Examining Cognitive Predictors of Parental Rescue Behavior and Potential Malleability of Behavior Using a Psychoeducation Intervention

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EXAMINING COGNITIVE PREDICTORS OF PARENTAL RESCUE BEHAVIOR AND POTENTIAL MALLEABILITY OF BEHAVIOR USING A PSYCHOEDUCATION INTERVENTION

by

SARA FRANCIS

Under the Direction of Erin B. Tone, PhD

ABSTRACT

Over-controlling parenting practices, particularly parents’ tendency to “rescue” children from experiencing distress, both limit children’s exposure to anxiety-provoking situations and restrict opportunities for development of adaptive coping skills (Barlow, 2002; Suveg et al., 2006). Research is just emerging regarding internal factors, such as maladaptive beliefs about child anxiety, that may lead parents to engage in rescue behavior. Additionally, much of this recent work is limited by its exclusive use of informant-report methodology. A primary goal of the present study was therefore to examine associations between parent beliefs about child anxiety and rescue behavior using an experimental design. Parental rescue behavior was precisely operationalized as the speed at which parents intervened to rescue an increasingly distressed child fac-
An anxiety-provoking situation, which was presented in an audio clip (Aschenbrand & Kendall, 2012). An additional aim of the present study was to (a) evaluate whether a brief psychoeducational intervention would impact immediate parent behavior during the audio paradigm and (b) examine whether the intervention would interact with parental experiential avoidance, a cognitive factor assumed to be more pliable than longstanding beliefs, to do so. A nonclinical sample of 310 parents was recruited from an online crowdsourcing platform, Amazon’s Mechanical Turk. The hypothesis that parental negative beliefs about anxiety would relate positively to parents’ speed of rescue in the audio recording was supported. The hypothesis that participants who received psychoeducation versus benign information would delay their rescue response was also supported. The hypothesis that parental experiential avoidance would moderate the association between the intervention and rescue behavior was not supported. However, parental unwillingness to experience child distress, a component of experiential avoidance, was found to relate to parents’ latency to rescue at the trend level. Findings contribute to recent work identifying cognitive factors that contribute to countertherapeutic parent behavior (e.g., Settipani & Kendall, 2015) and indicate the importance of psychoeducation in family-based treatment of child anxiety. Results are discussed in light of research on parent beliefs, behavior, and treatment of anxiety; directions for future research are proposed.

INDEX WORDS: Parent beliefs, Parent behavior, Rescue, Psychoeducation, Child anxiety
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SARA FRANCIS

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May 2017
DEDICATION

To my parents, Debbie and David Schmidt. Thank you for listening to me, being impressed by me, and keeping me grounded during every Monday evening phone call. Thank you for showing me what work ethic, diligence, and responsibility means by your actions. Thank you for making me into the person my colleagues know. I am you.
ACKNOWLEDGEMENTS

I have been very lucky to have so many people in my corner for five years. I would like to thank Drs. Nicole Caporino, Lindsey Cohen, and Erin Tully for their interest in my ideas and their support throughout this process. I am indebted to my friends who have, largely voluntarily, proofread, pilot tested, and consulted on nearly every piece of this document. I must also thank my husband, Tommy Francis, for supporting and partnering with me through this journey—I didn’t really think it would take this long either.

Perhaps my greatest debt is owed to Dr. Erin Tone. Thank you for reading and dutifully editing every page I have sent to you for the last five years. Thank you for listening to my thoughts, stories, jokes, and complaints at every advisor meeting. Thank you for your guidance and companionship. Most of all, I am thankful for the many years of friendship we have to look forward to.
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1 INTRODUCTION

Anxiety is widely prevalent among school-aged youths. Community-based epidemiological studies show that nearly 70% of children (ages 8-13) report experiencing worry of moderate intensity two to three days per week (Muris, Meesters, Merckelbach, Sermon, & Zwakhalen, 1998), and 16-32% of adolescents endorse subclinical symptoms of anxiety (Balázs et al., 2013; Lewinsohn, Shankman, Gau, & Klein, 2004). A subset of these youths experience unusually pervasive or severe anxiety. Approximately 2.4% of children and adolescents meet criteria for one or more anxiety disorders according to the American Psychiatric Association’s (2000) Diagnostic and Statistical Manual, 4th Edition (DSM-IV) (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003). Reported prevalence rates range from 1.6-7% according to recent updates listed in the DSM-5 (American Psychiatric Association, 2013) and worldwide prevalence rates are estimated at 6.5% (Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015). In addition, childhood anxiety is associated with functional impairment across multiple domains, including peer relations, family, and academics (Angold, Costello, Farmer, Burns, & Erkanli, 1999; Davis, Ollendick, & Nebel-Schwalm, 2008; Ginsburg, La Greca, & Silverman, 1998; Ialongo, Edelsohn, Werthamer-Larsson, Crocket, & Kellam, 1994, 1995; Langley, Bergman, McCraken, & Piacentini, 2004; Verdun & Kendall, 2008).

Numerous factors appear to increase risk for development of anxiety among youths. Prominent among these is a family history of anxiety. Behavioral genetic research has repeatedly shown that anxiety symptoms aggregate within families (Eley, 1999; Hettema, Neale, & Kendler, 2001), such that children of anxious and/or depressed parents are at elevated risk of experiencing clinical anxiety themselves (e.g., Beidel & Turner, 1997; Hettema et al., 2001; Last, Hersen, Kazdin, Orvaschel, & Perrin, 1991; Merikangas, Dierker, & Szatmari, 1998; Turner, Beidel, &
Costello, 1987). Familial aggregation of internalizing pathology is perhaps best explained by a complex interaction among shared genes and environmental influences (Eley, 2001), and effects of familial environment on anxiety appear particularly strong in early- to mid-childhood (e.g., Eley, 1999; Eley et al., 2003; Feigon, Waldman & Hay, 2001; Lichtenstein & Annas, 2000). Such influence is likely due to the particularly frequent and concentrated contact that youths have with caregivers and other family members during early development (Rapee & Spence, 2004). Fittingly, parenting styles and practices have been primary environmental factors of interest within childhood anxiety literatures (e.g., Chorpita & Barlow, 1998; Rapee, 1997; Rapee, 2012; Wood, McLeod, Sigman, Hwang, & Chu, 2003).

1.1 Parent Behaviors Related to Child Anxiety

The parenting style most consistently associated in the research literature with child anxiety is an over-controlling one (Gerlsma, Emmelkamp, & Arrindell, 1990; McLeod, Wood, & Weisz, 2007; Rapee, 1997; Rapee, 2012; Wood et al., 2003). Parental control, or, in maladaptive excess, ‘over-control,’ often serves as an umbrella term for several parenting practices, including excessive regulation of children’s activities, vigilance and intrusive over-involvement, overprotection, demandingness, and low autonomy granting (e.g., Bögels & Brechman-Toussaint, 2006; Gerlsma et al., 1990; Masia & Morris, 1998; Rapee, 1997; Wood et al., 2003). As a consequence of these behaviors, children of over-controlling parents have fewer opportunities than peers with less controlling parents to explore new environments or to learn to cope and problem-solve in unexpected, potentially aversive situations (Barlow, 2002; Bögels & Brechman-Toussaint, 2006; Chorpita & Barlow, 1998). Thus, over-controlling parenting may negatively influence children’s perceptions of threat and feelings of personal control over their environment (Chorpita & Barlow, 1998; Rapee, 1997, 2001), which, along with avoidance of threat, are hallmarks of anxiety.
Meta-analytic findings indicate a significant relationship, with a medium effect size, between child anxiety and parental over-control (McCleod, et al., 2007; van der Bruggen, Stams, & Bögels, 2008). Further, some theorists posit that a reciprocal relationship exists between child anxiety and parent factors such as over-control, specifically that early behavioral inhibition or withdrawal likely elicits parental over-control behaviors, which in turn maintain youth anxiety (Hudson & Rapee, 2004; Rubin & Mills, 1991). There is growing support for this proposed bidirectionality in treatment literatures (e.g., Settipani, O’Neil, Podell, Beidas, & Kendall, 2013) as well as longitudinal research (see Table 1).

Some longitudinal evidence suggests that parental over-control behaviors are predictive of youth anxiety (Bayer, Sanson, & Hemphill, 2006; Borelli, Margolin, & Rasmussen, 2015; Edwards, Rapee, & Kennedy, 2010; Rapee, 2009; Rubin, Burgess, & Hastings, 2002), while other studies present evidence for the inverse relationship (Rapee, 2009; Rubin, Nelson, Hastings, & Asendorf, 1999). Still others have found that parent behaviors both predict and are predicted by child anxiety (Edwards, et al., 2010). Taken together, these findings suggest that the relationship between parental over-control and child anxiety is likely dynamic and reciprocal.

Notably, longitudinal and cross-sectional studies present differing effect sizes and, as noted above, directions of influence in the relationship between child anxiety and parent factors. This inconsistency across studies may be explained, in part, by methodological differences. For example, some studies have gathered data about multiple constructs (e.g., parent behavior and child anxiety symptoms) from a single informant; this practice introduces problems of common method variance that may impact relationships among variables (Podsakoff, MacKenzie, Lee, &
Table 1. Longitudinal Studies of Child Anxiety and Parental Over-control Behaviors

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Duration</th>
<th>Methodology</th>
<th>Over-control Behavior</th>
<th>Outcome</th>
<th>Direction of Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borelli, Margolin, &amp; Rasmussen (2015)</td>
<td>M, F, C (~10 yrs old)</td>
<td>2.5 yrs</td>
<td>Parenting: M, F &lt;br&gt; Child Anxiety: C</td>
<td>over-control/autonomy restriction</td>
<td>M and/or F over-control/autonomy restriction predicted enduring youth anxiety</td>
<td>Beh→Sym</td>
</tr>
<tr>
<td>Rapee (2009a)</td>
<td>M &amp; C (~12 yrs old)</td>
<td>12 mo.</td>
<td>Parenting: C &lt;br&gt; Child Anxiety: C, M</td>
<td>Anxious parenting (overprotection &amp; anxious modeling/expressing)</td>
<td>M anxious parenting predicted C self-reported anxiety &lt;br&gt; M reported child anxiety predicted M anxious parenting</td>
<td>Beh→Sym for C reported symptoms &lt;br&gt; Sym→Beh for M reported symptoms</td>
</tr>
<tr>
<td>Rubin, Burgess, &amp; Hastings (2002)</td>
<td>M &amp; C (~2 yrs old); &lt;br&gt; Inhibition &amp; Social Reticence: Observation</td>
<td>~2 yrs</td>
<td>Parenting: Observation &lt;br&gt; Inhibition &amp; Social Reticence: Observation</td>
<td>Intrusive/overprotective control</td>
<td>M intrusive control moderated predictive relationship between toddler inhibition and social reticence at age 4</td>
<td>indirect; Beh→Sym</td>
</tr>
<tr>
<td>Rubin et al. (1999)</td>
<td>M, F of 2 yr olds</td>
<td>2 yrs</td>
<td>Parenting: M, F &lt;br&gt; Child Shyness: M, F &lt;br&gt; Beh. Inhibition: Observation at age 2</td>
<td>Encouragement of independence</td>
<td>Child shyness (parent reported) predicted low encouragement at age 4 &lt;br&gt; Low encouragement did not predict shyness at age 4 &lt;br&gt; Observed inhibition at age 2 did not predict encouragement</td>
<td>Sym→Beh for parent-reported symptoms</td>
</tr>
</tbody>
</table>

Note: M=mothers, F=fathers, C=children, Beh→Sym=parenting behavior predicted youths symptoms, Sym→Beh=youth symptoms predicted parent behavior, Beh↔Sym=bidirectional relationship
Podsakoff, 2003; Wood et al., 2003). Rapee (2009) gathered Australian adolescents’ self-reports of anxiety and their perspectives on maternal anxious parenting (a combination of overprotection and anxious modeling) while also gathering mothers’ reports of the adolescents’ anxiety. According to the adolescents’ data, anxious parenting predicted youth anxiety, but, when evaluating youth anxiety according to mothers’ reports, youth anxiety predicted anxious parenting behaviors. In this case, the informant appears to have impacted the direction of the relationship.

In another example, Grüner, Muris, and Merckelback (1999) sampled children aged 9-12 years from a community in the Netherlands and found a significant relationship between child-reported anxiety symptoms and children’s perceptions of parents’ anxious rearing. Rubin et al. (1999), in contrast, gathered observational data on a group of Canadian toddlers’ behavioral inhibition and found no relationship with self-reported parenting behaviors, specifically parents’ encouragement of independence, two years later. It is conceivable that methodological differences between Grüner et al. (1999) and Rubin et al. (1999) impacted whether potential effects were even detected.

Even those studies using comparable multiple-informant methodology to examine relationships between child anxiety and parent factors have yielded variable findings. McClure, Brennan, Hammen, and Le Brocque (2001) reported significant associations between clinician-rated child anxiety and child reports of maternal psychological control in an Australian adolescent sample. Separately, Siqueland, Kendall, and Steinberg (1996) found no significant relationships between clinician-rated child anxiety status and child- or parent-rated parental psychological control in a sample of 9-12 year old children referred for outpatient treatment. In this study, only independent observations of the parent factor, psychological autonomy-granting, were
found to differ significantly between parents of clinically anxious children and parents of non-anxious children (Siqueoland, et al., 1996). In line with this set of findings, analyses conducted by McLeod et al. (2007) indicate that observational reports of parenting behaviors yield larger effect sizes across studies than do child- or parent-report studies or interviews. Indeed, studies that have used objective measures to capture specific parent behaviors (e.g., Hudson & Rapee 2001, 2002; Moore, Whaley, & Sigman, 2004; Siqueoland et al., 1996; Whaley, Pinto, & Sigman, 1999) appear to provide more consistent evidence for an association between parental over-control and child anxiety than do questionnaire-based studies (McLeod et al., 2007; van der Bruggen, et al., 2008; Wood et al., 2003), and are therefore preferred.

1.2 Parental Over-control with a Narrowed Focus

As can be seen in research reviewed so far, the term “parental over-control” is defined in myriad ways, which impedes the effective synthesis of research findings regarding over-control and child anxiety. Depending on the study, the term might be linked to concepts such as negative control, psychological control, (over)involvement, (over)protection, intrusiveness, watching and controlling, command, and autonomy-granting/restriction. McLeod et al. (2007) pointed out that researchers have historically bifurcated parenting into two constructs, over-control and rejection, with the “implicit assumption that these constructs capture most of the relevant parenting behavior” (p.167). The authors further noted that use of these broad categories may cloud or limit detection of relationships between specific parent factors and child anxiety. Defining parental over-control more precisely or focusing on distinct patterns of behavior that fall under this umbrella term may help to create a more consistent picture of its relationships with child anxiety and facilitate clarification of its antecedents and correlates.
Whereas many theorists have argued for disentanglement of over-control-related constructs, including separation of behavioral control, psychological control, and autonomy-granting (e.g., Barber, Olsen, & Shagle, 1994; Silk, Morris, Kanaya, & Steinberg, 2003), Wood et al. (2003) highlight the importance of capturing consistently observable over-control behaviors in future research. One such behavior is excessive parental responsiveness during anxiety-provoking situations, such as facilitated avoidance or excessive reassurance (Wood et al., 2003). Parental responses to child anxiety may inhibit exposure or habituation to novel situations and reinforce children’s anxious, withdrawn behaviors (Rubin, Hastings, Stewart, Henderson, and Chen, 1997; Wood et al., 2003).

Family accommodation has received increased attention in recent years as a pattern of parental responsiveness related to both pediatric obsessive-compulsive disorder (OCD) (e.g., Calvocoressi et al., 1995; Lebowitz, Scharfstein, & Jones, 2014; Storch et al., 2007) and anxiety disorders broadly (Benito et al., 2015; Lebowitz, Leckman, Silverman, & Feldman, 2016; Lebowitz et al., 2013; Norman, Silverman, & Lebowitz, 2015; Thomas-Hollands, Kerns, Pincus, & Comer, 2014). Family members accommodate a child’s anxious symptoms by changing parental behavior in order to lessen or avoid their child’s distress (Calvocoressi et al., 1995; Lebowitz et al., 2013). Parents might change family routines according to the child’s demands, assist in compulsive rituals, decrease the child’s responsibilities, complete tasks for the child, speak for the child, allow co-sleeping, facilitate avoidance of school or social interactions, or provide excessive reassurance (Lebowitz et al., 2016; Storch et al., 2007; Thomas-Hollands et al., 2014).

More than half of parents in a sample of treatment-seeking children with OCD, for example, reported that they accommodated symptoms on a daily basis (Peris et al., 2008). Ninety-
seven percent of parents of clinically anxious children (excluding youths with OCD) in an outpatient sample also reported engaging in some form of accommodation (Lebowitz et al., 2013). Additionally, accommodation correlates significantly and positively with severity of anxiety symptoms, obsessive-compulsive symptoms, and child functional impairment associated with pediatric OCD (e.g., Caporino et al., 2012; Lebowitz & Bloch, 2012; Lebowitz et al., 2014; Storch et al., 2007). Associations are particularly strong in studies that focus on behavioral indicators of accommodation rather than related variables, such as the child’s emotional response when not accommodated or parents’ distress related to their accommodation behavior (e.g., Peris et al., 2008).

Moreover, accommodation behaviors can have a negative impact on treatment outcomes. One study found that children with OCD who received CBT, medication, or a combination of both all experienced poorer outcomes if their families reported high degrees of accommodation (Garcia et al., 2010). Consistently, in a sample of clinically anxious youth (ages 6-17) who completed an individual CBT program, Kagan, Peterman, Carper, and Kendall (2016) found a significant positive association between decreases in parents’ reports of posttreatment youth anxiety and parental accommodation. Additionally, Piacentini et al. (2011) reported that decreased family accommodation preceded reduced scores on a measure of obsessive compulsive symptoms among 8-17 year olds with OCD. It is not surprising that reductions in family accommodation predict positive treatment outcomes, given that excessive parental responsiveness is inherently contrary to typical treatment goals, such as gradually exposing children to anxiety-provoking situations and facilitating independent anxiety management skills.
Indeed, Suveg et al. (2006) noted that parents’ tendency to remove or “rescue” their child from anxiety-provoking situations, whether it occurs in the context of a treatment exposure exercise or in the child’s daily life, could be particularly deleterious to successful treatment. Parents may intervene for several reasons: to decrease the child’s anxiety, to prevent tantrum behaviors, or because they view protecting their child from anxiety as “both beneficial and part of their parental responsibility” (Rudy, Storch, & Lewin, 2014; Suveg et al., 2006, p.291). In the context of child anxiety, however, the parental rescue response serves to facilitate the child’s avoidant response and diminish opportunities for successful habituation and anxiety coping.

Additionally, rescue behavior may be a particularly useful parental response construct to study because it can be readily examined in the context of observational and experimental research designs. Until recently, few studies had evaluated parental responsiveness, including rescue and other family accommodation behaviors, without relying exclusively on informant-report methodology (e.g., Family Accommodation Scale; Calvocoressi et al., 1995, 1999), which is vulnerable to the effects of reporter biases. In the past few years, however, experimental studies of parental response behaviors, including rescue, have begun to appear in the literature.

Aschenbrand and Kendall (2012), for example, recently conducted a study examining parental responses to youth anxious behavior in which latency to rescue was a key outcome variable. The researchers recruited parents of clinically anxious and non-anxious children and presented an audio recording of an interaction in which a mother asked her daughter to perform an anxiety-provoking task. Over the course of the audio clip, the daughter responded with progressively intense distress and avoidant behaviors. Parents read a description of the daughter as either anxious or non-anxious prior to the audio clip. Participants were asked to indicate when they would intervene to rescue the child from the distressing task.
Parents’ responses varied as a function of their child’s anxiety status. Parents of nonanxious children who were told that the child in the recording was anxious were slower to intervene than were those who were not told the child was anxious. Parents of anxious children, however, exhibited a more inflexible parenting style and intervened quickly, regardless of the description received. Factors that led the parents of anxious youths in the study to respond reflexively with rescue behavior remain unclear. It may be that parents of anxious children also experience high anxiety and struggle to cope with or tolerate child distress. Indeed, Aschenbrand and Kendall (2012) found that the parents of anxious children not only endorsed higher state anxiety prior to the rescue behavior paradigm than did parents of nonanxious children, but they also reported increased anxiety, increased negative affect, and decreased positive affect after completing the paradigm. Consistent with this idea, at least one study found child- and parent-reported maternal overprotective behavior to relate more strongly to maternal anxiety than to child anxiety in a community sample of 8-13 year olds (Bögels & van Melick, 2004). Such work provides suggestive evidence that parents’ own distress and anxiety may contribute to their tendencies to intervene during anxiety-provoking situations.

Other research, however, suggests that parental anxiety is unrelated to parental responsiveness to youth anxiety (Ginsburg, Grover, & Ialongo, 2004; Turner, Beidel, Roberson-Nay, & Tervo, 2003; Woodruff-Borden, Morrow, Bourland, & Cambron, 2002). Recent research also raises the possibility that indirect associations among over-control behaviors (including family accommodation), parent anxiety, and child anxiety exist that are complex and likely reciprocal (e.g., Borelli, et al., 2015; Caporino et al., 2012). Therefore, future research aimed at understanding parenting patterns would benefit from taking parent characteristics, as well as child characteristics, into account. Given, however, that not all parents of anxious children are themselves
anxious (e.g., Beidel & Turner, 1997), other potentially influential characteristics, including distinctive patterns of beliefs and expectations, deserve examination as possible contributors to parental rescue.

1.3 Predictors of Parental Rescue Response

Aschenbrand and Kendall (2012) suggested that their findings indicate that parents of nonanxious children, compared to those whose children are anxious, may be “better able to discriminate valid requests for help” (p. 236). Parents of nonanxious children may thus have intervened more slowly for anxious children, who might need to face feared, but not genuinely dangerous, situations to learn to cope with them (Aschenbrand & Kendall, 2012). Implicit in this interpretation is the idea that parents vary in both their beliefs about what constitutes a valid request for help and the behavioral choices that they make based on those beliefs. This notion is consistent with developmental models positing that parent beliefs predict and reciprocally interact with parental behavior (e.g., Bugental & Johnston, 2000; Murphey, 1992). However, relatively little is known about the role that parent beliefs might play in triggering or supporting parental responses that help to maintain child anxiety. Moreover, tests of their associations in the context of child anxiety are only just emerging.

A small body of research indicates that parents of anxious and non-anxious children endorse different beliefs about their offspring. Several studies, for example, have yielded evidence that parents of children with an anxiety disorder, compared to parents of nonanxious children, are less likely to evaluate their children as competent and more likely to anticipate that their children will avoid stressors (e.g., Barrett, Rapee, Dadds, & Ryan, 1996; Micco & Ehrenreich, 2008; Shortt, Barrett, Dadds, & Fox, 2001). Wheatcroft and Creswell (2007) reported parallel findings
in a community sample of parents; relative to parents who perceived their children as non-anxious, parents who perceived their children as anxious rated them as more likely to react to an ambiguous situation with anxious mood and avoidance. Parents of anxious children also report a broader range of dysfunctional anxiety-relevant beliefs than do parents of non-anxious youths. In one study, parents of children with separation anxiety and social anxiety disorders endorsed more maladaptive, anxiety-related beliefs about their child (e.g., “Disagreement can damage the relationship between my child and me,” “The world is very unsafe for my child” “If my child cannot do something, it is better if I take over”) than did parents of nonanxious children (Herren, In-Albon, & Schneider, 2013).

These beliefs appear to have an impact on parent behavior. Some evidence suggests that parent beliefs about children’s anxious or withdrawn behavior influence their parenting practices and behavioral management strategies (for review see Bögels & Brechman-Toussaint, 2006). For example, Mills and Rubin (1990) provided parents recruited from the community with hypothetical scenarios in which children displayed socially withdrawn behaviors. They then asked parents to imagine their own children in the scenarios and to report how they might feel if their child were to act that way, why their child might act that way, and what they might do about the behavior. The researchers intentionally made the scenarios ambiguous with regard to the stability of the hypothetical behavior. Interestingly, parents’ choice of intervention (if any) was significantly related to parent attributions, such that mothers’ tendency to attribute the hypothetical withdrawn behavior to the child’s disposition (rather than to consider it to be a transient state) was significantly and positively related to mothers’ choice not to intervene to change the child’s behavior (Mills & Rubin, 1990). In a separate study, Mills and Rubin (1993) also reported findings that mothers of withdrawn young children (4 years old) were less tolerant of unskilled social
behavior and more likely to endorse directive, coercive correction of unskilled social behavior than mothers of socially skilled children.

Although the limited available evidence suggests that examining associations between parent beliefs and parent behavior may be fruitful, surprisingly few studies have done so, particularly with regard to specific parental response behaviors. One notable exception is a recent study in which Settipani and Kendall (2015) evaluated associations between maternal accommodation behavior and several parental factors, including beliefs about child anxiety. Accommodation behavior among mothers of clinic-referred youth with anxiety disorders (7-17 years old) was assessed using vignettes of youth exhibiting distress in anxiety-provoking situations. Mothers imagined themselves in situations depicted in the vignettes and reported how much they would urge their child to engage in such behaviors as attending a birthday party. The researchers also collected mothers’ self-reported beliefs about child anxiety using the Parent Beliefs about Anxiety Questionnaire (PBA-Q; Francis & Chorpita, 2010). Results suggest that mothers who reported more negative beliefs about child anxiety also reported that they would engage in significantly more accommodation in the vignettes (Settipani & Kendall, 2015).

This study appears to be the first empirical test of relationships between beliefs and parental response behavior in the context of child anxiety. However, the study is limited by use of only mothers’ self-report to measure both constructs of interest, rather than objectively measuring what parents actually do. Studies that are designed to assess both parent beliefs about child anxiety and elicit their tendencies to engage in protective, rescue behavior in an experimental context are particularly rare, even though they could extend the research base in useful ways (Bögels & Brechman-Toussaint, 2006).
Additionally, Settipani and Kendall (2015) explored parental beliefs broadly using the PBA-Q. The PBA-Q treats negative beliefs about child anxiety as a unitary construct, broadly assessing parents’ beliefs that anxiety is harmful to one’s child, discomfort with their child’s distress, tendencies towards catastrophic thinking or threatening interpretations, and some ideas on how to be a ‘good parent’ or react to anxiety (Francis & Chorpita, 2010). The original developers encouraged future researchers to continue to investigate beliefs as a potentially multi-faceted construct (Francis & Chorpita, 2010). With the advent of new measures that parse apart facets of the ‘beliefs’ construct, such as the Parental Attitudes, Beliefs, and Understanding of Anxiety questionnaire (PABUA; Wolk et al., 2016), it is possible for next steps to include exploration of protective parental behavior in relation to beliefs as both a broad construct and with separable dimensions.

1.4 Potential Malleability of Parental Rescue Response

One context in which research regarding associations between parent beliefs and rescue behaviors may have particular practical utility is child anxiety treatment. Cognitive-behavioral therapy (CBT) is the current gold standard for treating child anxiety disorders (e.g., Cartwright-Hatton, Roberts, Chitsabesan, Fothergill, & Harrington, 2004; Compton et al., 2004; In-Albon & Schneider, 2006). Randomized control trials have found CBT programs to be efficacious when administered to individual children, with 50-60% of those treated experiencing symptom reduction and no longer meeting criteria for their primary diagnosis (for reviews see Albano & Kendall, 2002; In-Albon & Schneider, 2006; Cartwright-Hatton, et al., 2004).

However, although CBT clearly works well for many youths, roughly half of treated children show residual, clinically significant anxiety symptoms after therapy ends. One factor that may contribute to suboptimal treatment outcomes is parental responses that constrain the child’s
acquisition of new skills and adaptive behavior patterns. Investigating ways to include parents in treatment and reduce counterproductive parent behaviors, specifically those behaviors that have empirically supported connections to child anxiety, could enhance child outcomes (Breinholst, Esbjørn, Reinholdt-Dunne, & Stallard, 2012; Ginsburg & Schlossberg, 2002; Wood, Piacentini, Southam-Gerow, Chu, & Sigman, 2006).

Rapee, Schniering, and Hudson (2009) identified several ways in which families can be incorporated into CBT for child anxiety. These include parent assistance with out-of-session tasks, contingency management training, increasing parent modeling of coping skills, facilitating parental anxiety management, and attending to family communication and structural problems. Maladaptive parent beliefs may also be important targets of family intervention, particularly if, as suggested in preliminary work by Settipani and Kendall (2015), those beliefs are associated with negative parental responses. If those beliefs can be modified, perhaps parent rescue behavior and other maladaptive parent actions will also decrease.

Psychoeducation, an intervention technique designed to improve parent knowledge about anxiety and its impact on children’s behavior, is included in many structured, family-based interventions and may help change problematic beliefs and ideas (Ginsburg & Schlossberg, 2002). Psychoeducation provides a pivotal introduction to symptom clusters/disorders, their characteristics, and their maintaining factors. It can be incorporated into treatment protocols in various ways; some interventions rely on bibliotherapy, in which parents read material on their own, and others deliver in-person instruction from a therapist (Rapee et al., 2009). Although dismantling studies have not yet determined its independent contributions to positive child anxiety treatment outcomes, there is some evidence that parent psychoeducation adds value.
For instance, child anxiety treatment studies have often failed to detect differences in outcomes between CBT protocols and non-specific control treatments; Rapee et al. (2009) suggested that these null findings may reflect the inclusion in nonspecific control conditions of education components that incorporate cognitive-behavioral conceptualizations and information about CBT skills. Further, Rapee, Abbott, and Lyneham (2006) conducted a randomized control trial comparing group format CBT, wait-list control, and bibliotherapy without therapist support. Results indicated that parent bibliotherapy was more effective than the waitlist control, though it was outperformed by face-to-face group CBT (Rapee et al., 2006).

Although research on psychoeducation in child anxiety is relatively limited, literatures focused on treatment of other psychological conditions yield evidence that psychoeducation per se can be valuable. Nussey, Pistrang, and Murphy (2013), for example, reviewed twenty-two studies that investigated effects of providing information about Tourette syndrome (TS) and attention-deficit/hyperactivity disorder (ADHD) to parents, teachers, and peers. Collectively, studies showed that education increased knowledge, improved attitudes towards individuals with TS and ADHD, and corrected false, stigmatizing beliefs. Few studies evaluated whether psychoeducation changed teachers’ and peers’ behavior towards individuals with TS and ADHD; among those studies, only informant reports of pre-and post-psychoeducation behavioral intentions were gathered.

Similar evidence for psychoeducation exists in the bipolar disorder literature. Bond and Anderson (2015) reviewed randomized control trials evaluating the effectiveness of psychoeducation interventions for preventing relapse among individuals with bipolar disorder. Overall, psychoeducation, particularly if it is delivered in a group setting, appears to be effective for prevent-
ing relapse of bipolar episodes. Notably, Bond and Anderson (2015) evaluated only discrete psychoeducation interventions, excluding those included in multi-component treatment programs. Their review thus implies empirical support for psychoeducation as an active ingredient. Comparable research regarding psychoeducation and child anxiety has not yet been conducted. Given its ubiquitous use across treatments, psychoeducation’s potential impact on parental response behavior and its relationship to maladaptive beliefs about youth anxiety warrants investigation.

Although the implied mechanism of change associated with psychoeducation is improved knowledge and correction of maladaptive beliefs, it seems unlikely that longstanding beliefs are so easily influenced. For example, Wisniewski et al. (2013) examined efficacy of a single-dose educational intervention in changing undergraduate students’ beliefs about health risks associated with tobacco. Participants’ beliefs significantly changed from pre- to post-intervention across most items on a 21-item questionnaire; participants endorsed more accurate beliefs about tobacco health risks post-intervention. The authors did not, however, include an assessment of behavior change associated with belief modification. Additionally, over a 2, 4, 6, or 8 week follow-up period, accuracy on most items significantly decreased from post-intervention, though it still exceeded baseline levels (Wisniewski et al., 2013). This suggests that while beliefs may be temporarily malleable, change achieved through educational intervention is likely weak.

Rather than influencing parental response behavior by wholly changing beliefs, perhaps psychoeducation bolsters parents’ willingness to experience and tolerate their child’s discomfort. In fact, Kendall, Podell, and Gosch (2010), in their parent companion manual for The Coping Cat anxiety treatment program, caution that parents may “experience distress seeing your child upset, but the best thing you can do is help him face his fear” (p. 12). Cheron, Ehrenreich, and
Pincus (2009) defined this tendency as ‘parental experiential avoidance,’ or unwillingness to witness one’s child’s distress, and developed a questionnaire to assess the construct: the Parental Acceptance and Action Questionnaire (PAAQ). The measure includes two subscales capturing parents’ unwillingness to experience their child’s distress and parents’ inability to manage their own reactions to their child’s emotions. Experiential avoidance appears to be related to negative beliefs about youth anxiety (Wolk et al., 2016) as well as parent-reports of control over family routines (Cheron et al., 2009). To determine whether and how psychoeducation influences parental responses, such as prematurely rescuing children from anxiety-provoking exposures, parental experiential avoidance may serve as a more pliable construct of study than parents’ longstanding beliefs.

1.5 Purpose of the Study

As reviewed above, parental over-control, as a broad construct, relates significantly to child anxiety, though the strength and direction of these relationships differ across studies using different methodologies and operational definitions. Data suggest that observational and experimental methodologies yield the strongest evidence of relationships. These approaches are best suited to examining specific, quantifiable behaviors, such as the parental rescue response. Little is known, however, about factors contributing to parents’ tendency to rescue children during anxiety-provoking situations. The primary aim of the present study was therefore to examine one such factor, parental beliefs about child anxiety, and whether it relates to parents’ tendency to rescue during an experimental paradigm. This work builds on previous work (e.g., Aschenbrand & Kendall, 2012; Settipani & Kendall, 2015) and takes an essential step toward identifying potential antecedents or maintaining factors of maladaptive parental behaviors.
Given that parental rescue behavior during exposure activities or other distressing treatment-related tasks can impede child anxiety treatment success, rescue behavior also constitutes an important target to consider for family intervention. It may be that improving parents’ knowledge of child anxiety through psychoeducation can strengthen parental willingness to come in contact with their child’s distress during treatment, thereby enabling parents to participate more effectively and constructively in their child’s treatment. A second aim of the proposed study is thus to examine whether a brief psychoeducation intervention (1) influences parents’ tendency to engage in rescue behavior and (2) interacts with parental experiential avoidance to do so.

Through a narrow focus on parental rescue behavior, this study extends a nascent literature that is dominated by studies reliant on potentially biased informant reports. To accomplish the central aims, I adapted Aschenbrand and Kendall’s (2012) rescue behavior audio paradigm and used it to examine associations between beliefs about child anxiety and the pace at which parents recruited from an online community chose to intervene on behalf of an anxious child. I further extended existing research by exploring beliefs assessed as a unitary construct, as did Settipani and Kendall (2015), and as separable, related facets. A secondary focus of the study was on the utility of a brief psychoeducational intervention for decreasing the speed with which parents responded during the rescue behavior paradigm and whether it did so by reinforcing parents’ willingness to tolerate their child’s discomfort.

1.6 Expected Results

1.6.1 Hypothesis 1

Parents’ negative beliefs about child anxiety, assessed as a unitary construct, were hypothesized to relate negatively to latency to intervene (i.e., “rescue”) during Aschenbrand and
Kendall’s (2012) rescue behavior audio paradigm. In exploratory analyses, parents’ beliefs about child anxiety were also assessed as a multifaceted construct. It was expected that each component of the belief construct would relate similarly to parents’ rescue latency as the unitary belief construct.

1.6.2 Hypothesis 2a

To examine psychoeducation’s influence on parents’ rescue response during the audio paradigm, parents randomly received either a psychoeducational intervention or no intervention prior to completing the audio paradigm. Those who received psychoeducation were expected to wait longer to intervene during the paradigm than did those who did not receive psychoeducation (i.e., reviewed benign information).

1.6.3 Hypothesis 2b

Additionally, parents’ responsiveness to psychoeducation, assessed by latency to intervene, was expected to relate to parental experiential avoidance of child distress. Specifically, parental experiential avoidance was predicted to moderate the association between receipt of psychoeducation and latency to intervene during the audio paradigm, such that the more experiential avoidance parents reported, the stronger the association was expected to be.

Assessment of parental experiential avoidance included both parents’ unwillingness to come in contact with child distress (“Unwillingness”) and parents’ inability to manage their responses to their child’s affect (“Inaction”). Given that no prior research has examined relationships among stand-alone psychoeducational interventions, parental experiential avoidance, and parenting behavior, both subcomponents of parental experiential avoidance were included in hypothesis 2b testing. Though it was expected that psychoeducation was more likely to interact
with parents’ Unwillingness than with their Inaction, the Inaction subcomponent of parental experiential avoidance was included in exploratory analyses.

2 EXPERIMENT

2.1 Participants

The study participants comprised 310 adults. Sample size was determined based on an a priori power analysis (G*Power; Faul, Erdfelder, Lang, & Buchner, 2011) conducted using the small sized effects obtained in Aschenbrand and Kendall’s (2012) study. Participants were recruited via Amazon’s Mechanical Turk (MTurk; http://www.mturk.com), an online marketplace where volunteer “workers” complete human intelligence tasks (“HITs”) posted by “requesters” for monetary compensation. Only workers in the U.S. were permitted access to the experiment through the MTurk platform for two primary reasons. First, study measures have been validated primarily or exclusively in U.S. populations. Second, much research related to parenting practices/beliefs has been conducted on samples drawn from Western populations, and recruitment of an international sample could have introduced heterogeneity with regard to parenting practices that the present study was underpowered to take into account.

Interested MTurk workers were informed of the following inclusion criteria in a recruitment posting on the MTurk site: (1) must be at least 18 years old, (2) must be a primary caregiver of a child, (3) must be a U.S. resident, and (4) must be fluent in written and spoken English. Note that the recruitment focus is on “primary caregivers” rather than just mothers, as is common in parenting research (Bögels & Brechman-Toussaint, 2006). Both mothers and fathers were recruited to allow for gender comparisons and to increase generalizability of results. See Appendix A for the full recruitment posting. MTurk workers were also informed that those not
meeting the inclusion criteria would not be enrolled in the study and therefore would not be compensated.

Of participants, 72.3% were women between 19 and 57 years old (M=35.45, SD=6.56). Girls comprised 46.1% of participants’ children; child age ranged from 6 to 11 years (M=8.40, SD=1.63). According to their self-report, participants represented American Indian or Alaskan Native (1%), Asian/Asian American (3.9%), Black/African American (9.7%), White (78.4%), and mixed or other racial backgrounds (5.8% and 1.3%, respectively). Hispanic/Latino participants made up 4.5% of the sample. Participants reported a broad range of income levels: 3.9% less than $10,000, 11.6% between $10,000 and $25,000, 33.5% between $25,000 and $50,000, 22.6% between $50,000 and $75,000, and 28.4% greater than $75,000. Participants were also 8.1% single, 13.5% dating, 5.8% engaged, 68.1% married, and 4.5% separated, widowed, or divorced. Education level was reported as 2.3% GED, 11% high school diploma, 30.3% some college, 14.2% associates degree, 27.7% bachelor’s degree, 13.5% master’s degree, .6% doctoral degree, and .3% none of the listed options.

Participants also indicated whether they or their children have received mental health services. Participants who endorsed taking psychotropic medication made up 18.4% of the sample; 42.6% endorsed having received mental health services at some time. Ten percent of participants reported that their child is currently engaged in mental health services, whereas 16.8% of children were identified as having received services in the past.

2.2 Measures

**Demographics.** Participants self-reported socio-demographic information and answered questions about general mental health services they or their children received. If participants indicated that their child was engaged in current or past services, they were asked to denote, using
a checklist, any of the common elements of anxiety-focused youth treatment that they recalled occurring during their child’s treatment. Items in the checklist (derived from Chorpita & Barlow, 1998 and Chorpita, Daleiden, & Weisz, 2005) may be related to the psychoeducation intervention presented in the study. See Appendix B for the full demographic questionnaire.

**Parental Beliefs about Anxiety Questionnaire (PBA-Q; Francis & Chorpita, 2010, 2012).** The PBA-Q is a self-report measure of the extent to which parents hold negative beliefs about their child’s anxiety. Specifically, items assess parents’ beliefs that anxiety is harmful to their child or that it yields negative consequences (e.g., “If my child gets too nervous, it could be really harmful”) as well as parents’ perceptions of threat in ambiguous child-relevant situations (e.g., “When my child’s stomach is upset, I worry that he/she might be seriously ill”) (Francis & Chorpita, 2010). Respondents indicated how much they agreed with statements about themselves and their child on 4-point Likert-type scale ranging from “strongly agree” to “strongly disagree.” The measure yields a total score; higher total scores reflect more negative beliefs and worries about child anxiety. In a clinic-referred sample of children and their parents, the PBA-Q demonstrated good internal consistency (alpha = .81) and concurrent validity with measures of parent and child anxiety (Francis & Chorpita, 2010). In a sample of parents with clinic-referred children, those with female offspring obtained slightly higher PBA-Q scores ($M = 26.63$) than those with male children ($M = 24.63$) (Francis & Chorpita, 2011). In a more recent study, Settipani and Kendall (2015) found that mothers of clinically anxious children obtained similar PBA-Q scores to those of parents in Francis and Chorpita’s (2011) study, with a mean of 25.92. The PBA-Q demonstrated good reliability in the current sample, with Cronbach’s alpha of .86. Total PBA-Q score served as an independent variable in Hypothesis 1 analyses. See Appendix C for PBA-Q.
Parent Attitudes, Beliefs, and Understanding of Anxiety (PABUA; Wolk et al., 2016). The PABUA is a 21-item self-report measure of parents’ beliefs about child anxiety and its maintaining factors. Unlike the PBA-Q, the PABUA yields scores for three scales rather than a total score. Items assess parents’ beliefs about protecting their child from anxiety (Overprotection, “If my child is forced to face his/her anxiety, it will make it worse”), perceived ability to cope with their child’s distress (Distress, “It is hard for me to be with my child when he/she is nervous”), and positive beliefs about facilitating their child’s autonomy and approach behaviors (Approach, “Children can learn a great deal from their mistakes”) (Wolk et al., 2016). Respondents indicated on a 5-point Likert scale ranging from “strongly agree” to “strongly disagree” how much they agreed with statements about their child when he or she was feeling anxious. Scores for the three subscales (Overprotection, Distress, Approach) served as independent variables in Hypothesis 1 exploratory analyses. Note that the Overprotection and Distress scales are negatively valenced, whereas the Approach scale is positively valenced.

In an outpatient sample of mothers of clinically anxious children, internal consistency was adequate for Overprotection and Distress factors (alphas = .83 and .70, respectively), but weaker for the shortest scale, Approach (alpha = .67). Overprotection and Approach scales displayed concurrent validity with the PBA-Q ($r = .26$ and $-.34$, respectively). Scores on the Distress scale did not relate significantly to scores on the PBA-Q, which suggests that the PABUA may elicit information that is not accessible via the PBA-Q (Wolk et al., 2016). Internal consistency in the current sample mirrored Wolk et al.’s (2016) psychometric analyses. The Overprotection and Distress scales demonstrated adequate consistency (alphas = .86 and .73, respectively), but the Approach scale exhibited weaker reliability (alpha = .67). See Appendix D for PABUA questionnaire.
Parental Acceptance and Action Questionnaire (PAAQ; Cheron, Ehrenreich, & Pincus, 2009). The PAAQ is a 15-item self-report measure of parental experiential avoidance. Items assess parents’ unwillingness to witness their child’s negative emotion (Unwillingness, “I try hard to avoid having my child feel depressed or anxious”) and parents’ inability to manage their own reactions to their child’s negative emotion (Inaction “When I feel depressed or anxious, I am unable to help my child manage their fears, worries, or feelings”) (Cheron et al., 2009). Respondents indicated the degree to which items were true of them on a 7-point Likert-type scale ranging from “never true” to “always true,” with higher scores indicating more experiential avoidance. The measure yields a total score and two subscales, Unwillingness and Inaction. The Unwillingness subscale served as an independent variable in Hypothesis 2b analyses; the inaction subscale was included as an independent variable in Hypothesis 2b exploratory analyses.

Internal consistency was fair (alphas ranging from .64-.65) in a sample of clinically anxious children and their parents (Cheron et al., 2009). The PAAQ also demonstrated concurrent validity with parent-report measures of parental psychopathology, communication of emotions, and controlling parental behaviors. Additionally, the PAAQ explained significant variance in parent- and clinician-rated child anxiety and related psychopathology (Cheron et al., 2009). In a sample of parents of clinically anxious children, mean PAAQ Total Score was 54.1 (Cheron et al., 2009). Internal consistency in the current sample was found to be fair for the total score and Unwillingness subscale (alphas = .63 and .61, respectively) and weak for the Inaction subscale (alpha = .59). See Appendix E for PAAQ.

State-Trait Inventory for Cognitive and Somatic Anxiety (STICSA; Ree, French, MacLeod, & Locke, 2008). The STICSA is a self-report questionnaire comprising two 21-item
subscales designed to assess cognitive and somatic dimensions of anxiety at the state and trait levels. Respondents indicated the degree to which each statement was true of themselves, first “at this moment” and subsequently “in general”, on a 4-point Likert-type scale (1 “not at all” to “very much so”). The STICSA was to be included as a covariate in Hypothesis 1 and 2 analyses if found to be significantly related to the outcome variable. The STICSA demonstrated good internal consistency in clinical samples and nonclinical samples (Ree et al., 2008; Grös, Antony, Simms, & McCabe, 2007). In a nonclinical sample, the mean STICSA-State score was 35.0 and the average STICSA-Trait score was 37.0 (Grös, et al., 2007). For participants drawn from clinical samples (panic disorder, OCD, and social phobia), mean scores on the STICSA-State ranged from 45.4 to 47.3 whereas mean STICSA-Trait scores ranged from 50.3 to 52.2 (Grös, et al., 2007). The measure displayed convergent validity with corresponding scales of the State-Trait Anxiety Inventory, as well as discriminant validity from measures of depression (Ree et al., 2008; Grös, et al., 2007). The STICSA-State and STICSA-Trait both demonstrated good reliability in the current sample (alphas = .93 and .94, respectively). See Appendix F for STICSA questionnaires.

**Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher et al., 1997; Muris, 1997).** The modified 41-item version of the SCARED is designed to screen for child anxiety disorders in clinical and community settings. The measure yields a total score and five subscales. Specifically, items form five factors that parallel DSM-IV anxiety disorder classifications that encompass panic/somatic symptoms, generalized anxiety, separation anxiety, social phobia, and school phobia. Both child- and parent-report versions are available; only the parent version was used for this study. Parents rated the degree to which items were true for their child on a 3-point Likert-type scale ranging from “not true or hardly ever true” to “very true or often
true.” The SCARED was to be included as a covariate in Hypothesis 1 and 2 analyses if found to be significantly related to the outcome variable. The SCARED demonstrated good internal consistency, concurrent validity with other measures of child anxiety, and discriminated between anxiety disorders and other psychiatric conditions (Birmaher et al., 1997; Birmaher et al., 1999). Scores above 30 may indicate the presence of an anxiety disorder, per instructions provided on the SCARED parent version. Internal consistency in the current sample was found to be good, with a Cronbach’s alpha of .94. See Appendix G for the full SCARED questionnaire.

**Rescue behavior audio paradigm.** Aschenbrand and Kendall (2012) based their paradigm procedures on those used for a date rape analogue measure (Marx, Gross, & Adam, 1999). Participants were instructed to listen to a 5-minute-long taped interaction between a mother and a child. Prior to hearing the audio clip, participants read the following description of the child in the paradigm:

Jennifer is a 10-year-old girl who is currently in the fifth grade at a local public school. According to her parents, Jennifer worries about “everything and anything,” is troubled by anything new, and asks endless “what if” questions. She also has difficulty separating from her parents and acts very clingy with her mother. Jennifer worries a lot that that something bad might happen to her family or that she will be kidnapped. Her parents also report that she acts very shyly and seems to “lack confidence” in social situations, with both kids and adults. She has a lot of trouble starting conversations, speaking to new people, going to parties or social events, and being assertive (Aschenbrand & Kendall, 2012, p. 234)

Participants were then prompted to listen to the taped interaction while imagining themselves as the parent in the scenario. They were instructed to signal, by pressing a button, when
they would intervene to “do what Jennifer is asking [her mother] to do” (Aschenbrand & Kendall, 2012, p. 234). For the parents of clinically anxious children included in Aschenbrand and Kendall’s (2012) study, the mean latency to respond was 162.98 (SD = 79.83). For the parents of nonanxious children in the same study, mean latency was 207.79 (SD = 98.38) (Aschenbrand & Kendall, 2012). In the present study, latency to signal intention to intervene was recorded using Qualtrics software (gsu.qualtrics.com). Latency to intervene, or the rescue response, served as the dependent variable in tests of Hypotheses 1 and 2.

**Vignette self-report questionnaire (Settipani & Kendall, 2015).** This vignette questionnaire, designed to assess parental accommodation, was included as a secondary measure of parental rescue responses and as a means to explore concurrent validity of the audio paradigm. Participants read and responded to vignettes that depict a child who is confronted with an anxiety-provoking situation and who reacts with symptoms characteristic of generalized anxiety disorder, separation anxiety disorder, and social anxiety disorder. There were two vignettes for each diagnostic category (six in total). Participants were instructed to imagine themselves in each scenario and indicate on a 1-7 scale (1 “would not insist at all” to 7 “would insist strongly”) how much they would insist that their child engage in the specified behaviors, such as go to a birthday party or stay home alone. The measure yields a total score; higher scores indicate less accommodation or, in other words, more insistence that the child attempt brave behavior.

Additionally, the two vignettes in each diagnostic category portrayed the child reacting with either low or high levels of distress. These distress reactions were counterbalanced within each disorder category to ensure that participants were not responding to something specific about the level of distress as it related to a particular vignette. For example, for half of participants, the social anxiety vignette about attending a birthday party was paired with a low-level
child distress response (i.e., blushing and saying he/she doesn’t want to go to the party), and the social anxiety vignette about performing in a talent show was paired with a high-level child distress response (i.e., shaking, crying, begging to stay home). These reactions were swapped for the other half of participants such that the birthday party vignette was paired with a high-level distress response and the talent show vignette was paired with a low-level distress response. The six vignettes were also presented in randomized order to each participant. Internal consistency of the counterbalanced vignette versions in the current sample was found to be adequate (alphas .72-.75). See Appendix H for vignettes.

**Experimental intervention.** Content of the psychoeducation intervention was based on several sources, including Kendall, Podell, and Gosch’s (2010) parent companion manual for *The Coping Cat* anxiety treatment program; Howard, Chu, Krain, Marrs-Garcia, and Kendall’s (2000) *Cognitive-behavioral family therapy for anxious children: Therapist manual*; Ginsburg and Schlossberg’s (2002) recommendations regarding how to best implement components frequently included in family-based CBT; and research related to rescue behavior (e.g., Barlow, 2002; Suveg et al., 2006). The intervention included an explanation and normalization of anxiety; a description of how anxiety manifests as thoughts, feelings, and behaviors; an outline of the purpose of exposure to anxiety-provoking situations; an explanation of harmful effects of avoidance; and a description of helpful and counterproductive parent behaviors. The psychoeducation intervention was intended to improve knowledge about both child anxiety and caregivers’ potential role in maintaining child anxiety (e.g., permitting avoidance through rescue behavior). The control intervention condition included information on a benign, child-related topic (play behav-
ior). The excerpt for the control intervention was adapted from *How Children Develop, 2nd edition* (Siegler, DeLoache, & Eisenberg, 2006, pp.268-269). The excerpt was modified to be comparable to the psychoeducation intervention in length and complexity (8th grade reading level).

**Comprehension questions.** After reading the psychoeducation or control condition information, participants completed eight questions about the excerpt’s content. Six multiple-choice questions were pilot tested on five individuals to increase confidence that they could not be answered easily without reading the passage. Two open-ended questions were also included to probe for understanding about key concepts in the passages. See Appendix I for intervention materials and comprehension questions.

Four multiple-choice and the two open-ended questions appeared directly after participants finished reading. After they answered, participants saw two follow-up multiple-choice questions, which probed the same content as the open-ended questions. It was expected that participants who answered the open-ended questions correctly would also answer the corresponding multiple-choice questions correctly. If participants answered any of the six multiple-choice questions incorrectly, they were directed to read the passage again and make a second attempt at answering the multiple-choice questions they had missed. The open-ended questions were not shown again.

To permit reliable scoring of answers to the open-ended comprehension questions, three advanced doctoral students in clinical and developmental psychology independently read the passages and generated several possible answers. From these answers, I created a grading rubric of key concepts required for participant answers to receive a passing score of “1” (see Appendix K for rubric). For example, the open-ended question, “What should parents do *instead of* jumping in to “rescue” children during a scary situation?”, required participants to refer to at least one
of the following two key concepts: (1) helping the child gain independence and/or coping skills, or (2) helping the child face his or her fears.

I and a second rater independently coded all participant responses to the two open-ended questions for both conditions. Interrater reliability as assessed by Cohen’s Kappa was .70 for psychoeducation condition question one, .65 for psychoeducation condition question two, .72 for control condition question one, and .82 for control condition question two. Disagreements were resolved through discussion.

I created separate total scores for participants’ first and second attempts at the six multiple-choice questions (questions that participants did not have to retake were assumed correct for second attempt scores). Lastly, I created a total comprehension score for each participant by summing scores for the six multiple-choice questions attempted first, the six multiple-choice questions attempted second (questions that participants did not have to retake were assumed correct at attempt 2), and the two open-ended questions. The highest possible score was 14.

2.3 Procedure

Study procedures were approved by the GSU Institutional Review Board. Participants were asked to spend approximately 30-45 minutes completing the questionnaires and audio paradigm, for which they were compensated $0.30. Informed consent was presented through Qualtrics, and study procedures included a waiver of documentation of consent. In order to redeem compensation through MTurk, participants were required to enter a code provided at the end of the experiment on Qualtrics into MTurk.

A link to the experiment, created in Qualtrics, was listed in a recruitment posting on Amazon’s MTurk website. After clicking on the Qualtrics experiment link attached to the recruit-
ment posting, potential participants were required to complete four screening questions to determine if they met criteria for eligibility to enroll in the study (see Appendix J for screening questions). Those who did not meet the requirements were excluded. Notably, the recruitment posting specified that participants must be the primary caregiver “of a child,” but the age of the child was left ambiguous. The screening question related to this criterion, however, required participants to indicate that they were primary caregivers to “at least one 6-11 year old child,” which is the targeted age range for this study. Though there is little evidence to suspect that participants recruited from MTurk would be deceptive about their demographic backgrounds (Mason & Suri, 2012), the screening question served as an integrity check of reported child age.

The recruitment message stated clearly that participants who did not exhibit sufficient effort in completing the tasks, defined as passing the majority of 14 attention-checking questions (ACQs) spaced throughout the surveys, would not be enrolled in the study or compensated. Per recommendations for increasing response quality on MTurk (e.g., Mason & Suri, 2012), the questions had objective, or verifiable, answers. For example, participants should select “strongly disagree” to the statement “I have been to Mars.” Respondents who missed more than half of these questions, due to insufficient attention or by completing the survey with an automated system, were excluded from participation.

Additionally, participant data were ‘flagged’ if reaction time during the audio paradigm was less than 54 seconds. Instructions for the paradigm specified that participants should stop the audio clip when they would “do what Jennifer is asking [her mother] to do.” Jennifer does not make a request or statement of need until approximately 54 seconds into the recording; audio prior to that point consists of casual conversation between Jennifer and her mother. Therefore, those who ended the paradigm, or ‘intervened,’ prior to 54 seconds (n = 85) were excluded from
analyses for either failing to follow or misinterpreting instructions. The remaining 310 participants were retained. See Figure 1 for flow chart of inclusion/exclusion steps and overall attrition.

Participants were randomly assigned to read psychoeducational information (psychoeducation condition, \(n=168\)) or information on a benign topic (control condition, \(n=142\)). All participants completed Aschenbrand and Kendall’s (2012) rescue behavior paradigm and self-report measures. The order of the paradigm (always immediately preceded by the intervention information and comprehension questions) and questionnaire completion was counterbalanced across participants to control for unintended priming effects. See Figure 2 for flow diagram of study procedures.
2313 individuals attempted the experiment through MTurk

Attrition: Individuals (n = 301) started the experiment without completing it

Exclusion point 1: Individuals (n = 1554) failed the screening survey

458 individuals completed the experiment and submitted data on MTurk for experimenter review

Exclusion point 2: Individuals (n = 63) failed half or more (≥7) of the attention-checking questions (ACQs) embedded throughout the experiment

395 participants were recruited and reimbursed for participation through MTurk

Exclusion point 3: Participants (n = 85) exited the audio paradigm before 54 seconds and were excluded from analyses

Final sample: 310 participants included in analyses with accurate audio paradigm data

Figure 1. Recruitment Flow Chart.
Psychoeducation condition
\((n = 168)\)

Control condition
\((n = 142)\)

Randomly ordered self-report measures
\- Demographics
\- PBA-Q
\- PABUA
\- PAAQ

\- STICSA (State & Trait)
\- SCARED
\- Vignette questionnaire

Experimental intervention excerpt
\(\text{(psychoeducation)}\)

Benign information excerpt
\(\text{(control)}\)

Comprehension Questions

Comprehension Questions

Rescue behavior audio paradigm

Figure 2. Flow Diagram of Study Procedures.
2.4 Data Preparation

Data from self-report questionnaires and latency data from the rescue behavior audio paradigm were collected through Qualtrics and downloaded to Microsoft Excel for monitoring. Upon recruitment completion, data were moved to SPSS, version 23, for storage and statistical analyses. Hypothesis testing was also conducted using MPlus, version 7.

Assumptions. Prior to conducting analyses, data were inspected for outliers, normality, and multicollinearity using the approaches described in Tabachnik and Fidell (2007) and Field (2009, 2013). To detect univariate outliers and assess sample distributions of study variables, I visually inspected histograms overlaid with normal curves, boxplots, and P-P plots. I calculated z-scores for all study variables and examined distributions, with the expectation that approximately 5% of standardized scores would exceed 1.96, 1% would exceed 2.58, and nearly zero (0.1%) would exceed 3.29 (Field, 2013). Outliers were defined as those standardized data points exceeding 3.29. The Approach scale of the PABUA had four data points exceeding this cutoff, the SCARED questionnaire had one extreme outlier, and the STICSA-State had four data points exceeding the cutoff. There was no undue influence on regression models from any outlier. Outliers were therefore included in all analyses.

To evaluate normality of predictor variables, I visually inspected graphs and converted skewness and kurtosis statistics to z-scores. Given the large sample size, I used a cutoff of \( z = 2.58 \) (\( p < .01 \)) to flag potentially nonnormal distributions. Table 2 presents the z-scores for flagged variables. Notably, while the Distress scale of the PABUA showed significant skew, visual inspection of the data indicate that it was mild and positive, which parametric testing is likely robust enough to account for. Importantly, distributions of the outcome variable (latency score in
the audio paradigm) also appeared skewed and kurtotic. Distribution of latency in the psychoeducation condition was negatively kurtotic \((z = -4.02)\); in the control condition, the distribution was both positively skewed \((z = 3.80)\) and negatively kurtotic \((z = -2.38)\). Means and standard deviations for study variables are presented in Table 3.

<table>
<thead>
<tr>
<th>Table 2. Significant Skewness and Kurtosis z-scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skew</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>PABUA-Approach</td>
</tr>
<tr>
<td>PABUA-Distress</td>
</tr>
<tr>
<td>SCARED</td>
</tr>
<tr>
<td>STICSA-State</td>
</tr>
<tr>
<td>STICSA-Trait</td>
</tr>
<tr>
<td>Attentiveness</td>
</tr>
<tr>
<td>Comprehension</td>
</tr>
</tbody>
</table>

Note: PABUA = Parent Attitudes, Beliefs, and Understanding of Anxiety; SCARED = Screen for Child Anxiety Related Emotional Disorders; STICSA = State-Trait Inventory for Cognitive and Somatic Anxiety

<p>| Table 3. Means and Standard Deviations of Study Variables |
|------------------|----------|</p>
<table>
<thead>
<tr>
<th></th>
<th>(M)</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBA-Q</td>
<td>43.25</td>
<td>7.66</td>
</tr>
<tr>
<td>PABUA-Overprotection</td>
<td>29.69</td>
<td>8.14</td>
</tr>
<tr>
<td>PABUA-Distress</td>
<td>13.45</td>
<td>4.33</td>
</tr>
<tr>
<td>PABUA-Approach</td>
<td>17.00</td>
<td>2.45</td>
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<tr>
<td>PAAQ</td>
<td>54.10</td>
<td>9.96</td>
</tr>
<tr>
<td>Unwilling-PAAQ</td>
<td>26.65</td>
<td>6.09</td>
</tr>
<tr>
<td>Inaction-PAAQ</td>
<td>27.45</td>
<td>6.95</td>
</tr>
<tr>
<td>SCARED</td>
<td>59.85</td>
<td>13.47</td>
</tr>
<tr>
<td>STICSA-State</td>
<td>30.72</td>
<td>10.19</td>
</tr>
<tr>
<td>STICSA-Trait</td>
<td>30.72</td>
<td>10.20</td>
</tr>
<tr>
<td>Latency Score</td>
<td>204.69</td>
<td>111.30</td>
</tr>
</tbody>
</table>

Note: PBA-Q = Parent Beliefs about Anxiety Questionnaire; PABUA = Parent Attitudes, Beliefs, and Understanding of Anxiety; PAAQ = Parental Acceptance and Action Questionnaire; SCARED = Screen for Child Anxiety Related Emotional Disorders; STICSA = State-Trait Inventory for Cognitive and Somatic Anxiety.
To preliminarily assess for multicollinearity and singularity, I computed correlations among all study variables (see Table 4). Although most variables were correlated significantly, correlation magnitude did not indicate collinearity. The exception was the PAAQ total score, which was significantly correlated with its two subscales, Unwillingness and Inaction, above a .70 threshold \( p = .73 \) and \( p = .80 \), respectively. The Unwillingness and Inaction subscales, too, were significantly correlated, though the size of the correlation is small, \( p = .16, \ p < .01 \). Given that the PAAQ total score was singular with its subscales and therefore contained redundant information, only the subscales and not the total score were used in Hypothesis 2 analyses.

Additionally, I evaluated correlations between each of several potential covariates (socio-demographics, comprehension, attentiveness, STICSA-State, STICSA-trait, SCARED) and latency scores. Given that Aim 1 analyses focused only on the control condition, whereas Aim 2 analyses focused on both intervention conditions, I examined correlations with latency scores separately by condition. Total comprehension scores, but not attention scores, were positively correlated with latency collapsed across conditions, \( r(308) = .15, \ p < .01 \). Comprehension scores were also correlated with latency scores for participants in the psychoeducation condition, \( r(166) = .25, \ p < .01 \), but not the control condition, \( r(166) = -.02, \ p > .05 \). Comprehension scores were therefore included as covariates in regression analyses that included both psychoeducation and control conditions. Additionally, parent gender was positively associated with latency scores for participants in the psychoeducation condition only, \( t(166) = -2.05, \ p < .05 \). Parent gender was therefore included as a covariate in regression analyses that include both psychoeducation and control conditions.
Table 4. Correlation Matrix of All Study Variables.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tr>
<td>1</td>
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<td>1.56**</td>
<td>0.33**</td>
<td>0.06</td>
<td>0.52**</td>
<td>0.24**</td>
<td>0.27**</td>
<td>0.34**</td>
<td>0.37**</td>
<td>-0.08</td>
<td>-0.04</td>
<td>-0.14*</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Overprotect-PABUA</td>
<td>1.27*</td>
<td>-0.06</td>
<td>0.43**</td>
<td>0.55**</td>
<td>0.13*</td>
<td>0.25**</td>
<td>0.26**</td>
<td>0.19**</td>
<td>0.10</td>
<td>-0.19**</td>
<td>-0.27**</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Distress-PABUA</td>
<td>0.05</td>
<td>0.45**</td>
<td>0.18**</td>
<td>0.48**</td>
<td>0.36**</td>
<td>0.22**</td>
<td>0.33**</td>
<td>0.11*</td>
<td>0.13*</td>
<td>0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Approach-PABUA</td>
<td>-0.20**</td>
<td>-0.05</td>
<td>-0.25**</td>
<td>-0.01</td>
<td>-0.04</td>
<td>0.04</td>
<td>-0.35**</td>
<td>0.30**</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>PAAQ</td>
<td>1.73**</td>
<td>0.80**</td>
<td>0.41**</td>
<td>0.36**</td>
<td>0.43**</td>
<td>0.14*</td>
<td>-0.11</td>
<td>-0.11</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Unwilling-PAAQ</td>
<td>0.16**</td>
<td>0.34**</td>
<td>0.27**</td>
<td>0.27**</td>
<td>0.01</td>
<td>-0.13*</td>
<td>-0.18**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Inaction-PAAQ</td>
<td>0.29**</td>
<td>0.28**</td>
<td>0.38**</td>
<td>0.20**</td>
<td>-0.04</td>
<td>0.00</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>SCARED</td>
<td>1.34**</td>
<td>0.46**</td>
<td>-0.01</td>
<td>-0.03</td>
<td>-0.08</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>9</td>
<td>STICSA-State</td>
<td>0.71**</td>
<td>0.04</td>
<td>-0.06</td>
<td>-0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>STICSA-Trait</td>
<td>1.09</td>
<td>0.13*</td>
<td>-0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Inattention</td>
<td>1.29**</td>
<td>0.02</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Comprehension</td>
<td>1.15**</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note: PBA-Q = Parent Beliefs about Anxiety Questionnaire; PABUA = Parent Attitudes, Beliefs, and Understanding of Anxiety; PAAQ = Parental Acceptance and Action Questionnaire; SCARED = Screen for Child Anxiety Related Emotional Disorders; STICSA = State-Trait Inventory for Cognitive and Somatic Anxiety. * = Correlation is significant at the .05 level; ** = Correlation is significant at the .01 level. Higher Inattention scores indicate more attention-checking questions missed. Higher Comprehension scores indicate more questions answered correctly.
2.5 Preliminary Analyses

To evaluate differences between experimental conditions, I conducted independent samples t-tests for continuous variables that reflected child (age, SCARED) and parent characteristics (age, STICSA-State, STICSA-Trait, PBA-Q, PABUA subscales). I applied Bonferroni adjusted alpha levels of 0.005 (0.5/9). Scores on the Overprotection scale of the PABUA differed significantly between conditions, \( t(308) = -3.03, p < .005 \), such that participants in the control condition reported more overprotective beliefs (\( M = 31.20, SD = 8.38 \)) than those in the psychoeducation condition (\( M = 28.42, SD = 7.73 \)).

I conducted chi-square tests of independence between conditions for nominal variables, including parent characteristics (gender, race/ethnicity, income, education, relationship status), child characteristics (gender), and parent-reported experiences with therapy (for self or for one’s child) and psychotropic medication. I probed a significant overall association between condition and parent race, \( \chi^2(1) = 11.63, p < .05 \), using Bonferroni adjusted alpha levels of 0.004 (.05/12). Post-hoc analysis indicated no significant associations between condition and any identified race. I similarly probed a significant overall association between condition and child’s involvement in past therapy (“yes,” “no,” “prefer not to respond”), \( \chi^2(1) = 6.05, p < .05 \), using Bonferroni adjusted alpha levels of 0.008 (.05/6). Post-hoc analyses indicated no significant associations between condition and each response option regarding child’s involvement in past therapy. No other associations between socio-demographic characteristics and condition were found.

Attention scores. Attention-checking questions (ACQs) served as a tool for prescreening and excluding MTurk workers who exhibited insufficient attention (i.e., those who missed more than half of questions). For included participants, ACQ scores also served as a measure of attentiveness. I calculated a total ACQ inaccuracy score, with higher scores indicating more questions
missed. The highest possible score was 6, given that potential participants scoring 7 or higher were excluded from participation. Results of an independent samples \( t \)-test indicated that attentiveness did not differ between conditions, \( t(308) = -0.49, p > .05 \)

**Comprehension scores.** To evaluate whether question difficulty differed across conditions, I computed independent samples \( t \)-tests comparing multiple-choice comprehension scores (both first and second attempts) between conditions. Results indicated that participants in the psychoeducation condition exhibited significantly higher comprehension accuracy than those in the control condition. See Table 5 for \( t \)-test results.

<p>| Table 5. ( t )-test of Multi-Choice Question Accuracy between Conditions |
|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th></th>
<th>Psychoeducation</th>
<th>Control</th>
<th>( t )-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( N )</td>
<td>( M )</td>
<td>( SD )</td>
</tr>
<tr>
<td>1st Attempt Total Score</td>
<td>168</td>
<td>5.23</td>
<td>1.14</td>
</tr>
<tr>
<td>2nd Attempt Total Score</td>
<td>168</td>
<td>5.83</td>
<td>.51</td>
</tr>
</tbody>
</table>

*Note.** ** = Significant at the .01 level.

Group differences were also evident for open-ended question accuracy. In the psychoeducation condition, 95.83% of participants accurately answered question one and 93.45% accurately answered question two. In contrast, 55% of participants in the control condition accurately answered question one and 72% accurately answered question two. I collapsed answers to questions one and two across conditions and conducted a chi-square test of independence to further explore the relationship between condition (psychoeducation, control) and accuracy of both questions (1, 0). Condition was significantly associated with accuracy for both open-ended question one, \( \chi^2(1) = 71.14, p < .001 \), and open-ended question two, \( \chi^2(1) = 24.89, p < .001 \). Specifically, participants in the psychoeducation condition were more likely to answer both questions correctly than were participants in the control condition.
Further, I conducted chi-square tests of independence to explore associations between participants’ accuracy on open-ended questions and their accuracy on corresponding multiple-choice questions. As expected, significant relationships were observed between each open-ended question and its corresponding multiple-choice question, such that participants who answered an open-ended question correctly also tended to answer the corresponding multiple-choice question correctly. See Table 6 for chi-square results.

**Table 6. Chi-square test of Independence between Multi-Choice and Open-Ended Questions**

<table>
<thead>
<tr>
<th>Corresponding Multiple Choice</th>
<th>N</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychoeducation Condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open-ended question 1</td>
<td>168</td>
<td>5.06*</td>
</tr>
<tr>
<td>Open-ended question 2</td>
<td>168</td>
<td>7.30*</td>
</tr>
<tr>
<td>Control Condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open-ended question 1</td>
<td>142</td>
<td>7.06*</td>
</tr>
<tr>
<td>Open-ended question 2</td>
<td>142</td>
<td>10.83*</td>
</tr>
</tbody>
</table>

Note. *=Correlation is significant at the .05 level

An independent samples $t$-test of total comprehension scores computed across conditions indicates that average accuracy was higher for participants in the psychoeducation condition than for those in the control condition, $t(230.80) = 6.39, p < .001$.

**Concurrent validity.** Scores on the vignette self-report questionnaire were significantly and positively correlated with reaction time scores on the audio paradigm, $r(308) = .29, p < .01$. Note that higher scores on the vignette measures indicate less accommodation or more insistence on brave behavior. Additionally, results of an independent samples $t$-test indicated that scores did not differ between counterbalanced versions of the vignettes, $t(308) = -.64, p > .05$, suggesting that order of the children’s distress reactions depicted in the two vignettes versions did not affect scores.
3 RESULTS

Simple and multivariate regression analyses were conducted to test (1) the association between parent beliefs and parents’ latency to rescue during the audio paradigm, (2a) psychoeducation’s influence on latency to rescue, and (2b) a potential interaction between psychoeducation and parental experiential avoidance in predicting parents’ latency to rescue.

Checks of regression assumptions in each model confirmed independence of errors (Durbin-Watson statistics ranged from 1.93-2.16), linearity, and homoscedasticity. However, plotted residuals of each model were not normally distributed. Visual inspection of plotted standardized residuals against standardized predicted values indicated a bimodal distribution of latency scores with a few cases falling between the two modes. Such a distribution is a unique violation of the assumption of normality and is not responsive to typical transformation procedures.

To address non-normality of the data, I analyzed the data with robust methods (Field, 2009, 2013; Kennedy & Schumacher, 1993); specifically, I used a bootstrapping technique with 1,000 re-samples in MPlus. Regression coefficients, standard errors, bias corrected confidence intervals, and model statistics are presented with bootstrapping.

3.1 Hypothesis 1

Parent beliefs were hypothesized to predict latency to intervene, such that parents’ negative beliefs about anxiety would predict shorter latency to intervene in the audio paradigm.

Only participants in the control condition (n = 142) were included in tests of hypothesis 1. Given that socio-demographics, parent anxiety, and child anxiety were not significantly correlated with the outcome variable (latency scores) in the control condition, no covariates were included in the model. The PBA-Q total score served as the only predictor in the simple regression. The standardized estimate was -.17 (SE = .08), and the 95% bias corrected confidence intervals
ranged from -.33 to -.03. Thus, the main effect was statistically significant and PBA-Q accounted for 3% of the variance in latency scores, $R^2 = .03, p < .05$.

I conducted a second multiple regression to explore effects of separate PABUA scales (Overprotection, Distress, Approach) on latency scores in the control condition. Given that I applied bootstrapping procedures, transformations of skewed variables (PABUA-Distress, PABUA-Approach) were unnecessary. Regression results with 1,000 bootstrapped samples and bias corrected confidence intervals are presented in Table 7. The overall model was not significant, $R^2 = .04, p > .05$.

<table>
<thead>
<tr>
<th>Standardized Estimate</th>
<th>SE</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>PABUA-Overprotection</td>
<td>-.20*</td>
<td>.10</td>
</tr>
<tr>
<td>PABUA-Distress</td>
<td>-.01</td>
<td>.09</td>
</tr>
<tr>
<td>PABUA-Approach</td>
<td>-.03</td>
<td>.09</td>
</tr>
</tbody>
</table>

Note. PABUA = Parent Attitudes, Beliefs, and Understanding of Anxiety. *=Significant at the .05 level

The adequacy of using bootstrap techniques for a bimodal distribution is not well known; therefore, I also conducted logistic regressions to test each hypothesis. This method is not preferred, given the risks of inflated Type II error, variability loss, and reduced power associated with dichotomization of continuous variables; however, the process is perhaps less disparaged when the continuous variable is highly skewed (Streiner, 2002). I used a latency score cutoff of 338 seconds, which is the time that the audio paradigm ends. Not only did this provide a statistically appropriate cutoff between the two modes, but it divided participants into conceptually appropriate groups of ‘those who intervened’ ($n = 230$) and ‘those who waited the entire duration’ ($n = 80$).

For hypothesis 1, only participants in the control condition were included (‘intervened’ group, $n = 114$; ‘waited’ group, $n = 28$). The PBA-Q served as the only predictor and did not significantly distinguish between ‘intervened’ and ‘waited’ latency groups, $\chi^2(1) = 3.38, p = .06$, where Nagelkerke’s $R^2 = .04$. Note, however, that the both the model and PBA-Q predictor, $B = -.05, SE = 1.25, p = .07$, trended in the expected directions. Similarly, the PABUA-Overprotection subscale trended as a significant predictor of latency group, $\chi^2(1) = 3.79, p = .05$, Nagelkerke’s $R^2 = .04, B = -.05, SE = .03, p = .06$. The model was not significant when the Distress and Approach subscales were included, $\chi^2(1) = .02, p > .05$. 

1 The adequacy of using bootstrap techniques for a bimodal distribution is not well known; therefore, I also conducted logistic regressions to test each hypothesis. This method is not preferred, given the risks of inflated Type II error, variability loss, and reduced power associated with dichotomization of continuous variables; however, the process is perhaps less disparaged when the continuous variable is highly skewed (Streiner, 2002). I used a latency score cutoff of 338 seconds, which is the time that the audio paradigm ends. Not only did this provide a statistically appropriate cutoff between the two modes, but it divided participants into conceptually appropriate groups of ‘those who intervened’ ($n = 230$) and ‘those who waited the entire duration’ ($n = 80$).
3.2 Hypothesis 2a

Hypothesis 2: Experimental condition was expected to predict latency to intervene, such that parents in the psychoeducation condition would be slower to intervene in the paradigm than would parents in the control condition.

All participants were included in tests of hypothesis 2. Parent gender and comprehension scores served as covariates, with condition (psychoeducation = 0, control = 1) as the predictor. Regression results with 1,000 bootstrapped samples and bias corrected confidence intervals are presented in Table 8. The model accounted for 5% of the variance in latency scores, $R^2 = .05, p < .01$. Only condition was a significant predictor in the model: participants in the psychoeducation condition were slower to respond during the audio paradigm than were participants in the control condition.

<p>| Table 8. Multivariate Regression: Intervention Condition Predicting Latency Scores |
|---------------------------------------------|-------------|-------------|</p>
<table>
<thead>
<tr>
<th>Standardized Estimate</th>
<th>SE</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Gender</td>
<td>.03</td>
<td>.06</td>
</tr>
<tr>
<td>Comprehension</td>
<td>.09</td>
<td>.06</td>
</tr>
<tr>
<td>Condition</td>
<td>-.16**</td>
<td>.06</td>
</tr>
</tbody>
</table>

$R^2$ = .05**

Note. **= Significant at the .01 level

3.3 Hypothesis 2b

Intervention condition was hypothesized to interact with parental experiential avoidance, specifically parents’ unwillingness to witness children’s discomfort, to predict latency to intervene. Parents in the psychoeducation condition who reported unwillingness to witness discomfort were expected to be slower to intervene than those with high unwillingness in the control.

2 All participants were included in the hypothesis 2a logistic regression (‘intervened’ group, $n = 114$; ‘waited’ group, $n = 28$). Covariates included parent gender and comprehension scores and condition served as the only predictor. The overall model did not distinguish between latency groups, $\chi^2(4) = 6.70, p > .05$; however, the addition of the condition to the model improved model fit at the trend level, $\chi^2(1) = 3.18, p = .08$. 
condition. Differences in speed were expected to be similar, but weaker among parents who reported more willingness to experience discomfort.

All participants were included in tests of hypothesis 2b. Parent gender and comprehension scores served as covariates, with condition (psychoeducation = 0, control = 1), PAAQ-Unwillingness, and the interaction term as the predictors. I centered the PAAQ-Unwillingness variable prior to creating the interaction term. Regression results with 1,000 bootstrapped samples and bias corrected confidence intervals are presented in Table 9. The model accounted for 7% of the variance in latency scores, $R^2 = .07, p < .01$. Only condition was a significant predictor in the model. Participants in the psychoeducation condition were slower to respond during the audio paradigm than were participants in the control condition. Though the interaction term was not a significant predictor, PAAQ-Unwillingness predicted latency scores at a trend level ($p = .06$) with less experiential avoidance (greater willingness to tolerate children’s discomfort) predicting longer latency to respond.

<table>
<thead>
<tr>
<th>Table 9. Multivariate Regression: Condition as Moderator of PAAQ Unwillingness subscale Predicting Latency Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Parent Gender</td>
</tr>
<tr>
<td>Comprehension</td>
</tr>
<tr>
<td>Condition</td>
</tr>
<tr>
<td>PAAQ-Unwillingness</td>
</tr>
<tr>
<td>PAAQ-Unwillingness X Condition</td>
</tr>
</tbody>
</table>

$R^2 = .07**$

Note. PAAQ = Parental Acceptance and Action Questionnaire. * = Significant at the .05 level, ** = significant at the .01 level

I conducted a second multivariate regression to explore a potential interaction between intervention condition and PAAQ-Inaction to predict latency scores. Parent gender and compre-
hension scores again served as covariates. I centered the PAAQ-Inaction variable prior to creating the interaction term. Regression results with 1,000 bootstrapped samples and bias corrected confidence intervals are presented in Table 10. The model accounted for 5% of the variance in latency scores, $R^2 = .05$, $p < .05$. Only condition was a significant predictor, such that participants in the psychoeducation condition were slower to respond during the audio paradigm than were participants in the control condition.

Table 10. Multivariate Regression: Condition as Moderator of PAAQ Inaction subscale Predicting Latency Scores

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Standardized Estimate</th>
<th>SE</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Gender</td>
<td>.04</td>
<td>.06</td>
<td>-.08, .14</td>
</tr>
<tr>
<td>Comprehension</td>
<td>.09</td>
<td>.06</td>
<td>-.03, .21</td>
</tr>
<tr>
<td>Condition</td>
<td>-.16**</td>
<td>.06</td>
<td>-.29, -.06</td>
</tr>
<tr>
<td>PAAQ-Inaction</td>
<td>-.08</td>
<td>.18</td>
<td>-.42, .29</td>
</tr>
<tr>
<td>PAAQ-Inaction X Condition</td>
<td>.08</td>
<td>.18</td>
<td>-.28, .42</td>
</tr>
</tbody>
</table>

$R^2 = .05^*$

Note. PAAQ = Parental Acceptance and Action Questionnaire. *=Significant at the .05 level.

4 CONCLUSIONS

The aims of the present study were twofold. First, I examined parental beliefs as a potential predictor of the parental rescue response. Parental beliefs were evaluated as both a unitary construct and, in exploratory analyses, as three related constructs: parental beliefs about protecting one’s child from anxiety, parents’ perceived coping ability in the face of child distress, and
parental beliefs about encouraging child independence and approach behaviors. Second, I investigated (a) the effects that a brief psychoeducation intervention may have had on the parental rescue response and (b) whether the intervention interacted with parental experiential avoidance to predict the rescue response.

4.1 Aim 1: Parental Beliefs and Responses to Anxiety

The hypothesis that parents’ negative parental beliefs about child anxiety would relate negatively to latency to intervene during the rescue behavior audio paradigm was supported when beliefs were assessed as a unitary construct. This finding is in line with recent work by Settipani and Kendall (2015), although the present study differs in several important ways. First, Settipani and Kendall (2015) used a sample composed exclusively of mothers. Recruitment for the present study targeted “primary caregivers,” which resulted in a mixed-gender parent sample that is uncommon in child-focused research. As Bögels and Brechman-Toussaint (2006) point out, the scarcity of fathers in parental belief research is concerning because it raises questions about generalizability of findings. Certainly, participants in the present study were not perfectly distributed by gender (72.3% were mothers). However, inclusion of even a small subset of fathers allowed for analyses of potential gender differences in rescue behavior that warrant further examination. Specifically, in the psychoeducation condition, mothers tended to delay their rescue longer than the fathers. Given that parent gender did not differ between conditions, it is possible that mothers’ behavior was more immediately amendable to psychoeducation than was fathers’ behavior. Continued research in this area using mixed-gender samples may help clarify differences, if they exist, between mothers and fathers in their responses to child anxiety as well as psychoeducation’s potential differential effectiveness between mothers and fathers.
A second key difference between the present research and Settipani and Kendall’s (2015) study was that it did not include parents selected because their children had anxiety disorders. Much of the research on parental responses to anxiety, such as family accommodation, focuses exclusively on clinical populations. Indeed, it makes sense that parents would be more likely to respond over-protectively if their child exhibits frequent, intense anxiety symptoms. Lebowitz, Scharfstein, and Jones (2014) conducted one of the few studies comparing family accommodation levels between clinical (OCD, anxiety disorders) and nonanxious groups. The authors found significantly more accommodation behaviors in clinical groups than in the nonanxious group. Notably, 23% of mothers of nonanxious children also reported daily participation in anxiety symptoms (Lebowitz et al., 2014), indicating that accommodation and related behaviors occur in the general population as well.

The online community sample of parents in the present study showed comparable rescue response levels to those that Aschenbrand and Kendall (2012) found in parents of nonanxious children. Further, the rescue response in the present sample was significantly associated with maladaptive parent cognitions. This finding is in line with evidence that parents who perceive their children as anxious versus nonanxious, regardless of whether those children have clinical diagnoses, endorse negative cognitions and expectations (e.g., Barrett, Rapee, Dadds, & Ryan, 1996; Micco & Ehrenreich, 2008; Shortt, Barrett, Dadds, & Fox, 2001; Wheatcroft & Creswell, 2007). Additionally, the present study extends work by Mills and Rubin (1990), who demonstrated associations between parenting behavior and parents’ attributions about their children in a community sample.

It is striking that neither parent beliefs nor behavior correlated with child anxiety in the present sample. One possibility that this observation raises is that parents’ beliefs about anxiety
are indeed predictors of their tendency to “rescue” children from distress, but that this relationship does not exclusively exist among parents of highly anxious children. While evidence of a bidirectional relationship between parental behaviors and child anxiety has emerged (Bayer, Sanson, & Hemphill, 2006; Borelli, Margolin, & Rasmussen, 2015; Edwards, Rapee, & Kennedy, 2010; Rapee, 2009; Rubin, Burgess, & Hastings, 2002; Rubin, Nelson, Hastings, & Asendorf, 1999), previous work has not considered sequences according to which negative parent beliefs, behavior, and child anxiety might develop. The cross-sectional design of the present study precludes inferences about such sequencing, or the causality that it would imply; however, it will be fruitful for future longitudinal studies to consider successive or perhaps cyclical development of parent factors and child anxiety.

Unlike Settipani and Kendall’s (2015) study, the present study examined parental response behavior using an experimental paradigm rather than relying on informant reports. In their reviews, Bögels and Brechman-Toussaint (2006) and Wood et al. (2003) commented on the pervasive use of self- and other-report methodology to assess parenting behavior and encouraged use of observational methodology that is less vulnerable to bias. Findings in the present study that responses capturing parenting behavior during the experimental paradigm correlated significantly with responses on a self-report vignette questionnaire constitute an important contribution to this emerging literature on parenting beliefs and behavior. While objective assessment of a precisely defined parent behavior is a study strength, the audio paradigm does not equate to an observational design, which would increase construct validity outside of experimental settings. The present study does, however, provide foundational support for continued research using in vivo demonstrations of parenting rescue behavior.
Parental beliefs were also assessed in exploratory analyses as a multifaceted construct using the PABUA, which includes two negative belief scales (Overprotection, Distress) and one positive scale (Approach). It was expected that each scale would independently predict latency to intervene during the audio paradigm, such that counterproductive beliefs about overprotection (Overprotection) and poor parental coping when their child is distressed (Distress) would relate negatively to latency to intervene during the audio paradigm. Similarly, it was expected that parental beliefs in favor of approach and autonomous behavior (Approach) would positively relate to latency to intervene. These hypotheses were not supported, which is surprising given the significant association found between parental beliefs measured as a unitary construct and latency to rescue. Inconsistency in findings between unitary and componential measures of parent beliefs may be explained, at least in part, by sample or measurement limitations in the present work. For example, it is possible that the range of parental distress coping and overprotective beliefs was restricted in this community sample; results might have been different in a sample of parents exposed frequently to the intense distress that clinically anxious children experience. Additionally, the Approach scale demonstrated low reliability in this and the original psychometric analysis (Wolk et al., 2016). As the scale consists of only four items, future work might focus on extending the scale in an effort to increase its stability.

Previous research on psychometric properties of the PABUA scales also indicated that although the Overprotection and Approach scales were weakly and moderately correlated with the PBA-Q total score in a clinical population, no significant association was evident between the Distress scale and the PBA-Q. In the present study, the Overprotection scale was moderately correlated with the PBA-Q. However, the Approach scale did not relate to the PBA-Q, and the Distress scale was moderately correlated. These results suggest that the PBA-Q overlaps most
closely with the parental overprotection construct, in both clinical and nonclinical samples, and converges less with beliefs about encouraging child autonomy (Approach) or ability to cope with distress (Distress) across clinical and nonclinical samples.

4.2 Aim 2: Psychoeducation and Parent Responses to Child Anxiety

The primary hypothesis under Aim 2—that psychoeducation would influence parents’ rescue response during the audio paradigm—was supported. Specifically, participants who received a brief psychoeducation intervention prior to the audio paradigm were slower to intervene than were participants in the control condition. Several studies have found parent psychoeducation to be associated with enhanced outcomes in children with anxiety disorders (Rapee, Abbott, & Lyneham, 2006) and behavioral problems (Connell, Sanders, & Markie-Dadds, 1997; Hudson et al., 2003). Limited work to date, however, has examined the impact of psychoeducational interventions on parent behavior.

It is particularly notable that a simple, single-dose intervention impacted parent behavior significantly in the present study. The psychoeducation interventions in other studies have comprised comprehensive bibliotherapy programs, in which parents were provided with published materials, corresponding child workbooks, and, for some, therapist support via telephone. Research on stand-alone psychoeducation is scant; indeed, the present study appears to be the first to examine its efficacy, despite its ubiquitous use in practice. Findings suggest that psychoeducation is one of many key ingredients in family-based cognitive-behavioral treatment and should be investigated in isolation in future dismantling studies.

The hypothesis that psychoeducation’s impact on parents’ latency to intervene would differ between those reporting varying degrees of parental experiential avoidance was not supported
for either subscale (Unwillingness and Inaction) of the experiential avoidance measure. However, there was a nonsignificant trend for parental unwillingness to come in contact with child anxiety to predict shorter latency to intervene during the audio paradigm. This pattern of results runs counter to assumptions that parental unwillingness would be more amenable to psychoeducation than would longstanding beliefs. It may be that boosting parents’ readiness to tolerate child distress is related to psychoeducation’s influence on behavior, but is not a primary mechanism of change. Future work using pre- and post-measurement of parental unwillingness after a single-dose psychoeducation intervention would help clarify whether and how unwillingness contributes to parental behavior change.

Parents’ reported inability to manage their responses to their child’s emotion was also found to be unrelated to parents’ latency to intervene. Both this PAAQ-Inaction subscale and the PABUA-Distress scale tap parents’ own coping deficits, and neither were found related to parent behavior in the present study. It is possible that coping deficits assessed in the current sample were not as salient as those among parents of anxious children and therefore did not relate significantly to parents’ behavior. Alternatively, the suboptimal internal consistency of the PAAQ-Inaction, as well as the PAAQ-Unwillingness subscale, could have limited ability to detect interaction effects.

### 4.3 Limitations and Future Directions

Though the present study made unique contributions to an emerging literature using more objective, specific assessment of parental behavior than much of the available research, it has limitations. First, participants in the psychoeducation and control conditions differed in several ways. For example, mothers and fathers differed on the dependent variable, latency to rescue, but only for participants in the psychoeducation condition. Additionally, total comprehension scores
were higher for participants in the psychoeducation condition than were those for control condition participants.

There are several potential reasons for group differences in comprehension score. Average reading comprehension skill may have genuinely differed between groups in this sample, despite participants being randomly assigned to conditions. Alternatively, comprehension question difficulty may have differed between conditions, even though they were all designed to have an 8th grade level of complexity and piloting did not reveal clear differences between accuracy rates across conditions. Lastly, the materials in the psychoeducation condition may have been more engaging than those in the control condition, thus leading to higher comprehension scores. The psychoeducation excerpt included advice on parenting strategies to use during anxiety-provoking, ‘face your fears’ situations that many parents have likely experienced with their children at some level. Although the excerpt used for the control condition related to children, it did not include information on parenting strategies and perhaps failed to pique parents’ interest. It will be important for future studies of stand-alone psychoeducation to consider using control materials that are of equivalent relevance and interest to the intervention materials.

The use of single-item assessment of a dependent variable, latency to respond, carries risks of poor reliability and potential measurement error. A separate measure of parental response behavior, the self-report vignette questionnaire, was therefore included to evaluate validity of the audio paradigm. Findings that the audio paradigm correlated positively with the vignette questionnaire increases confidence in the paradigm’s construct validity. However, it is difficult to generalize behavior in the audio paradigm to parents’ actual, in vivo responses to their child, which would require comprehensive observational assessment. Future use of the paradigm
in repeated measures designs or in combination with observational assessment would further support its reliability and accuracy in measuring true parent behavior.

Further, the design of the audio paradigm includes weaknesses that may have affected parents’ responses and interpretability of results. For example, the audio clip depicts a mother and daughter in dialogue, which may have distracted participants from imagining themselves in the scenario. Participants may have focused on critiquing or disagreeing with the mothers’ reactions and strategy choices rather than picturing how they would handle the situation. Perhaps an audio clip in which a child expresses distress alone (e.g., a mounting tantrum) would remove such confounds and lend itself better to participant visualization. Additionally, training parents to endure or tolerate their child’s anxiety as long as they can would never be a treatment goal, as this could inadvertently serve to reinforce the child’s escalating escape behaviors. The audio paradigm, which assesses only when participants choose to intervene during the situation, is therefore an imperfect gauge of parents’ mastery of effective skills, such as active ignoring, or of their understanding of behavior reinforcement.

Another concern regarding the audio paradigm is a lack of clarity about the level of distress it induced in parents. Hypothesis 2b referred to parents’ unwillingness to come in contact with child anxiety. The hypothesis that parental experiential avoidance would interact with psychoeducation to predict latency to intervene carried the assumption that the audio paradigm would invoke distress among parents. No assessments of pre- or post-paradigm distress were gathered in the present study, so it is unclear whether latency score acted as a proxy of distress. Notably, there was a nonsignificant trend for higher parental experiential avoidance to predict shorter latency to intervene, regardless of condition, suggesting that the paradigm did increase
participant distress. Additionally, Aschenbrand and Kendall (2012) included assessment of positive and negative affect and found that parents of anxious children experienced increased negative and decreased positive affect following the paradigm. However, no such differences were found among parents of nonanxious children (Aschenbrand & Kendall, 2012). Future study of parental distress and avoidance related to the audio paradigm is indeed warranted, but should include pre- and post-paradigm distress assessment.

Additionally, the audio paradigm is limited in applicability to fathers and sons. Aschenbrand and Kendall (2012), too, acknowledged that it was impossible to gender-match the current paradigm to parent and child characteristics. It will be valuable to develop a second audio paradigm with male actors, which would allow for comparisons between parent genders in their rescue responses as well as differences when listening to a male versus female child’s distress.

Notably, the distribution of response times captured with the audio paradigm was unexpectedly bimodal. The distribution suggests that most participants intervened during the audio clip (representing one, generally normally-distributed mode), but a subset waited for the audio clip to finish entirely before responding. While this distribution makes some intuitive sense, it presented challenges for parametric analyses. Regression analyses were conducted with bootstrapping, a robust method to be used when assumptions of normality are not met. Though the adequacy of using bootstrapping procedures for bimodal distributions is not well known in social science research, evidence from economic and industrial engineering literatures suggests that bootstrapping can improve parameter estimates (Bookbinder & Lordahl, 1989) and forecasted prediction intervals (Lam & Veall, 2002) for symmetrically non-normal data, such as bimodality. An alternative to bootstrapping was to dichotomize the continuous dependent variable and con-
duct logistic regressions. Dichotomization is an imperfect solution as it can inflate error and decrease power to detect potential effects (Streiner, 2002). However, there appeared to be an acceptable division point between the two modes in the present sample, and exploratory logistic regressions were conducted.

Interestingly, results of these analyses aligned closely with results using bootstrapping procedures; some findings that were significant in bootstrapped analyses, however, only approached significance in logistic regression analyses, which is likely due to loss of variability and power. Replications of this study, or future research using similar audio paradigms, should closely evaluate response distributions to see if similar patterns emerge. Such a pattern may relate to characteristics of the audio clip itself or perhaps it illustrates a categorical difference between ‘those who intervene’ and ‘those who wait’ when a child is showing distress during an anxiety-provoking situation.

Lastly, the approach to recruitment and assessment in the present study may have limited generalizability of findings. Participants in the current study were recruited through an increasingly popular online crowdsourcing platform for social science research, Amazon’s Mechanical Turk. However, internet-users differ from non-internet users, and MTurk workers have been documented to be younger (mean of 33) and more educated, and to report lower income than the general population (Paolacci, Chandler, & Ipeirotis, 2010). Though MTurk workers are estimated to be better representative of the general population than are typical university subject pools (Paolacci & Chandler, 2015; Paolacci, Chandler, & Ipeirotis, 2010), replication of study results in other populations and settings will be important.

Notably, MTurk workers in the present study endorsed more negative beliefs about anxiety (PBA-Q) and more perceived child anxiety (SCARED) than would be expected in the general
population. For example, Settipani and Kendall (2015) reported a mean of 25.92 among mothers of clinically anxious children; participants in the present study endorsed PBA-Q scores with a mean of 43.25. Additionally, the clinical cutoff for the SCARED parent version is 30, and current participants endorsed a mean SCARED score of 59.85. Parent state and trait anxiety (STICSA), experiential avoidance (PAAQ), and average latency scores were comparable to scores presented in previous research using nonclinical samples (Aschenbrand & Kendall, 2012; Cheron et al., 2009; Grös, et al., 2007). These results are surprising and contrary to expectations in the MTurk population. Specifically, Shapiro, Chandler, and Mueller (2013) found that MTurk participants endorsed seven times more clinically significant social anxiety symptoms than would be estimated given yearly prevalence rates of social anxiety disorder. Such inflation of psychopathology among MTurk workers was not evident in the current sample. Less is known, however, about differences between MTurk users and the general population with regard to the endorsement of beliefs and perceptions, and current data (i.e., PBA-Q and SCARED) suggest that such endorsements are above expectations. These data reaffirm the importance of replication as the social science community learns more about response trends among MTurk participants.

Additionally, conducting the study in a controlled setting may help reduce measurement error by increasing control over variables such as extraneous noise, computer malfunctions, or other distractions during administration of the audio paradigm. For example, approximately 45 participants in the current study did not advance the screen after 10 seconds of the audio paradigm ending. It is unclear whether such participants did not know what to do after the audio paradigm was over, despite having received instructions, or whether they were distracted and did not realize that the audio clip had ended. Given that the motives of these 45 participants could
not be discerned, they were retained in data analysis. However, replication of the study in laboratory settings would ideally allow for greater control over the audio paradigm.

The present study was among the first to examine the impact of psychoeducation on immediate responses to child anxiety in parents whose offspring did not necessarily have clinically significant anxiety. In addition, it assessed novel relationships among parental experiential avoidance, intervention, and behavior. It is possible that effects detected in the current study may be more robust in samples of parents with clinically anxious children. The current study and sample characteristics, however, formed a necessary, foundational step in exploring predictors and malleability of parental rescue behavior. Next steps are to assess relationships between parental beliefs and behavior, efficacy of stand-alone psychoeducation, and the role of parental experiential avoidance in predicting behavioral responses to psychoeducation in a clinical sample. Such research has the potential to inform family-based treatment for child anxiety by identifying parental factors (e.g., beliefs, experiential avoidance) that influence occurrence of countertherapeutic parental behaviors.

4.4 Conclusions

Much of the research on parenting practices related to child anxiety points to over-controlling behaviors as particularly influential in predicting or maintaining symptoms (McLeod et al., 2007; Rapee, 1997; Wood et al., 2003). Recent work has begun to identify potential predictors of over-controlling parenting behaviors (e.g., Settipani & Kendall, 2015). This research, much like the broader body of work on parenting behavior, is often limited by exclusive reliance on informant-reports to assess behavior. The current study replicated findings that parental beliefs about child anxiety relate to their responses to child distress, but instead of self-report methodology, used an experimental paradigm to capture behavior. In addition, this study provided
preliminary evidence that psychoeducation can influence parental rescue behavior. Results from the current study make novel contributions to growing research on parental factors associated with child anxiety. However, in order to strengthen generalizability and applicability of findings to treatment-seeking families, the study should be replicated among parents of clinically anxious children.

REFERENCES


APPENDICES

Appendix A

Amazon’s Mechanical Turk Recruitment Posting

The purpose of the study is to better understand how caregivers respond to children in distress. Participants will answer approximately 200 questions across the entire survey. Participants will be asked to listen to a brief audio clip as well. Participation will require about 30 minutes of time.

Compensation: $0.30

Qualifications for participation:

- you must be at least 18 years old
- you must be a primary caregiver of a child
- you must be a U.S. resident
- you must be fluent in written and spoken English

If you do not meet the above qualifications for participation you will not be enrolled in the study and therefore not compensated.

There are objective attention-checking questions in this study to assess "sufficient effort." If you miss the majority of these questions, your work will not be approved or compensated.

If you would like to take part in the study, select the link below to complete the surveys. At the end of the surveys, you will receive a code to paste into the box below to receive payment for taking our survey. Make sure to read all qualification requirements and questions carefully in order to receive your payment. You may only take this survey once.

Make sure to leave this window open as you complete the survey. When you are finished, you will return to this page to paste the code into the box.
Appendix B

How old are you?: _______

How old is your child? (referring to your child who is 6-11 years old): _______

What is your gender?:
- [ ] Female
- [ ] Male
- [ ] Other
- [ ] Prefer not to respond

What is your child’s gender?:
- [ ] Female
- [ ] Male
- [ ] Other
- [ ] Prefer not to respond

What is your Ethnicity?:
- [ ] Hispanic or Latino
- [ ] Not Hispanic or Latino

What is your Race? Check all that apply:
- [ ] American Indian or Alaska Native
- [ ] Asian or Asian American
- [ ] Black or African American
- [ ] Native Hawaiian or Other Pacific Islander
- [ ] White
- [ ] Other (Please specify:_______________________________)

Relationship Status:
- [ ] Single, Not Currently Dating Someone Regularly
- [ ] Dating / Have a Boyfriend or Girlfriend
- [ ] Engaged
- [ ] Married
- [ ] Married but Separated, Divorced, or Widowed

Indicate total household income:
☐ Less than $10,000
☐ Between $10,000 and $25,000
☐ Between $25,000 and $50,000
☐ Between $50,000 and $75,000
☐ Greater than $75,000

Indicate your highest level of education:
☐ GED
☐ High school diploma
☐ Some college
☐ Associates degree
☐ Bachelor’s degree
☐ Masters degree
☐ Doctoral degree
☐ None of the above

Have you ever received mental health services (e.g., counseling, therapy, etc.)?
☐ Yes
☐ No
☐ Prefer not to respond

If yes to the previous question, why did you seek services?
[Open-ended response]

Are you currently taking medication to manage mental health symptoms?
☐ Yes
☐ No
☐ Prefer not to respond

Is your child currently receiving mental health services for anxiety (e.g., counseling, therapy, etc.)?
☐ Yes
☐ No
☐ Prefer not to respond

Has your child ever received mental health services for anxiety (e.g., counseling, therapy, etc.)?
☐ Yes
☐ No
If your child is or has ever received mental health services for anxiety, have you been involved in your child’s treatment? If so, have you been exposed to any of the following strategies for treating youth anxiety?

Check all that apply:

<table>
<thead>
<tr>
<th>Common techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure to feared situations</td>
</tr>
<tr>
<td>Relaxation training</td>
</tr>
<tr>
<td>Changing or challenging anxious/negative thoughts</td>
</tr>
<tr>
<td>Problem solving skill training</td>
</tr>
<tr>
<td>Psychoeducation about anxiety for the child</td>
</tr>
<tr>
<td>Psychoeducation about anxiety for the parents</td>
</tr>
<tr>
<td>Therapist offered the child praise/rewards</td>
</tr>
<tr>
<td>Therapist/parents offered the child concrete rewards for participating in therapy or practicing new skills</td>
</tr>
<tr>
<td>Child learned to praise and reward him/herself</td>
</tr>
<tr>
<td>Child learned to self-monitor thoughts, feelings, or behavior</td>
</tr>
<tr>
<td>Therapist/parent modeled brave behavior for the child</td>
</tr>
<tr>
<td>Skill maintenance strategies/relapse prevention</td>
</tr>
<tr>
<td>Other (Please specify: ________________)</td>
</tr>
<tr>
<td>None of the above/I am unsure if any of the above apply</td>
</tr>
</tbody>
</table>
## Appendix C

**Parental Beliefs about Anxiety Questionnaire**

Listed below are some statements about how you might get along with your child. Please read each statement carefully and circle the answer which indicates how much you agree with each statement for you and your child. There are no right or wrong answers. Do not spend too much time on any statement.

Remember, we would like to know what your relationship with your child seems like to you. So do not try to figure out how other people might see your relationship with your child, but do give us your impression of your relationship with your child for each statement.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>When my child is upset, it makes me very anxious.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>2.</td>
<td>It scares me when I notice that my child is short of breath.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>3.</td>
<td>I feel like I am a bad parent if my child becomes stressed out.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>4.</td>
<td>If my child gets too nervous, it could be really harmful.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>5.</td>
<td>My child should not have to feel afraid.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>6.</td>
<td>My child will grow out of his/her fears.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>7.</td>
<td>When my child is nervous, I worry that he/she might be mentally ill.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>8.</td>
<td>I get very anxious when my child is ill.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>9.</td>
<td>I do not like it when other people see my child is afraid.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>10.</td>
<td>When my child’s stomach is upset, I worry that he/she might be seriously ill.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>11.</td>
<td>When I worry about my child, I feel like I am being a good parent.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>12.</td>
<td>It scares me when my child is nervous.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>13.</td>
<td>When I feel worried that my child is not safe, it is important for me to trust those feelings no matter what anyone else says.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>14.</td>
<td>I do not get uncomfortable when my child is upset about something.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>15.</td>
<td>It scares me when my child says he/she feels faint.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>16.</td>
<td>It scares me when my child is nauseous.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>17.</td>
<td>It is important to me that my child not appear nervous.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------------------------</td>
<td>----------------</td>
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</tbody>
</table>
Appendix D

Parental Attitudes, Beliefs, and Understanding of Anxiety (PABUA)

These questions relate to your attitudes and beliefs about your child when he/she is feeling nervous or anxious. Please indicate the degree to which you agree with each of the following items using the scale below. There are no right or wrong answers. Simply circle your response to each item.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly disagree</td>
<td>Disagree somewhat</td>
<td>Neither agree nor disagree</td>
<td>Agree somewhat</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>O 1.</td>
<td>My child’s anxiety will decrease if he/she avoids what makes him/her anxious.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>O 2.</td>
<td>My child should be excused from activities that make him/her nervous.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>O 3.</td>
<td>A good parent will not push his/her child to do things that makes him/her nervous.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A 4.</td>
<td>A way to help my child feel less anxious is to encourage him/her to face his/her fears.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>O 5.</td>
<td>Anxious children are sensitive and need to be protected.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D 6.</td>
<td>If my child had different parents perhaps he/she would not be so anxious.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D 7.</td>
<td>As a parent I am very limited in how much I can help my child with his/her anxiety.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D 8.</td>
<td>It is hard for me to be with my child when he/she is nervous.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D 9.</td>
<td>I feel uncertain about how to help my child when he/she is anxious.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>O 10.</td>
<td>My child is my best friend.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>O 11.</td>
<td>It is important that other people in my child’s life (e.g., teachers) do not push him/her to do things that make him/her nervous.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A 12.</td>
<td>A good parent allows their child to have freedom and experience things on their own.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D 13.</td>
<td>I feel uncomfortable when my child feels anxious.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>O 14.</td>
<td>It is important that I keep my child safe from his/her worries.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>O 15.</td>
<td>My child should not be worried.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td></td>
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</tr>
<tr>
<td>A</td>
<td>16.</td>
<td>Children can learn a great deal from their mistakes.</td>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>O</td>
<td>17.</td>
<td>It is important that I protect my child from feeling anxious.</td>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>O</td>
<td>18.</td>
<td>My child will be traumatized if I push him/her to do something that makes him/her nervous.</td>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>O</td>
<td>19.</td>
<td>If my child is forced to face his/her anxiety it will make it worse.</td>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>D</td>
<td>20.</td>
<td>I try not to think about my child’s anxiety.</td>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>A</td>
<td>21.</td>
<td>It is important for children to see adults cope with anxiety.</td>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
Appendix E

Parental Acceptance and Action Questionnaire

Below you will find a list of statements. Please rate how true each statement is true for you by circling a number next to it. Use the scale below to make your choice.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-r</td>
<td>1.</td>
<td>I am able to take action about my child’s fears, worries, and feelings even if I am uncertain what the right thing is to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I</td>
<td>2.</td>
<td>When I feel depressed or anxious, I am unable to help my child manage their fears, worries, or feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I</td>
<td>3.</td>
<td>I try to suppress thoughts and feelings about my child that I don’t like by just not thinking about them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>U-r</td>
<td>4.</td>
<td>It’s OK for my child to feel depressed or anxious.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>U-r</td>
<td>5.</td>
<td>I rarely worry about getting my child’s anxieties, worries, and feelings under control.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I</td>
<td>6.</td>
<td>In order for my child to do something important, I have to have all my doubts about it worked out.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I-r</td>
<td>7.</td>
<td>I’m not afraid of my child’s feelings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>U</td>
<td>8.</td>
<td>I try hard to avoid having my child feel depressed or anxious.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>U</td>
<td>9.</td>
<td>It is bad if my child feels anxious.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I-r</td>
<td>10.</td>
<td>Despite my doubts, I feel as though I can set a plan for managing my child’s feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>U</td>
<td>11.</td>
<td>If I could magically remove all the painful experiences my child has had in his or her life, I would do so.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I-r</td>
<td>12.</td>
<td>If I get frustrated with my child, then I can still help him or her.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>U</td>
<td>13.</td>
<td>Worries can get in the way of my child’s successes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I</td>
<td>14.</td>
<td>I often catch myself daydreaming about things I’ve done with my child and what I would do differently next time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I</td>
<td>15.</td>
<td>When I compare myself to other parents, it seems that most of them are handling their lives better than I do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix F

State Trait Inventory for Cognitive and Somatic Anxiety-State Version

Below is a list of statements which can be used to describe how people feel. Beside each statement are four numbers which indicate the degree with which each statement is self-descriptive of mood at this moment (e.g., 1 = not at all, 4 = very much so). Please read each statement carefully and circle the number which best indicates how you feel right now, at this very moment, even if this is not how you usually feel.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>My heart beats fast</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2.</td>
<td>My muscles are tense.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>I feel agonized over my problems.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4.</td>
<td>I think that others won’t approve of me.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>I feel like I’m missing out on things because I can’t make up my mind soon enough.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6.</td>
<td>I feel dizzy.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7.</td>
<td>My muscles feel weak.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8.</td>
<td>I feel trembly and shaky.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9.</td>
<td>I picture some future misfortune.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10.</td>
<td>I can’t get some thought out of my mind.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11.</td>
<td>I have trouble remembering things.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>12.</td>
<td>My face feels hot.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>13.</td>
<td>I think that the worst will happen.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>14.</td>
<td>My arms and legs are stiff.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15.</td>
<td>My throat feels dry.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16.</td>
<td>I keep busy to avoid uncomfortable thoughts.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17.</td>
<td>I cannot concentrate without irrelevant thoughts intruding.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18.</td>
<td>My breathing is fast and shallow.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19.</td>
<td>I worry that I cannot control my thoughts as well as I would like to.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20.</td>
<td>I have butterflies in my stomach.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21.</td>
<td>My palms feel clammy.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

State Trait Inventory for Cognitive and Somatic Anxiety-Trait Version

Below is a list of statements which can be used to describe how people feel. Beside each statement are four numbers which indicate how often each statement is true of you (e.g., 1 = not at all, 4 = very much so). Please read each statement carefully and circle the number which best indicates how often, in general, the statement is true of you.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>My heart beats fast</td>
<td>1</td>
<td>2</td>
</tr>
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<td>2</td>
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<td>3.</td>
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<td>2</td>
</tr>
<tr>
<td>4.</td>
<td>I think that others won’t approve of me.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>I feel like I’m missing out on things because I can’t make up my mind soon enough.</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>6.</td>
<td>I feel dizzy.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7.</td>
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<td>I picture some future misfortune.</td>
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<tr>
<td>10.</td>
<td>I can’t get some thought out of my mind.</td>
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<td>2</td>
</tr>
<tr>
<td>11.</td>
<td>I have trouble remembering things.</td>
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<td>2</td>
</tr>
<tr>
<td>12.</td>
<td>My face feels hot.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>13.</td>
<td>I think that the worst will happen.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>14.</td>
<td>My arms and legs are stiff.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15.</td>
<td>My throat feels dry.</td>
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<td>2</td>
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<tr>
<td>16.</td>
<td>I keep busy to avoid uncomfortable thoughts.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>17.</td>
<td>I cannot concentrate without irrelevant thoughts intruding.</td>
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<td>My breathing is fast and shallow.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19.</td>
<td>I worry that I cannot control my thoughts as well as I would like to.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20.</td>
<td>I have butterflies in my stomach.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21.</td>
<td>My palms feel clammy.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Appendix G

Screen for Child Anxiety Related Emotional Disorders

Below is a list of sentences that describe how people feel. Read each phrase and decide if it is “Not True or Hardly Ever True” or “Somewhat True or Sometimes True” or “Very True or Often True” for your child. Then, for each statement, fill in one circle that corresponds to the response that seems to describe your child for the last 3 months. Please respond to all statements as well as you can, even if some do not seem to concern your child.

*The rating scale is as follows:*
0 Not True or Hardly Ever True  
1 Somewhat True or Sometimes True  
2 Very True or Often True

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>When my child feels frightened, it is hard for him/her to breathe.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2</td>
<td>My child gets headaches when he/she is at school.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td>My child doesn’t like to be with people he/she doesn’t know well.</td>
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<td></td>
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<tr>
<td>4</td>
<td>My child gets scared if he/she sleeps away from home.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>My child worries about other people liking him/her.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>When my child gets frightened, he/she feels like passing out.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>My child is nervous.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8</td>
<td>My child follows me wherever I go.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>9</td>
<td>People tell me that my child looks nervous.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>My child feels nervous with people he/she doesn’t know well.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>My child gets stomachaches at school.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>When my child gets frightened, he/she feels like he/she is going crazy.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>My child worries about sleeping alone.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>My child worries about being as good as other kids.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>When my child gets frightened, he/she feels like things are not real.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>My child has nightmares about something bad happening to his/her parents.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>My child worries about going to school.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>When my child gets frightened, his/her heart beats fast.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>My child gets shaky.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>My child has nightmares about something bad happening to him/her.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>My child worries about things working out for him/her.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>When my child gets frightened, he/she sweats a lot.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>My child is a worrier.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>24</td>
<td>My child gets really frightened for no reason at all.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>My child is afraid to be alone in the house.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>It is hard for my child to talk with people he/she doesn’t know well.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>When my child gets frightened, he/she feels like he/she is choking.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>28</td>
<td>People tell me that my child worries too much.</td>
<td></td>
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<tr>
<td>29</td>
<td>My child doesn’t like to be away from his/her family.</td>
<td></td>
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<tr>
<td>30</td>
<td>My child is afraid of having anxiety (or panic) attacks.</td>
<td>0 1 2</td>
<td></td>
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</tr>
<tr>
<td>31</td>
<td>My child worries that something bad might happen to his/her parents.</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>My child feels shy with people he/she doesn’t know well.</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>My child worries about what is going to happen in the future.</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>When my child gets frightened, he/she feels like throwing up.</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>My child worries about how well he/she does things.</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>My child is scared to go to school.</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>My child worries about things that have already happened.</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>When my child gets frightened, he/she feels dizzy.</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>My child feels nervous when he/she is with other children or adults and he/she has to do something while they watch him/her (for example: read aloud, speak, play a game, play a sport).</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>My child feels nervous when he/she is going to parties, dances, or any place where there will be people that he/she doesn’t know well.</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>My child is shy.</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix H

Vignette Self-Report Questionnaire

Vignettes were presented in a random order. Brackets denote the manipulation of low vs. high child distress, with the high distress response indicated in bold and the low distress response indicated in italics. Within each disorder, mothers were presented with each scenario listed below, one ending with a high distress response and the other ending with a low distress response. When presented to mothers, vignettes were not labeled by disorder.

*Instructions:* Imagine each of the following situations as if you were experiencing it yourself with your child. On the scale provided, rate how much you would insist that your child engage in the behaviors or tasks described. For the purposes of this survey, “insist” means that you would urge your child to engage in the specific behavior or task and ensure that they eventually do.

The rating scale ranges from 1 = “would not insist at all” to 7 = “would insist very strongly”

**Social Phobia**

(1) Your child has been invited to a birthday party at the home of one of his/her friends from school. As you are about to leave to take your child to the party, your child tells you that he/she is nervous about talking to his/her classmates who will be there. Your child [blushes a little and says he/she doesn’t want to go to the party because he/she won’t know what to say/starts shaking and crying, begging you to stay home].

How much would you insist that your child go to the party?

<table>
<thead>
<tr>
<th>would not insist at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>would insist very strongly</th>
</tr>
</thead>
</table>

(2) Your child’s class is putting on a skit as part of the school talent show. Your child was given one of the larger roles and has been practicing his/her lines. The week before the show, your child says that he/she is nervous about messing up the lines. Your child [looks apprehensive and says he/she doesn’t want to go through with the skit/begins shaking and crying, begging you to let him/her drop out of the skit].

How much would you insist that your child perform in the skit as planned?

<table>
<thead>
<tr>
<th>would not insist at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>would insist very strongly</th>
</tr>
</thead>
</table>

**Separation Anxiety**

(1) You are getting ready to go out for the evening and leave your child at home for several hours. As you are about to leave, your child asks you to stay because he/she is concerned that
something bad could happen to you while you are out. Your child [looks hesitant and asks you not to go/loudly protests and clutches your arm, crying and begging you to stay].

How much would you insist that your child stay home without modifying your plans?

| would not insist at all | 1 | 2 | 3 | 4 | 5 | 6 | would insist very strongly
|-------------------------|---|---|---|---|---|---|--------------------------|

(2) You are getting ready to bring your child to school in the morning. You are about to walk out the door when your child expresses concern about going to school and being apart from you. Your child [hesitates at the door and says he/she wants you to stay at school with him/her/ runs back into the house, crying and pleading with you to stay at school with him/her].

How much would you insist that your child attend school without you?

| would not insist at all | 1 | 2 | 3 | 4 | 5 | 6 | would insist very strongly
|-------------------------|---|---|---|---|---|---|--------------------------|

**Generalized Anxiety**

(1) Your child is participating on a baseball/softball team and usually enjoys going to practices and games. He/she does not want to go to this Saturday’s practice because the weather report suggests that thunderstorms are possible and practice will be held outside. Your child has asked you several times if it will storm today because he/she is concerned that he/she could get struck by lightning. Your child [looks concerned and asks to stay home/begins crying and shouts that he/she will not go to practice today].

How much would you insist that your child attend practice?

| would not insist at all | 1 | 2 | 3 | 4 | 5 | 6 | would insist very strongly
|-------------------------|---|---|---|---|---|---|--------------------------|

(2) Your child has a class project due tomorrow. He/she has been working hard on it and has expressed concern about having enough time to finish the project and get a good grade. You tell your child that he/she needs to finish working on it in 10 minutes because it is already an hour past his/her bedtime. Your child [looks concerned and says he/she needs to keep working on it/starts crying and shouts that he/she needs more time to work on it and won’t stop until it’s done].

How much would you insist that your child stop working on the project without offering to finish it for him/her?
<table>
<thead>
<tr>
<th>would not insist at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>would insist very strongly</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Appendix I

Intervention Excerpts and Comprehension Questions

Psychoeducation Condition
Please read the following excerpt carefully. You will be asked several questions about it afterwards.

Fear and anxiety are a part of life for children. They are normal and helpful in many situations. Anxiety acts as an alarm system to alert children to potential trouble, make them cautious, and increase their focus. For example, anxiety motivates children to study for tomorrow’s test or to walk carefully on a steep hiking trail. However, sometimes children feel more anxiety than is helpful. In these cases, the child’s alarm system is overactive and sends false alarms about danger that does not exist.

Children experience anxiety in a variety of ways. They might feel uncomfortable sensations in their body, such as sweating, a racing heart, and fast breathing. They might have anxious thoughts. For example, they might think, “I’m going to get hurt if I do this on my own!” or “Everyone will think I’m an idiot.” They might also avoid situations that seem dangerous or upsetting. For example, they might refuse to walk to school alone or avoid reading aloud in front of others. Anxiety is not helpful when it is excessive, uncontrollable, or gets in the way of daily life.

Many children can overcome anxiety by slowly facing their fears. This helps children learn that the bad events they expect are not likely to happen. If things do go wrong, children may also learn that they are able to cope and handle the situation better than they thought. The feared situation often causes less anxiety after repeated practice. When children always avoid feared situations, they lose the chance to learn that the feared situation is not as scary as they thought.

Imagine that your child is socially anxious and refuses to order food in restaurants. Your child may be afraid of being criticized or embarrassed. Your child should practice ordering, coping with discomfort, and paying attention to whether his or her fears come true. Repeating these experiences will allow your child to learn that the feared consequences do not happen. Your child’s alarm system will become less sensitive over time and with repeated practice. The “alarm” will not be triggered as easily. Your child will then experience less anxiety in similar social situations.

Sometimes parents can unintentionally make it difficult for anxious children to face their fears. Parents may worsen children’s anxiety by allowing them to avoid feared situations. For example, it may be very uncomfortable to see your child in distress in social situations. You may not want your child to experience the distress of ordering food in a restaurant or believe that he or she can’t do it. So, you order for your child. Consequently, your child does not have the opportunity to learn that he or she is not criticized or embarrassed as feared. Your child also does not learn that he or she has the ability to cope with
anxiety. Jumping in to “rescue” may teach your child that the feared situations was something he or she could not handle and should avoid.

It is important for parents to help their children develop coping skills and move towards independence. Research shows that allowing children to experience some anxiety in new situations helps them learn skills to manage their anxiety. It is more beneficial for parents to help children develop and practice coping skills than for parents to “rescue” them. Eventually, the goal is for children to solve age-appropriate problems on their own.

Please answer the following questions based on the excerpt you just read: (example questions)

1. Anxiety acts like the body’s alarm system, and when it is overactive, it ________.
   a. impairs detection of potential dangers
   b. poorly controls moods in dangerous situations
   c. sends false alarms about danger that does not exist
   d. decreases focus

2. What are three ways that children experience anxiety?
   a. They worry, have depressed thoughts, and avoid feared situations
   b. They have uncomfortable feelings in their bodies, have anxious thoughts, and avoid feared situations
   c. They have uncomfortable feelings in their bodies, have anxious thoughts, and “act out”
   d. They worry, have depressed thoughts, and “act out”

3. Many children can overcome anxiety by ________
   a. taking medication to reduce anxiety symptoms
   b. discussing their fears with a trusted adult or mental health professional
   c. slowly facing their fears

4. When children avoid feared situations, they ________.
   a. lose the chance to learn that the situation is not as scary as they thought
   b. are more likely to avoid the situation in the future
   c. are using age-appropriate coping skills during scary situations

5. What are the consequences of parents jumping in to “rescue” anxious children?

6. What should parents do instead of jumping in to “rescue children during a scary situation?

7. How do parents unintentionally make it difficult for anxious children to face their fears?
   a. by limiting the child’s opportunities to face their fears
   b. by pushing the child to face their fears too quickly
   c. by talking about the feared situation after it is over
8. Research shows that it is important for parents to help anxious children become more independent. This can be done by ________.
   a. jumping in to rescue children so they know they can “count on” their parents
   b. allowing children to experience some anxiety in order to learn coping skills
   c. allowing children to decide when to avoid scary situations

**Control Condition**

Please read the following excerpt carefully. You will be asked several questions about it afterwards.

Play refers to activities that are done for their own sake. They are not done with any motivation other than enjoyment. The earliest play activities tend to be done alone, such as banging spoons on high chair trays. Children’s play becomes more social and complex as their understanding of other people increases.

Pretend play starts at around 18 months old. It is an early milestone in children’s play development. During pretend play, children act as if they were in a different situation than their actual one. They often engage in object substitution. Object substitution refers to ignoring many of an object’s qualities so that children can pretend that it is something else. An example would be a child sliding a block along the floor and saying “vroom, vroom” as if the block were a car. Another example is cradling a pillow and talking to it, as if it were a baby.

About a year later, toddlers begin to do sociodramatic play. They perform miniature dramas with other children or adults. For example, a child may pretend to be a mother comforting a baby or a doctor helping a sick child. Sociodramatic play tends to be more complex and social than object substitution. Consider common “tea party” rituals. Players pour and sip imaginary drinks, eat imaginary cookies, and comment on how delicious they are. Young children’s pretend play is usually more sophisticated when they are playing with a parent or older sibling. Parents and older siblings can model play action with more detail and complexity than can peers.

By the elementary school years, play becomes even more complex and social. Play activities begin to include rules that apply to all players. Typical examples include sports and board games. These games introduce new cognitive and emotional challenges. For example, fights often happen about who is or is not following the rules or playing fair.

Play is a common part of childhood and it changes as children get older. However, theorists disagree on how pretend play and sociodramatic play influences children’s development. Some believed that play is only a marker of young children’s developmental stages. Changes in play across childhood show that developmental milestones have been passed. Others believed that play can help children grow and improve their thinking abilities.

Research on fantasy play shows that play may actually help children grow socially. The amount of fantasy play that young children do is related to their understanding of other
people's thinking. For example, one research study showed that children who do a lot of fantasy play with other children also tend to be more mature and popular. This shows that fantasy play may improve their understanding of other children's feelings. Even though adults often view play as unimportant, it may increase children's social development.

Please answer the following questions based on the excerpt you just read: (example questions)

1. The earliest play activities, like banging spoons on high chair trays, tend to _______
   a. be highly social
   b. be attention-seeking
   c. be done alone

2. Pretend play starts at around _______
   a. 16 months old
   b. 17 months old
   c. 18 months old

3. During pretend play, children often engage in object ________, such as sliding a block on the floor and saying “vroom, vroom” as if the block were a car.
   a. imagination
   b. substitution
   c. replacement

4. Tea parties are an example of ________, which are miniature dramas acted out.
   a. sociotheatrical play
   b. sociodramatic play
   c. socionormative play

5. Theorists disagreed about play and children’s development. How did their beliefs differ?

6. What did research on fantasy play show?

7. Theorists disagree on whether play is only a marker of young children’s developmental stages or whether it _______
   a. helps children grow and improve their thinking abilities
   b. helps children’s physical development
   c. poses emotional challenges

8. Research on fantasy play shows that play may _______.
   a. reduce maturity and popularity
   b. help children understand other children's feelings
   c. strengthen imagination and creativity
Appendix J

Screening Questions

1. How old are you?
   a. 0-17
   b. 18-36
   c. 37-51
   d. 52-70
   e. 70+

2. Identify your country of residence:
   [all possible countries listed in drop-down menu]

3. Is English your primary language?
   a. Yes
   b. No

4. Are you the primary caregiver of your children? Check all that apply.
   a. No, I do not have children
   b. No, I am not the primary caregiver
   c. Yes, of at least one currently 0-5 year old child
   d. Yes, of at least one currently 6-11 year old child
   e. Yes, of at least one currently 12-17 year old child
   f. Yes, of a child currently over 18 years old
Appendix K

Grading Rubric for Open-Ended Comprehension Questions

Psychoeducation Condition:
1. What are the consequences of parents jumping in to “rescue” anxious children?

[Participants must refer to at least one consequence to receive a “1”]

- **Refers to “teach your child that the feared situations was something he or she could not handle” or cope with. For example:**
  - Teaches child that he/she couldn’t handle it [the feared situation]
  - Let’s them think they couldn’t handle it [or figure it out, work it out] themselves
  - Teaches child that he/she couldn’t cope with it
  - Child doesn’t learn coping skills
  - Children do not learn that they can cope with [or handle] anxiety
  - Children do not get to learn or develop skills for becoming more independent

- **Refers to “teach your child that the feared situations was something to avoid” For example:**
  - Teaches child that he/she should avoid it [the feared situation]
  - Allowing children to avoid fears

- **Refers to limiting the child’s opportunity to face their fears. For example:**
  - Limiting opportunity to face fears
  - Keeping them from facing their fears
  - Keeping them from learning that fears aren’t true or likely
  - Let’s kids give in to their fears
  - Don’t get to learn through experience that their fears are excessive or won’t come true.

- **Refers to worsening or maintaining the child’s anxiety. For example:**
  - Makes [the child’s] anxiety worse
  - They’ll never get over their anxiety [or their fears]

2. What should parents do instead of jumping in to “rescue” children during a scary situation?

[Participants must refer to at least one strategy to receive a “1”]

- **Refers to helping child gain independence and/or coping skills. For example:**
  - Allow child to experience some anxiety in order to learn coping skills
  - Let them feel some anxiety/discomfort to learn
  - Help child develop coping skills
  - Help child become independent
  - Do it themselves
  - Help the them learn to do it themselves
  - Have them cope by themselves

- **Refers to helping child face his or her fears. For example:**
  - Help them [or allow them to] face their fears [or get through the situation]
  - Practice facing fears
Repeated practice
Exposure to the fear [or situation]

Control Condition:
1. Theorists disagreed about play and children’s development. How did their beliefs differ?

[Participant must refer to at least one perspective to receive a “1”]

- **One theorist’s perspective refers to play (or fantasy play) as marking children’s developmental stages, indicating growth, or indicating milestones. For example:**
  - Shows children’s growth
  - Marks milestones
  - Is a milestone
  - Shows developmental stages
  - Shows change in stages/milestones
  - Correlates with stages/milestones

- **One theorist’s perspective refers play (or fantasy play) as helping growth or improving the child and/or the child’s thinking abilities. For example:**
  - It helps them grow
  - Helps them develop
  - Improves development
  - Play helps children mature
  - Helps children improve thinking/cognitive abilities
  - Effects development

- **Or refers to both theorists disagreeing about the importance or meaning of play for development. For example:**
  - Important to [child] development
  - How important it is to development

2. What did research on fantasy play show?

- **Refers to helping children grow or improve some way. For example:**
  - That it helps them grow [or develop, learn]
  - That it helps them grow socially [or cognitively]
  - Increases [helps, improves] social development [or social skills]
  - Increases development
  - That they understand others better
  - That they understand others’ feelings [or thoughts/thinking]
  - Children who do it are more mature and/or popular and/or social [have more maturity, popularity, social skills]