally, Simulation Modeling Analysis (SMA), a freely available software package designed for analyzing time series data ([www.clinicalresearcher.org](http://www.clinicalresearcher.org); Borckardt et al., 2008) was utilized. SMA allows for the examination of changes in the level of symptoms and the slope of symptom change from the pretreatment baseline condition to the treatment condition, as well as the significance of the effect. SMA uses bootstrapping methods that take the phase (i.e., baseline, treatment) lengths and autocorrelation of the data stream into account, which generates lower Type I and Type II errors than visual inspection of the data (Borckardt et al., 2008). Accounting for autocorrelation is important in single case treatment studies because of the use of repeated measures, which

can lead to the value of one outcome measure being dependent on the value of the immediately preceding observation. SMA tests the data stream for each participant against five different slope vectors: (1) increasing baseline, decreasing treatment [1 | 2 | 3 | 3 | 2 | 1 | 0 | -1 | -2 | -3 | -4 | -5]; (2) flat baseline, increasing treatment; [0 | 0 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9]; (3) increasing baseline, flat treatment [1 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4]; (4) increasing from baseline through treatment [1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 1 | 2]; and (5) increasing during baseline with return to pre-treatment level at the start of treatment and increasing throughout treatment [1 | 2 | 3 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9]. The numerical representations provided as examples are for 3 baseline data points and 9 treatment data points (see Figure 1 for a visual depiction of the example vectors). Simulation Modeling Analysis also gives the probability that a given effect size will occur by chance in a null distribution of data streams. A significant positive correlation indicates that the slope of the obtained data matches the slope of a particular vector. A significant negative correlation indicates that the slope is a mirror image of a particular vector.

### *Participant Demographics*

Fifteen families expressed interest in the study. Six families were ruled out during the initial phone screen (2 did not meet criteria for both disorders, 1 was seeking an evaluation only, 1 decided their child would not participate, 1 was already receiving multiple services, 1 had a diagnosis of ASD). Three families were ruled-out after the assessment phase (2 were at severity levels that clinically required more services, 1 had possible ASD and was referred for additional services). Six families enrolled in the treatment; however, only five families completed the treatment and subsequent follow-

ups. The family that terminated treatment after six sessions cited scheduling conflicts and the child did not want to continue treatment any longer, as the reasons for discontinuation. Specific demographic information can be seen in Table 2 for all six treatment participants. All of the parents participating attended or graduated from college, with three of them completing post-graduate education. None of the children were receiving medication prior to treatment onset or took medication during the course of treatment. The average number of sessions for the five families who completed treatment was thirteen. Clinical and diagnostic characteristics of the five participants who completed the protocol can be seen in Table 3.

#### *GAD and ODD Symptoms*

Formal diagnoses for GAD and ODD were derived from the ADIS at pre, post and 1 month follow-ups. In addition, symptoms of GAD and ODD were assessed during the baseline and treatment phase for each participant by using the ODD subscale of the DBDRS (parent report) and the GAD subscale of the SCAS (parent and child report). Unfortunately, in the baseline phase for the ODD symptoms, while 3 of the children maintained clinical levels of ODD as reported by their parents, 2 of them did not. For the anxiety symptoms, all five of the children had a reduction or fluctuation from clinical to non-clinical symptoms during baseline. This limits the ability to attribute changes during the treatment phase to the treatment itself, and interpretations drawn from these data should be interpreted with caution. Plotted data for the ODD and GAD symptoms at baseline, treatment and follow-up – as reported by parents - are presented in Figures 2 and 4. Child reported GAD symptoms can be seen in Figure 3.

Reliable Change Index scores were calculated for the GAD and ODD CSRs to measure change from pre to post and pre to 1 month. Analyses showed that two children exceeded the clinical cutoff ( $>1.96$ ) for change in GAD scores from pre to post. More specifically, Child 4 (RCI = -2.411) and Child 2 (RCI = -2.411) both reduced their GAD CSR score by 3 units. Three children exceeded the clinical cutoff for change in ODD scores from pre to post. Child 5 (RCI = -2.823) and Child 2 (RCI = -2.823) both reduced their CSR scores by 2 units and Child 4 (RCI = -4.235) reduced her CSR score by 3 units. Interestingly, Child 4 and Child 2 had clinically significant reductions in both GAD and ODD, from pre to post. From the pre to the 1-month follow-up 3 children exceeded the clinical cutoff in reliable change between their pre and 1 month GAD scores. More specifically, for the GAD CSR, Children 5 (RCI = -3.458) and 3 (RCI = -3.458) both reduced their CSRs by 4 units between pre and the 1 month follow-up. Child 2 (RCI = -2.594) reduced his CSR by 3 units. For the ODD CSR, two children had reliable change from pre to 1-month. Children 5 (RCI = -2.059) and 2 (RCI = -2.059) both reduced their CSRs by 3 units.

Overall, Child 1 did not show clinically significant gains in either ODD or GAD at post or 1 month follow-up. Child 2 had significant reductions in CSR for GAD and ODD at post, and maintained the gains at the 1 month follow-up. Child 3 did not report significant gains for either ODD or GAD at post, but did have clinically significant reductions in GAD at the 1 month follow-up. Child 4 had significant reductions in CSR for GAD and ODD at post, but not at the 1 month follow-up. Child 5 showed significant clinical improvement in ODD at post, and then in ODD and GAD at the 1 month follow-

up. Each child reduced to subclinical levels for at least one, if not both items, of the targeted disorders.

To analyze change in GAD at the symptom level, Friedman tests were conducted for the GAD subscale of the SCAS. Friedman tests showed significant changes in child reported GAD symptoms across pre, post, and 1 month follow-up assessment points ( $\chi^2(2) = 8.44, p = .015$ ). Median (IQR) change in GAD symptoms for pre, post, and 1 month were 5 (2.5 to 7), 0 (0 to 3.5), and 0 (0 to 2.5). There were significant differences between pre and post ( $Z = -2.041, p = .041$ ), and pre and 1 month ( $Z = -2.023, p = .043$ ), but no significant changes post to 1 month ( $Z = -1.633, p = .102$ ). There were no significant changes in GAD symptoms based on parent report ( $\chi^2(2) = 2.286, p = .319$ ).

Friedman tests for parent reported ODD symptoms showed significant changes across pre, post and 1 month points ( $\chi^2(2) = 6.50, p = .039$ ). Post-hoc analyses with Wilcoxon signed-rank test were conducted. Median (IQR) change in ODD symptoms for pre, post, and 1 month were 7 (6 to 8), 4 (1.5 to 7), and 3 (.5 to 6.5). However, there were no significant differences found from pre to post ( $Z = -1.826, p = .068$ ), pre to 1 month ( $Z = -1.841, p = .066$ ) and post to 1 month ( $Z = -1.300, p = .194$ ).

Finally, Simulation Modeling Analysis was performed for the parent reported DBDRS ODD subscale and the parent and child SCAS GAD subscales, to look at change from baseline to treatment for ODD and GAD symptoms. Starting with the ODD subscale, Child 1 had a significant mean level change ( $r = -0.551, p = 0.047$ ) as did Child 2 ( $r = -0.685, p = 0.027$ ). There was also a trend toward significance for Child 4 ( $r = -0.626, p = 0.092$ ). All of these level changes were in the expected direction, suggesting

that overall mean level in the baselines were higher than the mean levels during the treatment phases.

When analyzing the data for significant slope change, three of the children had significant correlations with SMA vectors. For the children where the slope correlated to multiple vectors, all vectors were reported. For Child 1, slope vector 3 was significant ( $r = -.641, p = 0.017$ ). Given the negative direction of the correlation, a significant correlation suggests a decrease in symptoms during the treatment phase. For Child 4, slope vectors 2 ( $r = -.758, p = .046$ ), slope vector 4 ( $r = -.791, p = .027$ ) and slope vector 5 ( $r = -.728, p = .048$ ) were all correlated. Based on the negative direction of the correlations, all three of these vectors suggest a decrease in symptoms during treatment. Child 2 had significant correlations with slope vector 2 ( $r = -.697, p = .033$ ), slope vector 3 ( $r = -.695, p = .015$ ) and slope vector 4 ( $r = -.730, p = .023$ ). While all three of these suggest a decrease in symptoms during treatment, it may be that the variability in the baseline contributes to multiple vectors emerging as significant (furthering the necessity to interpret these findings with caution). For children 5 and 3 there were no significant correlations with SMA vectors.

For the parent report SCAS GAD subscale, Child 3 had significant mean level change ( $r = -.780, p = .007$ ), as well as Child 2 ( $r = -.559, p = .006$ ). These were in the expected direction, again suggesting that symptoms during treatment declined. When analyzing the data for significant slope change, three of the children had significant correlations with SMA vectors. Child 3 significantly correlated with slope vector 3 ( $r = -.964, p = .0001$ ). However, a visual inspection of the data suggests this should be interpreted with particular caution, given the child was not clinically anxious during the



baseline and very little anxiety was reported during treatment. For Child 1, her data significantly correlated with slope vector 3 ( $r = -.621, p = .032$ ). Child 2 significantly correlated with slope vector 3 ( $r = -.509, p = .019$ ) and slope vector 4 ( $r = -.431, p = .045$ ). Children 5 and 4 did not have any significant level or slope changes and the simulated data did not significantly correlate with any of the SMA slope vectors.

For the child report of the SCAS GAD subscale, Child 1 ( $r = -.855, p = .0001$ ), Child 2 ( $r = -.833, p = .001$ ), Child 3 ( $r = -.465, p = .045$ ), and Child 4 ( $r = -.641, p = .043$ ), had significant mean level changes. These were all in the expected direction, suggesting a decrease in symptoms during treatment. When analyzing the data for significant slope change, all the children had significant correlations with SMA vectors. Child 1 had significant correlations with slope vector 3 ( $r = -.914, p = .0001$ ) and slope vector 4 ( $r = -.730, p = .045$ ). Child 2 ( $r = -.963, p = .0001$ ) and Child 3 ( $r = -.718, p = .002$ ) both significantly correlated with slope vector 3 as well. Child 4 had significant correlations with slope vector 3 ( $r = -.758, p = .003$ ) and slope vector 4 ( $r = -.706, p = .024$ ). Finally, Child 5 also significantly correlated with slope vector 3 ( $r = -.671, p = .0002$ ). The predominant SMA slope vector the simulated data correlated with was slope vector 3, suggesting a decrease in symptoms during the baseline and treatment phase.

### *Emotion Regulation*

Friedman tests did not reveal significant changes in emotion regulation, as reported by the parent across pre, post and 1 month follow-up assessment points, for either the emotion regulation ( $\chi^2(2) = .400, p = .819$ ) or liability/negativity ( $\chi^2(2) = 2.80, p = .247$ ) subscales. Friedman tests for the EESC subscales of emotional coping, dysregulation and inhibition did not show any clinically significant changes (see Table

4). On the CEMS the subscale for emotional expressiveness was not significant for clinical change, however, report of poor emotional awareness did change across assessment points ( $\chi^2(2) = 6.632, p = .036$ ). Post-hoc analyses with Wilcoxon signed-rank tests were conducted. Median (IQR) change in poor awareness levels for pre, post and 1 month were 14 (13 to 15), 12 (10.5 to 16) and 11 (9 to 13.5), respectively. There was a significant difference from pre to 1-month ( $Z = -2.032, p = 0.042$ ). However, there were no significant differences between pre and post ( $Z = -.813, p = 0.416$ ) and post and 1-month ( $Z = -1.841, p = 0.066$ ).

#### *Information Processing*

Friedman tests showed significant changes in information processing, as reported by the child across pre, post and 1 month follow-up assessment points ( $\chi^2(2) = 6.533, p = .038$ ). Median (IQR) change in information processing levels for pre, post and 1 month were 12 (3 to 37), 1 (0 to 3.5) and 1 (.5 to 2.5), respectively. Unexpectedly, there were no significant differences between pre and post ( $Z = -1.826, p = 0.68$ ), post and 1-month ( $Z = .000, p = 1.00$ ) or pre and 1-month ( $Z = -1.826, p = 1.000$ ). A visual inspection of the data suggests that one child's report at pre was particularly high (Child 4). There was little to no variability for the other four children.

#### *Parenting Behavior*

Friedman tests did not reveal significant changes in inconsistent discipline, as reported by the mother on the APQ. Additionally, as reported by the mother and child on the PBI, overprotection of child and mother care did not show significant change either (Table 5).

#### *Global Functioning*

The Strengths and Difficulties Questionnaire was used as an overall measure of global functioning. The questionnaire is designed to aggregate responses from the child and the parent and provides predictions of risk for emotional and behavioral disorders in a composite score (0 = low risk, 1 = medium risk, 2 = high risk; clinical cutoff > 14). At pre, Child 5, Child 1, and Child 4 were at medium risk for an emotional disorder, and Child 2 was rated at a high risk. For the behavioral disorders, Child 5, Child 3 and Child 4 were all rated at a high risk. At post, only one child was rated at a medium risk for an emotional disorder (Child 2), all the other children were rated at low risk. For the behavioral disorder, Child 3 was still rated at a high risk for a behavioral disorder and Child 2 was rated at a medium risk. All the other children were at low risk. At the 1 month follow-up, Child 3 was rated at medium risk for a behavioral disorder. All of the other children were rated at a low risk for both emotional and behavioral disorders.

Friedman tests were conducted to look at change across time points. There were no significant changes for behavioral disorders ( $\chi^2(2) = 3.50, p = .174$ ). However, for emotional disorders there was a significant change across time points ( $\chi^2(2) = 7.438, p = .023$ ). Median (IQR) change in emotional disorder risk for pre, post and 1 month were 1 (.5 to 1.5), 0 (0 to .5) and 0 (0 to 0), respectively. Post-hoc analysis with Wilcoxon signed-rank tests were conducted and there was a significant difference between pre and post ( $Z = -2.000, p = 0.046$ ). However, there were no significant differences pre and 1-month ( $Z = -1.890, p = 0.059$ ) or post and 1 month ( $Z = -1.00, p = .317$ ).

The Clinician Global Impression (CGI) measure was completed by assessors at the post and 1 month assessment points, in order to further evaluate clinical improvement. The CGI consists of a 7 point scale to measure severity of illness (1 =

normal, not impaired, 2 = minimally impaired, 3 = mildly impaired, 4 = moderately impaired, 5 = markedly impaired, 6 = severely impaired and 7 = seriously impaired). At the post, parent assessors reported for severity of illness a range from 2 (minimally) to 4 (moderately) impaired ( $M = 3.6$ ,  $SD = .894$ ). At the 1 month follow-up, assessors working with the parents also reported a range of 2 to 4 ( $M = 2.8$ ,  $SD = .837$ ). The CGI also measured global improvement (1 = very much improved, 2 = much improved, 3 = minimally improved, 4 = no change, 5 = minimally worse, 6 = much worse, 7 = very much worse). At the post, parent assessors reported a global improvement range from 1 (very much) to 3 (minimally) improved ( $M = 2.6$ ,  $SD = .894$ ). While not having the CGI measure at pre precludes drawing any firm conclusions about improvement in severity of illness, the CGI reflects an assessor report of improvement.

#### *Treatment Satisfaction*

Parent Satisfaction was measured by total satisfaction, as well as a Difficulty of CPS subscale and Usefulness of CPS subscale. The scale for all subscales ranged from 1 (Strongly disagree) to 5 (Strongly agree). Total satisfaction (7 items) items asked questions about the status of the problems that brought the family in for treatment, feelings about child's progress, to what the degree the treatment helped and their overall feelings about the treatment approach. Total satisfaction at post ranged from 31 to 39 ( $M = 35$ ,  $SD = 3.1$ ). At the 1 month follow-up, total satisfaction ranged from 29 to 40 ( $M = 34.8$ ,  $SD = 4.60$ ). The Difficulty subscale (6 items) specifically focused on asking the parent to indicate the degree of difficulty in implementing the various CPS techniques (e.g., conveying empathy, engaging in problem solving, etc.). The Difficulty subscale at post ranged from 8 to 16 ( $M = 10.2$ ,  $SD = 3.35$ ). At the 1 month follow-up, responses on

the Difficulty subscale ranged from 7 to 18 ( $M = 11$ ,  $SD = 4.30$ ). The Usefulness subscale (5 items) asked the parents how useful they believed the CPS techniques were. The Usefulness subscale at post ranged from 19 to 29 ( $M = 24.6$ ,  $SD = 3.58$ ). At the 1 month follow-up, the responses on the Usefulness subscale ranged from 19 to 25 ( $M = 22.4$ ,  $SD = 2.79$ ). Total satisfaction for the treatment was in the moderate to high range. There was more variability on the Difficulty and Usefulness subscales.

Child satisfaction was measured by two subscales, an overall satisfaction with the treatment and satisfaction with the therapist. The subscales ranged from 1 (Strongly disagree) to 5 (Strongly agree). Items comprising the overall satisfaction scale (7 items) included items related to treatment helpfulness, if the treatment taught specific ways to cope, understand and handle emotions, and getting along with others. Items assessing the therapist (5 items) included if the child liked the therapist, felt the therapist understood him, cared about the child, was on his side and helped him get along with others. At the post, child overall satisfaction ranged from 27 to 34 ( $M = 30.2$ ,  $SD = 2.86$ ) and satisfaction with therapist ranged from 21 to 25 ( $M = 23$ ,  $SD = 1.58$ ). At the 1 month follow-up, overall satisfaction ranged from 24 to 35 ( $M = 30.6$ ,  $SD = 4.56$ ) and satisfaction with therapist ranged from 21 to 25 ( $M = 23$ ,  $SD = 1.87$ ). Overall, the children reported moderate to high satisfaction with the treatment and the therapist.

#### *Therapist Treatment Adherence*

Therapist adherence to treatment was assessed in order to determine if the program was implemented properly and to insure that all 5 families received the same treatment plan. To this end, all sessions were videotaped. Three sessions (one during the first third, the second third and the last third) were selected for each family (Sessions 3, 6,

and 9). An undergraduate coder, who had previously worked with the therapist and was trained to reliability on coding therapy sessions, coded all three sessions for each family. Each session was rated to the degree that different aspects of the treatment were adhered to for each session (see Appendix C). Sessions were coded on a 3 point scale (0-2) with higher scores indicating higher adherence. The coder reported a mean rating of 1.80 for Session 3, 1.88 for Session 6, and 1.95 for Session 9.

### Discussion

The purpose of this study was to design, implement and assess the effectiveness, feasibility and acceptability of a family based treatment to target generalized anxiety and oppositional behaviors in the child. The treatment protocol involved combining elements of emotion focused cognitive behavioral therapy and collaborative problem solving. The theory underlying this intervention was to provide emotion focused CBT for the children to help them better regulate their emotions, particularly anger and worry, use cognitive techniques to target their information processing deficits and provide a way for parents and children to solve problems together. Five families participated and completed baseline, treatment, and follow-up assessment measures. Unfortunately the symptoms recorded during the baseline fluctuated, making it difficult to draw firm conclusions about the impact of the treatment itself. However, there were some fruitful findings which may be applicable for future research.

The idea that both GAD and ODD could be treated within the same treatment plan was partially supported. All of the children experienced reductions in symptoms. At post, two children (4 and 2) had significant change for both their GAD and ODD symptoms. Eighty percent of the children (4/5) had subclinical or no GAD diagnosis at post. At the 1

month follow-up, 3 children maintained these gains, while 1 child showed more improvement at one month (compared to post) and 1 child did not maintain the gains from post. Forty percent of the children (2/5) had a subclinical ODD diagnosis at post, with 80% (4/5) subclinical at the 1 month follow-up. It is promising that a reduction in symptoms was maintained, or gained, at the 1 month follow-up and all but one child experienced clinically significant reductions in either ODD, GAD or both. The simulation modeling suggests that a larger N size could potentially provide support for a reduction in both GAD and ODD symptoms, given the number of significant mean level changes and corresponding significant correlations to slope vectors that reflected reduction in symptoms over time.

Unfortunately, it is less clear if the targeting of the underlying processes was successful in this treatment study. There were no significant changes found in parenting behaviors or information processing deficits. However, it should be noted that information processing was measured by the child reporting negative automatic thoughts they experienced. Only one child endorsed multiple negative automatic thoughts occurring frequently prior to treatment and this child reported very few negative automatic thoughts at post. It is promising the child who did report significant negative automatic thoughts at pre reported very few at post; however, it is more difficult to assess if there was any change in information processing due to the treatment, given the other four children did not endorse significant negative automatic thoughts pre-treatment. For emotion regulation, only poor awareness of emotions changed significantly. Encouragingly, children reported becoming more aware of their emotions after treatment. This is a noteworthy change, given the first step in a child employing behaviors to

regulate their emotion starts with becoming more aware of their emotions. Targeting this underlying process may be a step in the right direction. However, parents did not report any significant changes in behaviors that might have suggested more regulation of emotion. Additionally, there were no reported changes of parenting behaviors. However, this may partially be due to how parenting behaviors were operationalized and measured in this study. Families reported clinically they felt they had a new tool to help improve their *communication*. This suggests a potential underlying process that may be targeted in future treatments.

On a positive note, both children and parents reported moderate to high satisfaction with the treatment itself. In particular, parents reported that learning to “re-conceptualize” their child and think of his or her behaviors more in terms of lagging skills than “my child is acting out to spite me” was useful. Children reported liking treatment was designed to set it up so their parents listened to them. At the end of treatment, one child reported that she was thinking about herself in a whole new way and she felt it was making her a better friend. Another child reported she wanted to grow up and be a therapist so she could help other children someday. In addition, parents reported they felt all of their children’s problems were being addressed, which came to light when on the treatment satisfaction questionnaire parents were unsure how to answer a question which asked about their child’s problems that were not targeted in treatment. As previously mentioned, parents reported feeling like they had a new way to try and speak and solve problems with their children. While this study is only the beginning of investigating the utility of targeting the underlying processes in order to treat comorbid GAD and oppositionality, it provides a number of stepping stones for future research.



### *Limitations*

Part of better understanding how to enhance a study for the next step is a reflection on potential limitations to the current study. A limitation of the current study was the difficulty in drawing solid conclusions from the baseline and treatment phase data, given that 4 of the 5 families did not maintain stable baselines during the baseline period for at least one, if not both, sets of symptoms being monitored. Only having five families also weakened the experimental design, given the ideal of a single case, multiple baseline design study is 3 participants in 3 different baseline lengths (Chambless & Ollendick, 2001). Further study is needed with a larger sample size before more definitive conclusions can be drawn. It should also be noted that all of the treatment was provided by one therapist. A stronger evaluation of the treatment itself would be if there could be comparisons of implementation of the treatment across providers.

An additional limitation may have been relying solely on parent and self-report to measure the underlying processes the treatment was aiming to target. In particular, assessing information processing through negative automatic thoughts in children may have been a limitation. In order for children to be able to report negative thoughts they have, they would first need to be able to self-monitor and identify these thoughts. This process itself is often a focus of preliminary cognitive behavioral treatment sessions (i.e., learning to identify and track negative automatic thoughts) and may be difficult for a child to report. The reliance of parent and self-report data was also true for the emotion regulation and parenting behavior aspects of the study. In order to better evaluate these underlying processes, it may be useful in future studies to add an observation task to be conducted within a lab with independent observers.

### *Future Directions*

A potential future direction for this line of research may be to gather more data to better understand the underlying processes that co-occur for anxious and oppositional children. While there is considerable theory and empirical findings to support these underlying processes (Bubier & Drabick, 2009; Fraire & Ollendick, 2013), research using data to test these theories is still in its beginning stages. In addition, there may be other, or more specific, underlying processes that are co-occurring for comorbid children. As previously mentioned, a potential underlying process may be communication styles between parents, rather than parenting behaviors of control or empathy. Or perhaps, measuring observable communication between parent and child as a proxy for measuring overcontrol or empathy would have been fruitful.

It should be noted that neither gender nor ethnicity were a focus of the current study and this is certainly not due to their lack of importance, but rather, the lack of current empirical evidence that gender or ethnicity have a specific relationship to the comorbidity between generalized anxiety and oppositionality. While there is research suggesting girls are at a higher risk for anxiety (e.g., Lewinsohn, Gotlib, Lewinsohn, Seeley, & Allen, 1998), no gender differences were found in comorbidity rates, suggesting that risk of comorbidity may not be influenced by gender (Boylan et al., 2007). To date, research which has looked at potential racial/ethnic differences has not determined any significant differences for either GAD or ODD (Lavigne, LeBailly, Hopkins, Gouze, & Binns, 2009). It should be noted, however, that studies specifically analyzing racial/ethnic differences in ODD and GAD are limited. Further research is

needed to better understand potential differences across groups, specifically in comorbid samples.

It will also be fruitful to replicate this study with more participants, in order to increase the probability of having more participants with stable baselines. This would allow for the potential for stronger conclusions to be reached. An additional possibility for further study is to redesign the implementation of the protocol. More specifically, the current design was to implement elements of both ECBT and CPS within the same sessions. It may be that instead having several child focused ECBT sessions, so the child could master the skills first and then adding the parent to the last sessions and focusing on CPS may enhance the child's acquisition of skills and may result in greater changes.

It should also be noted that an important theme that emerged clinically across families was parent psychopathology. While it was not a focus in assessment or a target in treatment, the intricate dynamic between child and parent was often influenced by parent's own difficulties with anxiety, depression, or anger. A future direction would be to more thoroughly assess parent psychopathology, in order to incorporate more tailored needs for the parents during treatment. While this study stayed true to its design and targeted the child, in all 5 families parents disclosed their own psychopathology to the therapist. Had this been a target of treatment it may have improved the relationship between parent and child, which could have alleviated more family stress.

### *Conclusion*

In conclusion, this study offers partial support that anxiety and oppositional behaviors can be treated within the same treatment protocol. Families participating in this study reported a significant reduction in anxiety, with more variable results for the

oppositonality. Moreover, the gains that were made in treatment were maintained at follow-up. Overall the families were complimentary of the treatment protocol and reported that it enhanced their quality of life. This suggests targeting both disorders within the same treatment was feasible and partially effective. Additionally, the study provided multiple future directions for further research, including a calling for further assessment to understand co-occurring underlying processes and associated behaviors.

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Table 1. *Measurement Table*

| <b>Oppositionality</b> | <b>Anxiety</b> | <b>Emotion Regulation</b> | <b>Parenting</b> | <b>Information Processing</b> | <b>Treatment Satisfaction</b> |
|------------------------|----------------|---------------------------|------------------|-------------------------------|-------------------------------|
| ADIS – C/P             | ADIS – C/P     | ERC – P                   | PBI – C/P        | CATS - C                      | CSQ –C/P                      |
| DBDRS – P              | SCAS – C/P     | CEMS – C                  | APQ - P          |                               |                               |
| SDQ – C/P              | SDQ – C/P      | EESC – C                  |                  |                               |                               |

ADIS-C/P = Anxiety Disorder Interview Schedule, Child/Parent report; DBDRS-P = Disruptive Behavior Disorder Rating Scale, Parent report; SDQ-C/P = Strength and Difficulties Questionnaire, Child/Parent report; SCAS-C/P = Spence Child Anxiety Scale, Child/Parent report; ERC-P = Emotion Regulation Checklist, Parent report; CEMS-C = Child Emotion Management Scale, Child report; EESC-C = Emotion Expressiveness Scale for Children, Child report; PBI-C/P = Parental Bonding Instrument, Child/Parent report; APQ-P = Alabama Parenting Questionnaire, Parent report; CATS-C = Child Automatic Thoughts Scale, Child report; CSQ-C/P = Consumer Satisfaction Questionnaire, Child/Parent report

Table 2. *Demographics*

| <b>ID</b> | <b>Age</b> | <b>Sex</b> | <b>Race</b>      | <b>Participating Parent</b> | <b>Family Income</b> | <b>Parent Education</b>   | <b># Treatment Sessions</b> |
|-----------|------------|------------|------------------|-----------------------------|----------------------|---------------------------|-----------------------------|
| 0         | 12         | Male       | African American | Mother                      | 95,000               | Completed graduate school | 6                           |
| 1         | 13         | Female     | Caucasian        | Mother                      | 150,000              | Completed graduate school | 13                          |
| 2         | 12         | Male       | Caucasian        | Mother                      | 90,000               | Completed graduate school | 12                          |
| 3         | 14         | Male       | Caucasian        | Mother                      | 90,000               | Graduated college         | 14                          |
| 4         | 13         | Female     | Caucasian        | Mother/Father               | 100,000              | Completed graduate school | 12                          |
| 5         | 12         | Female     | Caucasian        | Adoptive Mother             | 40,000               | Attended college          | 16                          |

Table 3. *Clinical characteristics*

| <b>ID</b> | <b>GAD<br/>CSR Pre</b> | <b>GAD<br/>CSR Post</b> | <b>GAD<br/>CSR<br/>1 Mo</b> | <b>ODD<br/>CSR Pre</b> | <b>ODD<br/>CSR Post</b> | <b>ODD<br/>CSR<br/>1 mo</b> |
|-----------|------------------------|-------------------------|-----------------------------|------------------------|-------------------------|-----------------------------|
| 1         | 3                      | 2                       | 2                           | 4                      | 3                       | 3                           |
| 2         | 6                      | 3                       | 3                           | 6                      | 4                       | 3                           |
| 3         | 4                      | 3                       | 0                           | 6                      | 5                       | 5                           |
| 4         | 6                      | 3                       | 4                           | 5                      | 2                       | 3                           |
| 5         | 5                      | 4                       | 1                           | 6                      | 4                       | 3                           |

Table 4. *Child report of emotion regulation*

|                                    | $\chi^2$ | Asymp. Sig. |
|------------------------------------|----------|-------------|
| Expressive reluctance <sup>1</sup> | 2.211    | .331        |
| <u>Anger<sup>2</sup></u>           |          |             |
| Inhibition                         | .444     | .801        |
| Dysregulation                      | .667     | .717        |
| Coping                             | 3.125    | .210        |
| <u>Sadness<sup>2</sup></u>         |          |             |
| Inhibition                         | 2.471    | .291        |
| Dysregulation                      | 1.286    | .526        |
| Coping                             | 3.294    | .193        |
| <u>Worry<sup>2</sup></u>           |          |             |
| Inhibition                         | 3.647    | .161        |
| Dysregulation                      | 2.00     | .368        |
| Coping                             | 4.909    | .086        |

df = 2

<sup>1</sup> = Emotion Expression Scale for Children<sup>2</sup> = Children's Emotional Management Scale

Table 5. *Parent and child report of parenting behaviors*

|                         | $\chi^2$ | Asymp. Sig. |
|-------------------------|----------|-------------|
| Inconsistent Discipline | 2.333    | .311        |
| Mother Care – P         | 5.200    | .074        |
| Overprotection – P      | 2.800    | .247        |
| Mother Care – C         | 2.842    | .241        |
| Over Protection - C     | .778     | .678        |

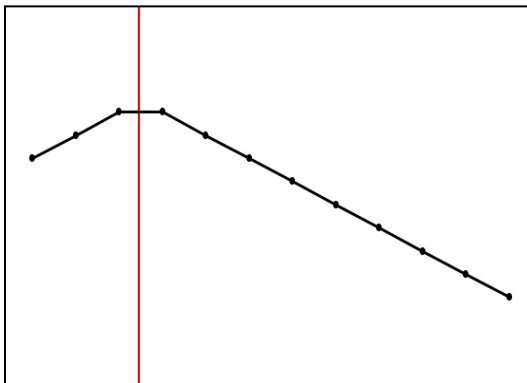
df = 2

P = Parent report

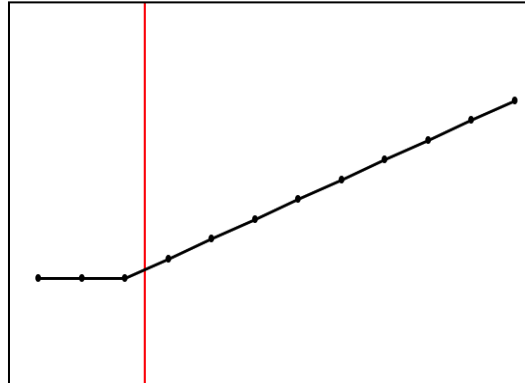
C = Child report

Figure 1. Simulation modeling analysis slope vectors

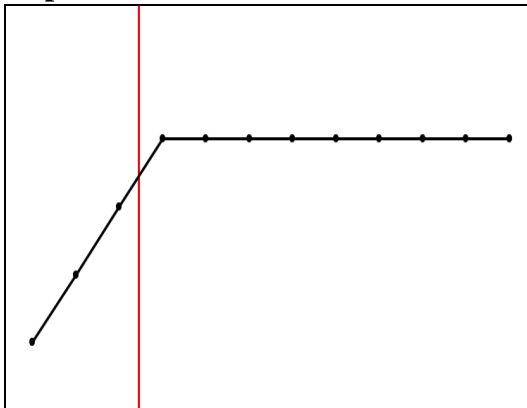
**Slope Vector 1**



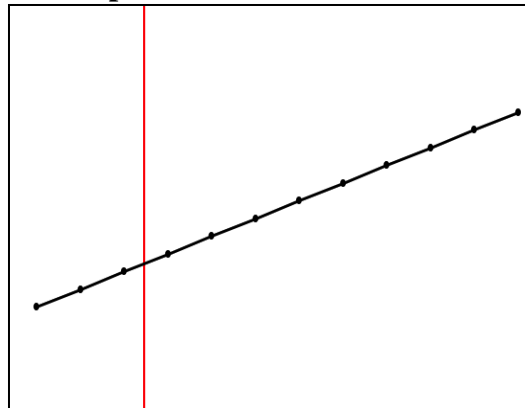
**Slope Vector 2**



**Slope Vector 3**



**Slope Vector 4**



**Slope Vector 5**

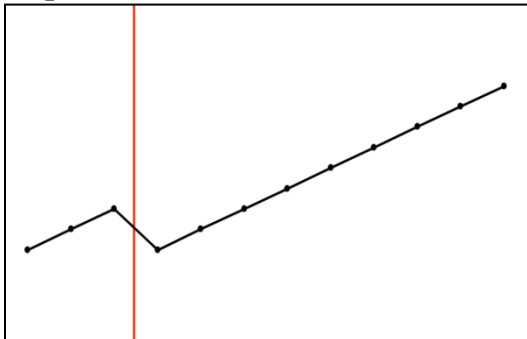




Figure 2. Baseline, treatment, and follow-up parent SCAS GAD subscale scores

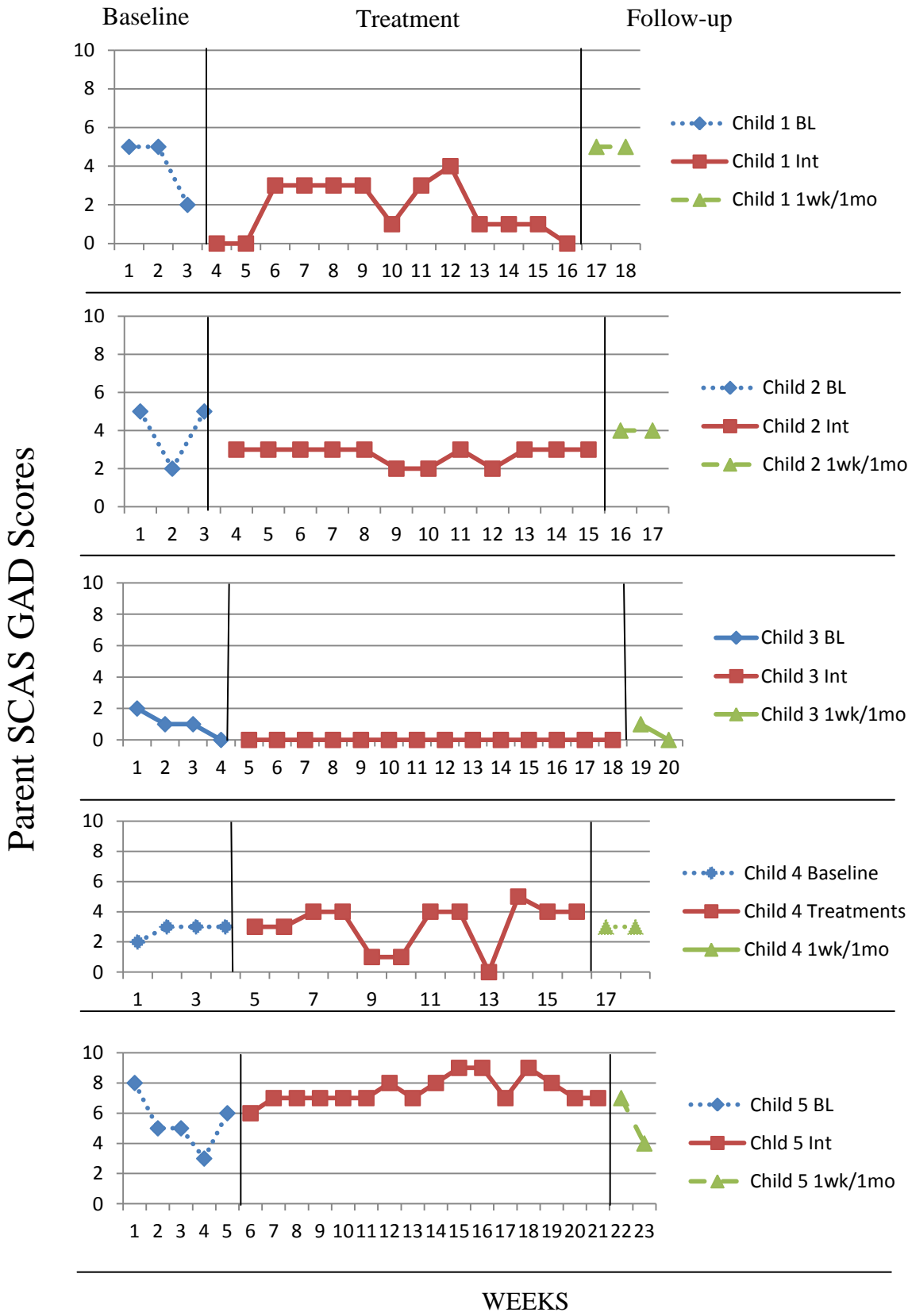
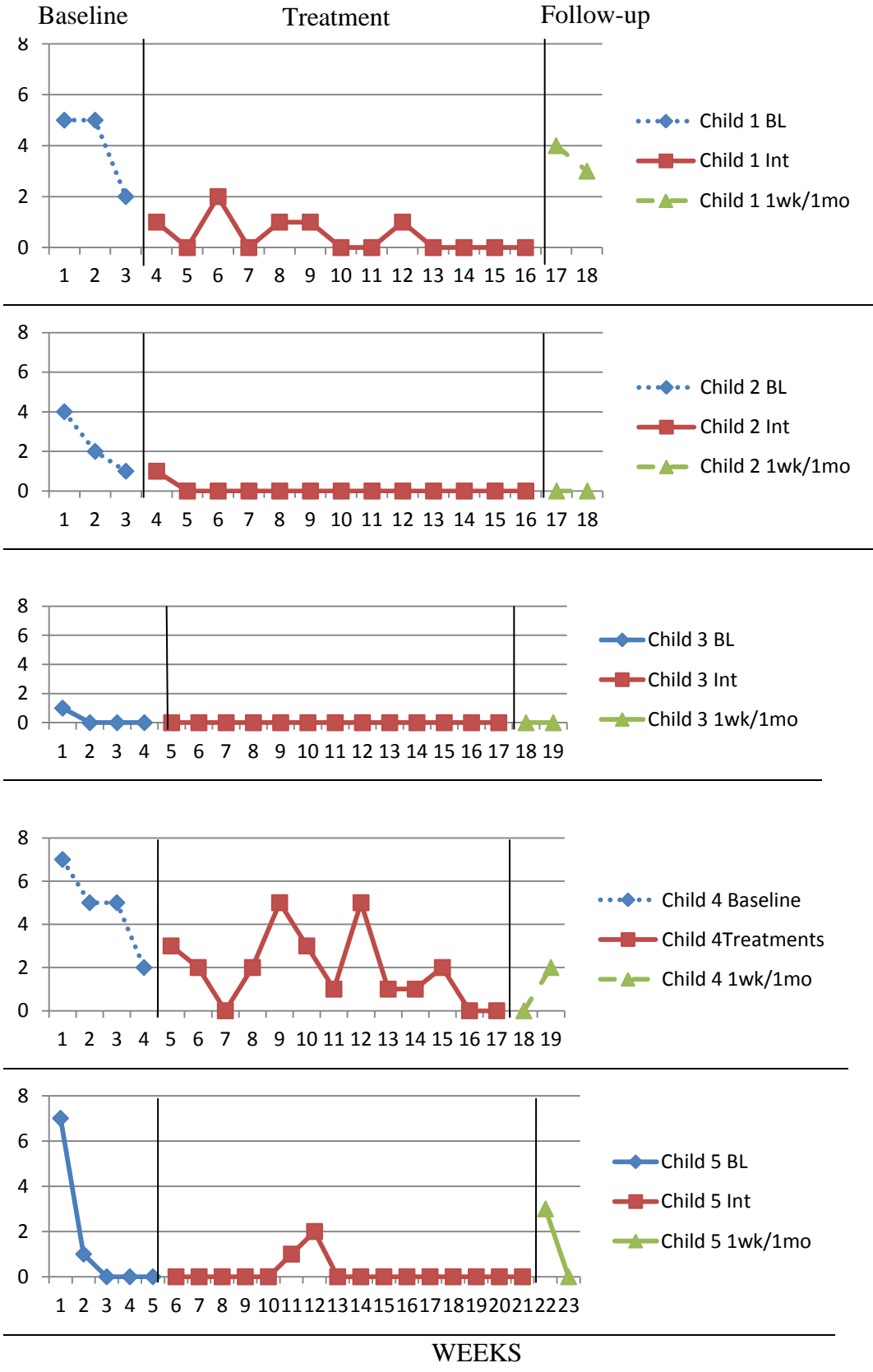


Figure 3. Baseline, treatment, and follow-up child SCAS GAD subscale scores

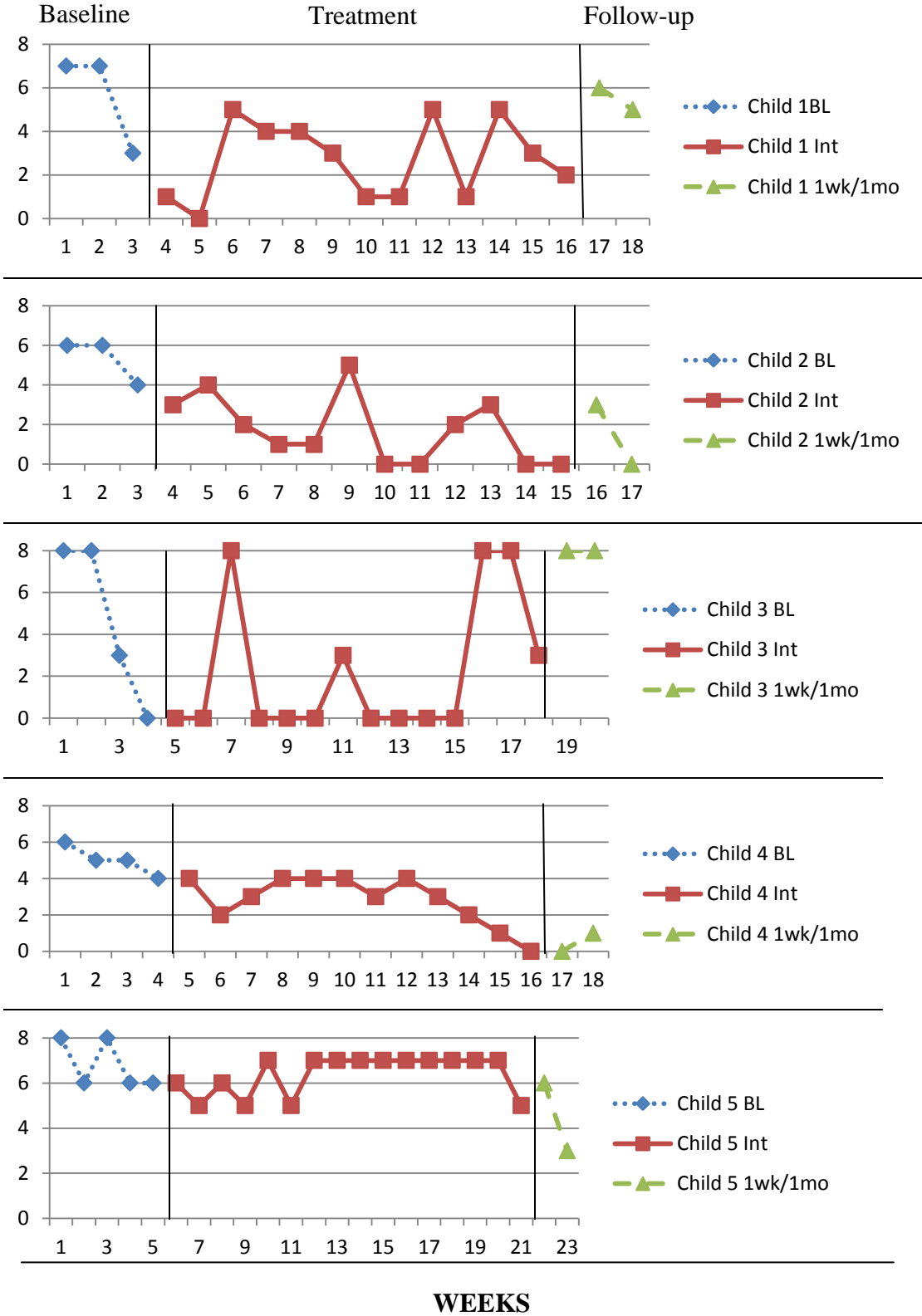
Child SCAS GAD Scores



WEEKS

Figure 4. Baseline, treatment, and follow-up parent DBDRS ODD subscale scores

Parent DBDRS ODD Scores



WEEKS

## **Appendix A: Session Outline**

**Session 1:** The main goal will be building rapport with family. The focus for the child will be an introduction to working on problems as family problems, with some special skills for the child. Introduction to relaxation will be provided for the child (e.g., deep breathing, pleasant activities). The parents will be provided with a conceptualization of their child in terms of lagging skills and unsolved problem patterns. Homework: For the child the homework will be practicing relaxation skills 3x's before the next session.

**Session 2:** Review relaxation for the child. Introduce recognizing emotions in others. This will include cues such as how people look or feel physically, their manners of behavior, and what they say. This will also help gauge the child's current level of emotional understanding. For parents, answer questions from previous session (e.g., conceptualization of child, design of treatment) introduce the parents to collaborative problem solving. The parents will brainstorm unsolved problems that lead to ODD behaviors. Homework: For the child, recognizing cues of emotions in others and recording 3x's.

**Session 3:** With the child discuss recognizing emotions within. This will include physical sensations, and types of thoughts and behaviors. Begin practicing CPS with parents, focusing on unsolved ODD problems. The emphasis will be on gathering information and showing empathy to the child. Homework: The child will record their emotions 3x's and how they knew that was what they were feeling. The parents will practice the 1<sup>st</sup> CPS step.

**Session 4:** Introduce thoughts-feelings-actions to child. Practice identifying cycle through stories, modeling from therapist, and child practicing his or her own situations. Introduce

the child to the CPS process. With the parents, focus on generating solutions together and not going into the conversation with a set solution in mind. Prep the parent for a CPS conversation and have the child join so that the parent can begin working with the child.

Homework: The child's homework will be recording a thought-feeling-action cycle for happy and worried. The parents will either continue CPS conversation or if solution reached, implement the solution.

**Session 5:** With the child, continue with thought-feelings-actions, focusing on sad and angry. Discuss with parents CPS conversation from previous week and how implementation went over the week. Have parent role play CPS conversation and/or practice with child. Homework: The child records thought-feeling-action for sad and angry. Parents practice CPS problem chosen in session and continue implementing solutions.

**Session 6:** Introduce self-talk and coping self-talk to the child. Discuss how self-talk arises with all emotions. The parents will discuss unsolved problems that lead to anxiety for the child. Have parents continue to practice CPS and trouble shoot any issues with using CPS at home. Homework: Using coping self-talk at least 3xs. The parents and child will continue implementation solutions and practicing CPS at home.

**Session 7:** Discuss gathering evidence for self-talk and introduce thinking traps with the child. Discuss how thinking traps can occur with many negative emotions. Parents continue to practice CPS both in session and at home. Depending on the need of the family, the emphasis of the unsolved problems at home may shift from ODD behaviors to specific unsolved problems that lead to anxiety for the child. Homework: Write down 3

examples of thinking traps caught during the week. The parents and child will have a CPS conversation at home.

**Session 8:** With the child, generate specific thought-feeling-action cycles for 4 main emotions (i.e., happy, sad, worried, angry), with specific emphasis on behaviors.

Continue working with the parent on practicing CPS in the session and at home.

Homework: Child will record 4 thought-feeling-action cycles for the week. The parents and child will continue implementing solutions and solving problems with CPS.

**Session 9:** For the child, highlight both adaptive and maladaptive behaviors that can stem from different emotions. Begin generating positive solutions when feeling worried or angry. Have the parents continue working on the CPS conversations, have both an

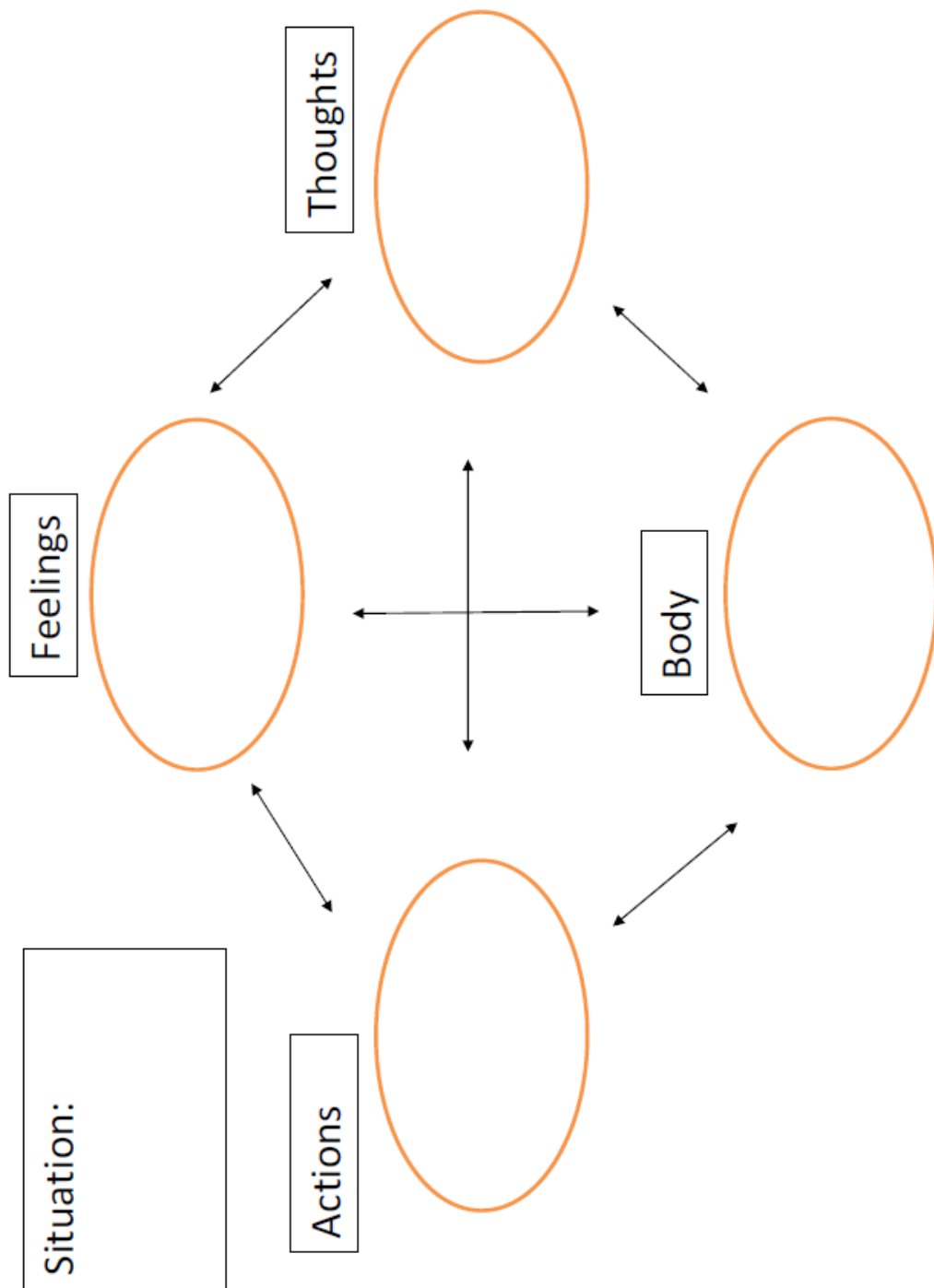
anxiety unsolved problem and an ODD unsolved problem to discuss. Homework: Child will generate a list of 2 behaviors associated with angry, sad, worried, a 'good' behavior and a 'not so good' behavior. Parent and child will continue holding CPS conversations and implementing solutions.

**Session 10:** Continue working with the children on using their relaxation and self-talk when worried, scared, or angry. Emphasize the problem-solving process for deciding how to react to certain emotions. Discuss how although only four emotions were the focus on treatment, there are multiple emotions that apply to the skills they have developed. Have the parents continue working on the CPS conversations, have both an anxiety unsolved problem and an ODD unsolved problem to discuss. Homework: Have child create a thought-feeling-action cycle with a new emotion of their choice. Parent and child will continue holding CPS conversations and implementing solutions.

**Session 11:** Review skills developed throughout treatment with an emphasis on concepts that were more difficult for the child. The therapist will also prepare the child for one more therapy session and ask the child for any concerns they had about ending treatment. Additionally, the parents will discuss potential concerns they have about terminating therapy and troubleshoot immediate concerns. Homework: Parent and child will continue with CPS practice and implementation. No additional child homework.

**Session 12:** Review with child and parents skills developed throughout. Emphasize progress and the importance of continuing to work together as a family to solve their problems.

Appendix B: Treatment Handouts





## Thinking Traps

- ❖ Not thinking about all of the possible things that could happen in a situation, just thinking something **bad** is going to happen automatically
- ❖ If it happens once it is **always** going to happen that way again, and again
- ❖ Always thinking the '**worst ever**' is going to happen
- ❖ Expecting things to **always** turn out badly
- ❖ Picking out only the **negatives** in a situation
- ❖ Jumping to **conclusions** before getting all the facts
- ❖ Reading minds: jumping to conclusions that someone is thinking **bad** things about you
- ❖ 'Should' thinking: I **SHOULD** always get my homework right. I **SHOULDN'T** feel nervous.
- ❖ Making '**total**' negative statements about you such as "I'm a loser"

## Challenging My Thoughts

Step 1: Ask: “Am I feeling worried?”

Step 2: Ask: “What am I saying to myself?”, “What do I think is going to happen?”

### Gather evidence for the thought:

- Do I know for sure this is going to happen?
- What else might happen in this situation other than what I first thought?
- What has happened before?
- Has this happened to anyone I know?
- How many times has it happened before?
- Having collected all the evidence, how likely do I think it is to happen?
- What’s the worst thing that could happen? (to demonstrate feared outcome not as horrible as initially thought)
- How bad would it be if what I thought is going to happen, does? What would be so bad?

“What is a more positive thought I can have?”

## Appendix C

## Dissertation Treatment Therapist Adherence for Session 3

|    |  |   |
|----|--|---|
| 1. | Therapist reviews sadness with child   | 0 – Not at all<br>1 – The child did not report thinking about sadness during the week and the therapist does not pursue the assignment in the session<br>2 – The child completed the homework and it is discussed OR the child did not complete the homework but the therapist has the child complete the assignment during the session |
| 2. | Therapist and child discuss different scenarios that make the child angry                                      | 0 – Not at all<br>1 – The child does not offer any situations but the therapist uses hypothetical situations that the child does not seem to relate very well to<br>2 – The child discusses situations with the therapist   |
| 3. | Therapist and child discuss thoughts/behaviors/body feelings associated with anger                             | 0 – Not at all<br>1 – One part is discussed (e.g., only thoughts are discussed, but not behaviors or body sensations)<br>2 – All parts are discussed about anger  |
| 4. | Therapist and child discuss consequences to the child's anger  | 0 – Not at all<br>1 – The therapist suggests consequences that the child does not seem to relate very well to<br>2 – The child offers consequences to when he/she is angry and discusses them with therapist  |
| 5. | Therapist and child discuss different ways to cope with anger  | 0 – Not at all<br>1 – The therapist asks the child, but he/she does not offer any ideas and it is not discussed by them<br>2 – The child and therapist discuss ways to cope with anger (e.g., take a deep breath, take a break, do something fun, etc.)   |
| 6. | Therapist and parent discuss unsolved problems between child and parent  | 0 – Not at all<br>1 – The parent cannot think of any problems but the therapist brings up problems that do not seem to relate very well to the family<br>2 – The parent and therapist discuss current unsolved problems (e.g., chores, homework, fighting with siblings etc.)   |
| 7. | Therapist and parent role play different steps of CPS (e.g., empathy, gathering information, sharing concerns) | 0 – Not at all<br>1 – Different parts of CPS are discussed, but not practiced during the session<br>2 – The parent engages in role play with the therapist  |
| 8. | The therapist asks the parent to practice elements of CPS at home  | 0 – Not at all<br>1 – The therapist asks the parent to practice, without providing specifics as to how to do so<br>2 – The therapist gives the parent specifics on what to practice (e.g., practice empathy, information gathering, generating list of unsolved problems)   |

## Dissertation Treatment Therapist Adherence for Session 6

|    |   |  |
|----|---|--|
| 1. | Therapist reviews the week with the child   | 0 – Not at all<br>1 – The therapist asks if the child experienced any anger and/or worry in the past week, but the child says no and it is not pursued (i.e., no follow up questions)<br>2 – The therapist asks if the child experienced any anger and/or worry in the past week and the child and therapist discuss |
| 2. | Therapist and child review different ways to handle worry and/or anger  | 0 – Not at all<br>1 – The child does not offer any situations but the therapist uses hypothetical situations that the child does not seem to relate to very well<br>2 – The child discusses situations with the therapist  |
| 3. | The therapist and child review thinking traps   | 0 – Not at all<br>1 – The child reports he or she did not experience any and the therapist has no follow up questions<br>2 – Thinking traps are identified and discussed   |
| 4. | The therapist begins discussing thought challenging   | 0 – Not at all<br>1 – The therapist introduces the topic, but is quickly sidetracked by a different topic<br>2 – Thought challenging is explained to the child and examples are used   |
| 5. | The therapist asks the child to practice thought challenging during the week  | 0 – Not at all<br>1 – The assignment is hinted at, but not explicitly stated<br>2 – The therapist asks the child to practice thought challenging and/or being on the look-out for thinking traps, during the week  |
| 6. | The therapist reviews with the parent any solutions that were currently in place and/or ask if problem solving was practice during the week | 0 – Not at all<br>1 – One is asked (e.g., if practiced during the week) but not the other<br>2 – The therapist asks about solutions put in place and asks if problem solving was practiced during the week   |
| 7. | Therapist and parent role play different steps of CPS (e.g., empathy, gathering information, sharing concerns)                              | 0 – Not at all<br>1 – Different parts of CPS are discussed, but not practiced during the session<br>2 – The parent engages in role play with the therapist   |
| 8. | The parent and child practice solving a problem together  | 0 – Not at all<br>1 – The therapist preps the parent to practice but then runs out of time<br>2 – Parent and child attempt to problem solve together   |

## Dissertation Treatment Therapist Adherence for Session 9

|    |  |  |
|----|--|--|
| 1. | Therapist reviews the week with the child  | 0 – Not at all<br>1 – The therapist asks if the child experienced any anger and/or worry in the past week, but the child says no and it is not pursued (i.e., no follow up questions)<br>2 – The therapist asks if the child experienced any anger and/or worry in the past week and the child and therapist discuss |
| 2. | Therapist and child discuss coping (e.g., either thought challenging, relaxation, problem solving, etc.)                                     | 0 – Not at all<br>1 – The child mentions coping skills used, but the therapist does not pursue the discussion<br>2 – The therapist and child discuss coping together   |
| 3. | The therapist reviews with the parent any solutions that were currently in place and/or ask if problem solving was practiced during the week | 0 – Not at all<br>1 – One is asked (e.g., if practiced during the week) but not the other<br>2 – The therapist asks about solutions put in place and asks if problem solving was practiced during the week   |
| 4. | The therapist and parent problem solve any barriers to practicing at home or implementing solutions  | 0 – The therapist did not ask about problem solving issues and the parent did not volunteer any<br>1 – The parent brought up issues that the therapist did not discuss further<br>2 – Therapist and parent troubleshoot barriers to practicing at home   |
| 5. | The therapist and parent discuss unsolved problems and what to talk to the child about in session  | 0 – Not at all<br>1 – Discussed unsolved problems, but not what to talk about in session<br>2 – Picked an unsolved problem to talk about in session  |
| 6. | Parent and child practiced CPS in session  | 0 – Not at all<br>1 – The child joined the session, but problem solving did not start<br>2 – Parent and child work to try and solve a problem  |
| 7. | Both sides are able to share their concerns and discuss a solution (solution does not have to be agreed upon at this stage)                  | 0 – Not at all<br>1 – Only one side is able to share their concerns<br>2 – Both sides share concerns and a solution is discussed   |
| 8. | The therapist provides feedback on the problem solving   | 0 – Not at all<br>1 – The therapist tries to provide feedback, but the parent and/or child does not appear to understand and the therapist does not elaborate<br>2 – The therapist is able to provide constructive feedback  |