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Parenting Practices of Anxious and Non-Anxious Mothers: A Multi-method Multi-informant Approach

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Abstract

Anxious and non-anxious mothers were compared on theoretically derived parenting and family environment variables (i.e., over-control, warmth, criticism, anxious modeling) using multiple informants and methods. Mother-child dyads completed questionnaires about parenting and were observed during an interactional task. Findings revealed that, after controlling for race and child anxiety, maternal anxiety was associated with less warmth and more anxious modeling based on maternal-report. However, maternal anxiety was not related to any parenting domain based on child-report or independent observer (IO) ratings. Findings are discussed in the context of the impact of maternal anxiety on parenting and suggest that child, rather than maternal, anxiety may have a greater influence on parental behavior.

Keywords

maternal anxiety; parenting; family environment

It is well documented that anxiety aggregates in families (Beidel & Turner, 1997; Lieb et al., 2000; Schreier, Wittchen, Hofler, & Lieb, 2008) and that offspring of anxious parents are up to seven times more likely to develop an anxiety disorder compared to offspring of non-anxious parents (Beidel & Turner, 1997; Turner, Beidel, & Costello, 1987). Current etiological theories propose that both genetic and environmental factors account for the high rates of family aggregation and help explain the development of child anxiety disorders. Among the environmental factors that have been examined, parenting and family environment have been implicated in the familial transmission of anxiety (Bogels & Brechman-Toussaint, 2006; Ginsburg & Schlossberg, 2002; Ginsburg, Siqueland, Masia-Warner, & Hedtke, 2004; McLeod, Wood & Weisz, 2007; Rapee, 1997; Wood, McLeod, Sigman, Hwang, & Chu 2003).

To date, the majority of studies examining parenting practices and family environments have employed a “bottom up” approach by examining the parenting behaviors of parents of anxious children rather than the parenting behaviors of anxious parents. Indeed, the research examining parenting behaviors among anxious parents is sparse and findings are often inconsistent. Differences in the methodology and informants used across studies might explain the contradictory results. For example, extant studies have assessed key parenting behaviors of anxious parents using different informants (i.e., parent-report, child-report, and/or independent observer (IO) ratings of parent-child interaction). No study has assessed parenting behaviors using all three informants nor have they assessed whether patterns are

similar across informants within the same sample. Furthermore, given that children of anxious parents are more likely to have a higher level of anxiety (and this may influence parenting), it is unclear whether parenting is more influenced by parental anxiety or by level of child anxiety. Indeed, most studies comparing the parenting behaviors of anxious and non-anxious parents have included children with anxiety disorders. Although these studies are informative, they do not generalize to the majority of anxious parents who do not have a clinically anxious child and therefore do not inform us about the true nature of the relationship between parental anxiety and parenting. Examining parenting behaviors among anxious parents whose offspring are not clinically anxious may clarify whether differences in parenting are more likely to be related to parental anxiety rather than child anxiety. Thus, the current study used multiple informants and methods to examine the behavior of anxious, compared to non-anxious, mothers whose children were non-affected.

A total of seven published studies have compared anxious and non-anxious parents on key dimensions of parenting that are hypothesized to play a role in the familial transmission of anxiety. Across the seven studies, the parenting constructs generally fell into the following domains: over-control, warmth, criticism, and anxious modeling. Findings within these domains are briefly reviewed below.

Parental Over-control

Over-controlling parenting practices refer to those behaviors that are restrictive and characterized by overprotection and lacking in autonomy granting. These behaviors are thought to minimize a child's opportunities to develop independence, autonomy, and experience in novel situations. It has been hypothesized that anxious parents engage in more over-controlling parenting practices and that this increases child anxiety (Chorpita & Barlow, 1998; Ginsburg & Schlossberg, 2002; Rapee, 1997). The evidence supporting this hypothesis is mixed and seems to vary depending on the informant (McLeod, Wood, & Weisz, 2007). All seven studies examined aspects of parental over-control, however, the majority of studies (5/7) failed to find a relationship between maternal anxiety and over-controlling parenting behavior (Ginsburg, Grover, Cord, & Ialongo, 2006; Ginsburg, Grover & Ialongo, 2004; Moore, Whaley, & Sigman, 2004; Turner et al., 2003; Woodruff-Borden, Morrow, Bourland, & Cambron, 2002). In the one study that controlled for child anxiety, Whaley et al. (1999) compared behaviors among 18 anxious and 18 non-anxious mothers and their children (aged 7–14 years) using three tasks (Ideal Person task, Conflict conversation, and Anxious conversation). Independent observer (IO) ratings revealed that anxious mothers granted significantly less autonomy compared to non-anxious mothers but only if their child was also anxious. This finding highlights the dynamic relationship among maternal anxiety, parenting behaviors, and child anxiety and suggests that maternal over-control is not exclusively related to maternal anxiety. However, the sample was small and these findings need to be replicated with larger samples of anxious mothers with non-anxious children in order to enhance generalizability.

Parental Warmth

Parental warmth refers to behaviors that demonstrate affection, acceptance, and verbal expressions of positive affect directed toward the child. It is theorized that anxious parents may be low in warmth which consequently increases anxiety in their children. For instance, anxious parents may be overly focused on their own anxiety symptoms and fail to notice and satisfy the emotional needs of their children (Ginsburg & Schlossberg, 2002; Rapee, 1997). Again, the evidence supporting this theory is limited but the majority of studies (4/6) reported that anxious parents were significantly less warm than non-anxious parents. However, findings vary by informant. Specifically, anxious parents described themselves as

less nurturing and having less cohesive families compared to non-anxious parents but their children reported no differences in perceived warmth (Lindhout et al., 2006; Turner et al., 2003). When IO ratings are analyzed, results are mixed with two of four studies describing anxious parents as significantly less warm than non-anxious parents (Woodruff-Borden et al., 2002; Whaley et al., 1999) and two studies finding no differences (Ginsburg et al., 2004; Moore et al., 2004). Discrepancies could be due to methodological differences in terms of sample size and composition (i.e., child age, ethnicity/race, clinic vs. community samples), level of child anxiety, type of interaction task, and the coding procedures used to measure parental warmth.

Parental Criticism

Parental criticism refers to behaviors that are overly critical, hostile, and rejecting of the child. It is hypothesized that parental criticism and rejection negatively impact the child by increasing parent-child conflict, reducing a child's sense of self-competence and self-worth, and ultimately increasing the child's level of anxiety (Ginsburg & Schlossberg; 2002; Rapee, 1997). Six of the seven studies examined aspects of parental criticism. The majority of studies (4/6) did not find an association between parental anxiety and criticism and there is some evidence that parental criticism is more influenced by child, rather than maternal, anxiety. Specifically, Whaley et al. (1999) found that anxious mothers were more critical than non-anxious mothers during observation tasks, however, this finding did not persist after controlling for child anxiety. This finding was based on a small sample, single informant (IO ratings), and has not been replicated.

Parental Anxious Modeling

Parental anxious modeling refers to a parent's tendency to demonstrate anxious thoughts, feelings, or avoidant behaviors in front of the child. It is theorized that anxious parents may inadvertently teach their children to be fearful and avoidant by demonstrating or expressing their own anxiety symptoms in their child's presence (Bandura, 1977; Rachman, 1977). Indeed, accumulating evidence suggests that parental modeling is associated with child anxiety (see Bogels & Brechman-Toussaint, 2006; Fisak & Grills-Tauchel, 2007 for reviews) and studies have demonstrated that parental reinforcement of avoidant behavior maintains child anxiety (Beidel & Turner, 1998; Rapee, 2002). However, studies examining differences in anxious modeling between anxious and non-anxious parents have produced mixed results. Five of the seven studies examined aspects of parental modeling and 3 of the 5 did not find an association between parental anxiety and parental anxious modeling. All five studies relied exclusively on IO ratings of parental behavior. The three studies with negative results coded parental "anxious behaviors" and "anxious affect" (Ginsburg et al., 2004; 2006; Turner et al., 2003) and used a cooperative-challenge (etch-a-sketch) and an unstructured free play in a "risky room" task, respectively; while the two studies that found an association between maternal anxiety and anxious modeling (even after controlling for child anxiety) coded "catastrophizing" behaviors and used three tasks (Ideal Person task, Conflict conversation, and Anxious conversation) (Moore et al., 2004; Whaley et al., 1999). Thus, the tasks and coding systems (i.e., operational definitions) may account for the variations in findings. Nonetheless, hypothesized differences in anxious modeling among anxious and non-anxious parents need to be clarified using multiple informants.

Taken together, the literature comparing anxious and non-anxious parents provides limited support for the hypothesis that anxious and non-anxious parents differ with respect to certain anxiety-enhancing parenting behaviors, but findings are not consistent across studies or informants. Furthermore, most studies to date have included children with anxiety disorders, making it difficult to generalize findings to the majority of parents with non-affected

children. The primary aim of the present study was to compare parenting behaviors of anxious and non-anxious mothers of non-affected children using multiple methods and informants. Based on a review of the literature, anxious and non-anxious mothers were compared on four domains of parenting behaviors (over-control, warmth, criticism, and anxious modeling). It was hypothesized that maternal anxiety status would predict a lower level of warmth across all three informants. However, in light of mixed findings and methodological limitations, no specific hypotheses were made for the remaining three domains of regression analyses (i.e., over-control, criticism, and anxious modeling).

Method

Participants

Participants were 82 mother-child dyads. Among the mothers, 38 were diagnosed with an anxiety disorder (mean age 40.32 years; $SD = 5.16$) and 44 were non-anxious healthy controls (mean age 39.14 years; $SD = 6.29$). Maternal primary diagnoses included panic disorder without agoraphobia ($n = 3$), panic disorder with agoraphobia ($n = 4$), social phobia ($n = 7$), generalized anxiety disorder ($n = 21$), obsessive compulsive disorder ($n = 1$), and specific phobia ($n = 2$). Fifty-five percent had a comorbid anxiety disorder. None of the mothers had a current primary diagnosis of major depressive disorder (MDD), however, 5 participants (13%) had a secondary diagnosis of MDD. The racial composition of the total sample was 76% European American, 17% African American, 4% Asian American, and 1% other (2% of the sample chose not report their race). The 38 children with anxious mothers (20 boys) were 6 to 13 years old ($M = 8.75$, $SD = 1.67$). The 44 children with non-anxious mothers (19 boys) ranged in age from 7 to 12 years ($M = 9.22$, $SD = 1.53$). None of the children met diagnostic criteria for an anxiety disorder, however, children of anxious mothers had a significantly higher level of anxiety symptoms (maternal report) compared to children of non-anxious mothers ($t_{79} = 5$, $p = .000$). The two groups did not differ significantly in terms of key parent or child demographic variables or child reported anxiety symptoms (see Table 1), however, there were significantly more European-American offspring of anxious mothers (chi square = 8.13, $p < .01$).

Procedures

Data were collected as part of two parallel studies. Both studies were approved by the Institutional Review Board and written parental consent/child assent was obtained prior to data collection. Anxious mothers were recruited to participate in a study examining the impact of an anxiety prevention program for their offspring (Ginsburg, 2009) using print advertisements in local newspapers, mailings to local physicians and psychiatrists, and flyers that were posted in various community settings. Anxious mothers were eligible to participate in the study if they had a current diagnosis of an anxiety disorder and no medical or co-morbid psychiatric condition that would contraindicate the study intervention (e.g., suicidality, current substance use disorder). Data presented for this paper were collected at the baseline assessment before the anxious mothers and their children participated in the prevention program. Non-anxious mothers were recruited as healthy controls to participate in a study examining family stress and coping using similar procedures (i.e., mailings, flyers posted around the community). Non-anxious mothers were eligible to participate in the study if they had no history of any current or lifetime psychiatric diagnosis.

Measures of Anxiety Symptoms and Diagnosis

Anxiety Disorders Interview Schedule for DSM-IV (ADIS; Brown, DiNardo, & Barlow, 1994)—Maternal diagnostic status was assessed using the ADIS which was administered by highly trained postdoctoral fellows, graduate students, and psychologists. The ADIS is a semi-structured interview that is considered the gold-standard diagnostic

instrument for adult anxiety disorders and is widely used in anxiety disorders treatment research. The ADIS has demonstrated good internal consistency and inter-rater reliability (Lyneham, Abbott, & Rapee, 2007). The interview assesses a broad range of DSM-IV disorders and screens for other disorders such as psychosis and substance abuse. Clinical Severity Ratings (CSR) are generated for each diagnosis (range = 0–8; a 4 is required to make a diagnosis) and are used to categorize all positive diagnoses as primary or secondary. In the present study, all diagnoses were confirmed at a consensus meeting with the research group.

Anxiety Disorders Interview Schedule for DSM-IV Child Version (ADIS-C; Silverman & Albano, 1996)—Child psychopathology was evaluated using the ADIS-C parent and child interviews. The ADIS-C, which assesses a broad range of anxiety, mood, and externalizing disorders and screens for the presence of several additional disorders including developmental, psychotic, and somatoform disorders, was administered by trained postdoctoral fellows, graduate students, and psychologists. Similar to the adult ADIS, a CSR is generated for each diagnosis (range = 0–8; a 4 is required to make a diagnosis) and is used to categorize diagnoses as primary or secondary. The interview has good test-retest reliability ($r = 0.94$ for the parent and $r = 0.92$ for the child interviews; Silverman, Saavedra, & Pina, 2001) and is sensitive to treatment effects in studies of youth with anxiety disorders (e.g., Barrett, Dadds, & Rapee, 1996; Kendall, et al., 1997; Spence, Donovan, & Brechman-Toussaint, 2000). Based on a random selection of 20% of the interviews, 100% inter-rater agreement on diagnosis and CSRs was obtained.

The Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher et al., 1997; 1999) is a 41-item self-report measure of pediatric anxiety—There is a parallel parent-report version that is used to assess parent's perspectives of child anxiety symptoms. Youth and parents responded to items using a 3-point Likert-type scale describing the degree to which statements are true about them or their child (0 = “not true or hardly ever true,” 1 = “somewhat true or sometimes true,” 2 = “very true or often true”). The SCARED total score, derived by summing the responses of the 41 items, ranges from 0 to 82. Reliability and validity for the total score have been found to be acceptable in clinical and community samples of youth (Birmaher et al., 1997; 1999; Muris, Merkelbach, Gadet, Moulaert, & Tierney, 1999). For the overall sample, internal consistency for the total score was excellent for both the child-report ($\alpha = .92$) and parent-report ($\alpha = .91$).

Measures of Parenting Behaviors

Self-Report Measure of Family Functioning Scale (SRMFF; Bloom, 1985; Bloom & Sylvie, 1994)—The SRMFF is an 80-item, empirically derived measure of family functioning, with sound psychometric properties (Bloom, 1985; Bloom & Sylvie, 1994, Stark et al., 1990, Stark et al., 1993). Parents responded to items using a 4-point Likert-type scale. The measure consists of 13 subscales, however, only the following subscales were used in this study to assess the constructs under investigation: Authoritarian (e.g., “parents make all the decisions”), Cohesion (e.g., “we support each other”), Conflict (e.g., “we fight a lot”), and Active/Recreational/Social Orientation (e.g., “we like having parties”). The Authoritarian subscale was used to assess parent's perceptions of maternal over-control. However, preliminary analyses revealed that the internal consistency of this subscale ($\alpha = .56$) was unacceptable even after removing two problematic items (numbers 41 and 64). Therefore, this subscale was dropped from further analyses. Maternal warmth was assessed using the Cohesion subscale ($\alpha = .85$); maternal criticism was assessed using the Conflict subscale ($\alpha = .71$); and maternal anxious modeling was assessed using by combining the Active/Recreational Orientation and Family Sociability subscales ($\alpha = .84$).

Egna Minnen Beträffande Uppfostran (EMBU-C; My Memories of Upbringing; Muris, & Merckelbach, 1999)—The EMBU-C assesses children's perceptions of maternal rearing behaviors. Children responded to items using a 4-point Likert-type scale. The 40 items yield four subscales: Overprotection (e.g., "your parents think they must decide everything for you"), Rejection (e.g., "your parents treat you unfairly"), Emotional Warmth (e.g., "your parents like you the way you are"), and Anxious-Rearing Style (e.g., "your parents are afraid when you do something on your own"). The measure has adequate internal consistency, test-retest reliability, and construct validity (Castro et al., 1993; Gruner et al., 1999; Muris et al., 2003). The Overprotection subscale ($\alpha = .64$) was used to assess children's perceptions of maternal over-control. Maternal warmth was assessed using the Emotional Warmth subscale ($\alpha = .71$); maternal criticism was assessed using the Rejection subscale ($\alpha = .76$); and maternal anxious modeling was assessed using the Anxious Rearing Style subscale ($\alpha = .75$).

Speech Task and Coding Manual (ST; Ginsburg & Grover, 2007)—The ST assesses parent-child interactions during a structured and timed social performance situation. Parents and children were told to "prepare a speech about yourself." Five minutes were allotted for the preparation time and parent-child dyads were videotaped in a room alone. This five minute segment was coded using a standardized coding procedure (see Ginsburg & Grover, 2007) by an independent observer (IO). After the 5 minutes of preparation, the research assistant returned and asked the child to deliver the speech into the camera. Ratings of anxiety for both child and parent were collected throughout the task. Parent-child interactions were coded by undergraduate and graduate level research assistants (IOs) who were blind to maternal anxiety status. Training for each IO was extensive, requiring an average of 15 hours of supervised training, and a minimum of 80% agreement across five sample tapes was required prior to coding tapes for this study. The following coded behaviors were included in this study: Granting Autonomy (e.g., parent demonstrates acceptance of the child's thoughts, ideas, opinions and lets the child make decisions), Warmth (e.g., parent provides verbal and non-verbal expressions of positive regard and affection; praise, laughing, touching, smiling), Criticism (e.g., parent makes negative statements about or blames the child), and Anxious Behavior (e.g., parent makes fearful statements or engages in perfectionistic behavior and/or nervous mannerisms). The Granting Autonomy subscale was used as the IO rating of maternal over-control (such that lower granting autonomy scores indicate higher over-control). IO ratings of Warmth/Positive Affect assessed the maternal warmth domain; maternal criticism was assessed using the Criticism ratings; and maternal anxious modeling was assessed using IO ratings of Anxious Behavior. Inter-rater reliability was assessed using intraclass correlation coefficients (ICC). ICCs were adequate for the four parenting domains: Granting Autonomy/Over-control (.85), Warmth (.72), Criticism (.68), and Anxious behavior (.62).

Results

The primary aim of this study was to compare anxious and non-anxious mothers on key parenting domains using multiple methods and informants and controlling for level of child anxiety. Prior to conducting the primary analyses, however, it was necessary to compare the two groups with respect to demographic variables in order to identify and control for potentially confounding factors that could influence findings. Thus, independent samples t-tests and chi square tests were used for continuous and dichotomous data, respectively.

Between group comparisons revealed no baseline differences between anxious and non-anxious mothers with respect to age, marital status, level of education, or income. Children of anxious and non-anxious mothers were similar with respect to age, gender, and child report of anxiety symptoms. However, offspring of anxious mothers has significantly higher

levels of parent-reported anxiety symptoms, compared to offspring of non-anxious mothers. In addition, there were significantly more European American offspring of anxious, compared to non-anxious, mothers.

Hierarchical logistic regression analyses were used to test hypotheses regarding the relation between maternal anxiety and parenting domains (i.e., over-control, warmth, criticism, and anxious modeling) after controlling for race and child anxiety. Three regressions were conducted for each parenting domain to account for the three informants (parent report, child report, and IO rating). For each regression, race was entered in the first step (European-American, African-American), maternal report of child anxiety level was entered in the second step, child self-report of anxiety level was entered in the third step, and maternal anxiety status was entered in the fourth step (anxious, non-anxious).

Next, it was necessary to determine the validity of the behavioral observation task in terms of eliciting anxiety. Mothers provided subjective anxiety ratings before and after receiving instructions from the research assistant, at the end of the five minute planning phase, and after each minute (for five minutes) during the speech delivery phase. Anxious mothers reported significantly higher anxiety ratings at every time-point, compared to non-anxious mothers (all p 's $< .001$).

Parental Over-control

After controlling for race and level of child anxiety, results indicated that maternal anxiety status did not predict child or IO ratings of over-controlling parenting (see Table 2).

Parental Warmth

Maternal anxiety status predicted maternal self-report of lower warmth and accounted for 12% of the variance in this domain after controlling for race and level of child anxiety. However, maternal anxiety did not predict child report or IO ratings of warmth (see Table 3).

Parental Criticism

Maternal anxiety status did not predict parental criticism for any of the three informants after controlling for race and child anxiety (see Table 4).

Parental Anxious Modeling

After controlling for race and child anxiety, maternal anxiety status predicted maternal report of anxious modeling and explained an additional 14% of the variance in this domain. Maternal anxiety did not predict child-report or IO ratings of anxious modeling (see Table 5).

Discussion

This study adds to a small but growing body of research examining the parenting practices of anxious, compared to non-anxious, mothers by using multiple informants and methods and by controlling for the potential influence of child anxiety. Overall results indicated that, after controlling for race and child anxiety level, maternal anxiety predicted maternal self-report of lower warmth and more anxious modeling. Neither children nor IOs perceived any differences between anxious and non-anxious mothers on any parenting domain. These findings should provide reassurance to anxious mothers (of children without anxiety disorders) who may assume that their anxiety negatively impacts their parenting skills (at least those measured in this study).

Parental Over-control

The present findings suggest that anxious mothers with non-affected children are no more over-controlling or restrictive than non-anxious mothers according to child and IO reports. These findings are generally consistent with the majority of studies (5/7) (Ginsburg et al., 2006; Ginsburg et al., 2004; Moore et al., 2004; Turner et al., 2003; Woodruff-Borden et al., 2002) and a recent meta-analysis (van der Bruggen, Stams, & Bögels, 2008) which found no difference between anxious and non-anxious parents with respect to parental over-control. However, the present findings are inconsistent with theoretical models which have proposed that anxious parents exercise excessive control over their children and that this is associated with the development and/or maintenance of child anxiety (Ginsburg & Schlossberg, 2002; Rapee, 1997). As noted earlier, most hypotheses regarding the role of parenting behaviors in the family transmission of anxiety were driven by “bottom up” studies which evaluated the behavior of parents of anxious children rather than the behavior of anxious parents. Results from the current study, as well as the majority of “top down” studies, suggest that future studies of parenting behaviors should evaluate alternative pathways of transmission.

Parental Warmth

Anxious, compared to non-anxious, mothers described their families as lacking in warmth, support, and togetherness even after controlling for child anxiety symptoms. In contrast, children and IOs reported similar levels of warmth for anxious and non-anxious mothers. The findings based on child and maternal self-report are consistent with previous studies in which anxious mothers, but not their children, described themselves as less warm when compared to non-anxious mothers (Lindhout et al., 2006; Turner et al., 2003). A possible explanation for these findings is that anxious mothers, due to their own anxiety and associated cognitive distortions, tend to be more self-critical and/or less satisfied with the quality of their family relationships and interactions. This perception, however, does not appear to resonate with their children (and is not observed by IOs) as they do not describe their mothers as lacking in warmth.

Parental Criticism

Data from all three informants suggests that maternal anxiety status is not associated with critical or rejecting behavior. This finding is consistent with the majority of studies (4/6) which did not find an association between parental anxiety and criticism. In one study that found a positive relationship between parental anxiety and criticism, Whaley et al. (1999) found that anxious mothers were more critical of their children during interactional tasks but only when the child was also anxious; suggesting that the behavior of anxious mothers is influenced by child psychopathology. In addition, Ginsburg et al. (2006) found that anxious mothers were more critical compared to non-anxious mothers only when the task was structured, timed, and challenging compared to an unstructured, untimed, free play task. Children in their sample were younger (mean age 5.6 years) than children in this and other comparison studies (age range 6–18 years). Thus, it is possible that anxious mothers may experience more frustration and demonstrate higher levels of criticism when they engage in stressful tasks with younger children who require more instruction and guidance. Overall, these findings suggest that criticism is not exclusively linked with maternal anxiety, however, future studies should examine whether criticism among anxious mothers varies as a function of situational stress and child developmental level.

Parental Anxious Modeling

Anxious, compared to non-anxious, mothers reported significantly more avoidance of social and recreational activities such as spending time with friends, going to the movies or camping, and playing sports even after controlling for level of child anxiety. Avoidance of

fear-evoking people, places, and situations is a hallmark characteristic of anxiety disorders so it makes intuitive sense that anxious mothers would endorse a lower level of involvement in social and recreational activities. It should be noted that anxious avoidance is a facet of anxious modeling, but is not completely analogous to the types of anxious behaviors rated by children and IOs (i.e., making fearful statements and overt displays of anxious behavior). Instruments specifically designed to assess parental-report of anxious modeling using operational definitions consistent with child and IO measures are needed. With respect to overt behaviors, neither children nor IOs perceived any differences between anxious and non-anxious mothers in anxious modeling. Findings from previous studies are inconsistent regarding parental modeling of anxiety which may be due to key differences in the measures and coding systems used across studies. Specifically, in the present study, the anxious behaviors coded by IOs (e.g., hair twirling, nail biting, anxious/worried facial expressions) were similar to those used by Ginsburg and colleagues (2004; 2006) and Turner et al. (2003) – all of which failed to find differences between anxious and non-anxious parents. Alternatively, the behaviors coded by IOs in the Moore et al. (2004) and Whaley et al. (1999) studies described catastrophizing statements made within the context of mother-child dialogue, and both studies found that anxious, compared to non-anxious, mothers engaged in more anxious modeling/catastrophizing. Thus, it is possible that the measurement of anxious modeling or the type of task used in this study did not adequately capture or provoke catastrophizing responses from the participants. Further refinement of interaction tasks and behavioral coding systems are needed to clarify discrepant findings.

The Role of Child Anxiety

Although the primary aim of this study was to compare parenting behaviors of anxious and non-anxious mothers after controlling for the potential influence of child anxiety, inspection of Tables 2–5 reveals that level of child anxiety was a robust predictor of parenting practices even though none of the children had an anxiety disorder. For instance, with respect to maternal over-control, children who reported higher levels of anxiety perceived their mothers as more over-controlling and restrictive. IOs also rated mothers of these children as higher in over-control. These findings are consistent with “bottom-up” studies that have found mothers of anxious children (regardless of maternal anxiety status) are more likely to be perceived by their children (Bogels & Melick, 2004; Messer & Beidel, 1994; McClure et al., 2001) and IOs (Barrett, Fox, & Farrell, 2005; Moore et al., 2004; Whaley et al., 1999) as more controlling and restrictive. With respect to maternal warmth, when children had higher levels of anxiety (based on maternal report), their mothers described themselves as less warm. These findings are consistent with a recent meta-analysis of the parenting literature which found that parental warmth was a modest but significant predictor of child anxiety (McLeod, Wood, & Weisz, 2007). In terms of maternal criticism, mothers of children with higher levels of anxiety (child and maternal report), were rated as more critical (child and maternal report); findings which replicate previous research (Hirshfeld et al., 1997; Messer & Beidel, 1994; see Bogels & Brechman-Toussaint, 2006 and McLeod, Wood & Weisz, 2007 for reviews). Finally, with respect to anxious modeling, children who reported higher levels of anxiety perceived their mothers as engaging in more anxious parenting behavior. This finding fits well within a body of literature which suggests that anxious modeling may be related to the development and/or maintenance of child anxiety (Bogels & Brechman-Toussaint, 2006; Beidel & Turner, 1998; Capps et al., 1996; Fisak & Grills-Taquechel, 2007; Rapee, 2002).

Overall, the magnitude of our findings varied as a function of reporter and parenting domain. For example, models predicting maternal over-control explained a modest amount (13–27%) of the variance and were based on IO ratings and child-report, respectively. Likewise, the models predicting maternal anxious modeling also explained a modest

proportion (18–31%) of the variance in this domain based on parent and child report, respectively. The magnitude of models predicting parental warmth and criticism were smaller and accounted for a maximum of 12% of the variance for each parenting domain. Thus, although our models make a significant contribution to the prediction of parenting behaviors, the majority of the variance in domains remains unknown. Refinement of measurement tools as well as identification of other salient predictors are needed.

Limitations

Findings should be interpreted in light of several methodological limitations. First, the current study was restricted to mothers who were fairly heterogeneous with respect to their primary anxiety diagnosis and the sample was too small to analyze parenting behaviors by diagnostic group. However, the range of maternal anxiety disorder diagnoses is comparable to published studies examining these constructs (Ginsburg et al., 2004; Moore et al., 2004; Whaley et al., 1999; Woodruff-Borden et al., 2002). Second, the measures, behavioral task, and coding systems used in the present study were not identical to those used in prior research and this makes comparison across studies difficult. Although we attempted to use psychometrically sound and operationally analogous measures to assess mother's, children's, and IOs perspectives of various parenting constructs, we were limited by the availability of such measures. In addition, because the internal consistency of the Authoritarian subscale of the SRMFF (Bloom, 1985; Bloom & Sylvie, 1994) was unacceptably low, we did not have a maternal self-report measure of maternal over-control. Third, although cross-sectional designs are commonly used and provide informative data about concurrent relationships, we cannot answer questions about the impact of parenting behaviors over time. Given evidence that specific parenting behaviors, such as high criticism and over-control, are associated with the development of child anxiety over time (Ginsburg et al., 2004), the impact of parenting behaviors needs to be studied prospectively. Finally, participants in this study were fairly homogenous in that they were primarily European American, college educated, married, and middle-class which limits the generalizability of our findings. In case-control designed studies, there is the possibility of participant self-selection bias. We attempted to minimize this bias by using largely parallel recruitment strategies designed to target mothers of school-aged children. Future studies should evaluate the relationship between parent anxiety, child anxiety, and parenting with diverse samples.

Summary and Clinical Implications

In summary, while anxious mothers had more negative perceptions of their parenting and family environments, reports from their children and IOs did not confirm these perceptions. These findings should provide reassurance to anxious mothers (of children without anxiety disorders) who may assume that anxiety negatively impacts their parenting skills or harms their children. Mothers of anxious children, however, seem to be a greater risk for engaging in "anxiety-enhancing" behaviors. Children who reported higher levels of anxiety were more likely to describe their mothers as over-controlling, critical, and anxious and this was, in part, corroborated by IOs whose ratings of maternal over-control were associated with child anxiety level. While child perceptions may have been affected by their own anxiety, there is emerging evidence that child symptoms themselves influence maternal behavior (Hudson et al., 2009; Moore et al., 2004). Additional studies are needed to examine the perceptual and behavioral consequences of child anxiety on maternal behavior.

Based on the present findings, several recommendations are made for clinicians working with anxious mothers and/or anxious children. First, the quality and level of satisfaction with familial relationships should be assessed by clinicians working with anxious parents as real and/or perceived deficits could become additional targets for treatment. Second, given that avoidance maintains anxiety through negative reinforcement and may limit an individual's

(or family's) quality of life, it is necessary for clinicians working with anxious parents to routinely assess for avoidance and implement strategies to increase "approach" behavior. Finally, although children in this sample were not clinically anxious, the presence of elevated anxiety symptoms was associated with child perceptions of parental over-control (also corroborated by IOs), criticism, and anxious modeling. Thus, practitioners working with anxious children should assess for parents' tendencies to engage in these behaviors and, if warranted, implement appropriate interventions. Overall, it is recommended that practitioners who work with anxious mothers should provide them with some reassurance that their own anxiety is unlikely to negatively impact their parenting—at least those aspects of parenting measured in the current study. However, since children of anxious parents are significantly more likely to develop anxiety (Beidel & Turner, 1997; Turner, Beidel, & Costello, 1987), clinicians working with anxious parents should routinely assess for anxiety in their children and provide parents with information about how elevated child anxiety symptoms might impact parenting.

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References

- Bandura, A. Social learning theory. Englewood Cliffs, NJ: Prentice-Hall; 1977.
- Barrett PM, Dadds MR, Rapee RM. Family treatment of childhood anxiety: A controlled trial. *Journal of Consulting and Clinical Psychology*. 1996; 64:333–342. [PubMed: 8871418]
- Barrett PM, Fox T, Farrell L. Parent-child interactions with anxious children and with their siblings: An observational study. *Behaviour Change*. 2005; 22:220–235.
- Beidel DC, Turner SM. At risk for anxiety: I. Psychopathology in the offspring of anxious parents. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1997; 36:918–924. [PubMed: 9204669]
- Beidel, DC.; Turner, SM. Shy children, phobic adults: Nature and treatment of social anxiety disorders. 2. Washington, DC, US: American Psychological Association; 2007.
- Birmaher B, Brent DA, Chiappetta L, Bridge J, Monga S, Baugher M. Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders(SCARED): A replication study. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1999; 38:1230–1236. [PubMed: 10517055]
- Birmaher B, Khetarpal S, Brent DA, Cully M, et al. The Screen for Child Anxiety Related Emotional Disorders (SCARED): Scale construction and psychometric characteristics. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1997; 36:545–553. [PubMed: 9100430]
- Bloom BL. A factor analysis of self-report measures of family functioning. *Family Process*. 1985; 24:225–239. [PubMed: 4018243]
- Bloom BL, Naar S. Self-report measures of family functioning: Extensions of a factorial analysis. *Family Process*. 1994; 33:203–216. [PubMed: 7925929]
- Bögels SM, Brechman-Toussaint ML. Family issues in child anxiety: Attachment, family functioning, parental rearing and beliefs. *Clinical Psychology Review*. 2006; 26:834–856. [PubMed: 16473441]
- Bögels SM, van Melick M. The relationship between child-report, parent self-report, and partner report of perceived parental rearing behaviors and anxiety in children and parents. *Personality and Individual Differences*. 2004; 37:1583–1596.
- Brown, TA.; DiNardo, PA.; Barlow, DH. Anxiety Disorders Interview Schedule for DSM-IV. New York: Graywind Publications; 1994.
- Capps L, Sigman M, Sena R, Henker B. Fear, anxiety, and perceived control in children of agoraphobic parents. *Journal of Child Psychology and Psychiatry*. 1996; 37:445–452. [PubMed: 8735444]

- Castro J, Toro J, Van der Ende J, Arrindell WA. Exploring the feasibility of assessing perceived parental rearing styles in Spanish children with the EMBU. *International Journal of Social Psychiatry*. 1993; 39:47–57. [PubMed: 8478163]
- Chorpita BF, Barlow DH. The development of anxiety disorders: The role of control in the early environment. *Psychological Bulletin*. 1998; 124:3–21. [PubMed: 9670819]
- Fisak B, Grills-Tauchel AE. Parental modeling, reinforcement, and information transfer: Risk factors in the development of child anxiety? *Clinical Child and Family Psychology Review*. 2007; 10:213–231. [PubMed: 17487582]
- Ginsburg G. The Child Anxiety Prevention Study: Intervention model and primary outcomes. *Journal of Consulting and Clinical Psychology*. 2009; 77:580–587. [PubMed: 19485597]
- Ginsburg, GS.; Grover, RL. Coding manual for parent-child interactions. Johns Hopkins University; Baltimore, MD: 2007. Unpublished manuscript
- Ginsburg GS, Grover RL, Cord JJ, Ialongo N. Observational measures of parenting in anxious and nonanxious mothers: Does type of task matter? *Journal of Clinical Child and Adolescent Psychology*. 2006; 35:323–328. [PubMed: 16597228]
- Ginsburg GS, Grover RL, Ialongo N. Parenting behaviors among anxious and non-anxious mothers: Relation with concurrent and long-term child outcomes. *Child & Family Behavior Therapy*. 2004; 26:23–41.
- Ginsburg GS, Schlossberg MC. Family-based treatment of childhood anxiety disorders. *International Review of Psychiatry*. 2002; 14:143–154.
- Ginsburg GS, Siqueland L, Masia-Warner S, Hedtke KA. Anxiety disorders in children: Family matters. *Cognitive and Behavioral Practice*. 2004; 11:28–43.
- Grüner K, Muris P, Merckelbach H. The relationship between anxious rearing behaviours and anxiety disorders symptomatology in normal children. *Journal of Behavior Therapy and Experimental Psychiatry*. 1999; 30:27–35. [PubMed: 10365863]
- Hirshfeld DR, Biederman J, Brody L, Faraone SV, et al. Expressed emotion toward children with behavioral inhibition: Associations with maternal anxiety disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1997; 36:910–917. [PubMed: 9204668]
- Hudson J, Doyle AM, Gar N. Child and maternal influence on parenting behavior in clinically anxious children. *Journal of Clinical Child and Adolescent Psychology*. 2009; 38:256–262. [PubMed: 19283603]
- Hughes AA, Hedtke KA, Kendall PC. Family functioning in families of children with anxiety disorders. *Journal of Family Psychology*. 2008; 22:325–328. [PubMed: 18410220]
- Kendall PC, Flannery-Schroeder SM, Panichelli-Mindel SM, Southam-Gerow M, Henin A, Warman M. Therapy for youths with anxiety disorders: A second randomized clinical trial. *Journal of Consulting and Clinical Psychology*. 1997; 65:366–380. [PubMed: 9170760]
- Lieb R, Wittchen HU, Hafler M, Fuetsch M, Stein MB, Merikangas KR. Parental psychopathology, parenting styles, and the risk of social phobia in offspring: A prospective-longitudinal community study. *Archives of General Psychiatry*. 2000; 57:859–866. [PubMed: 10986549]
- Lindhout I, Markus M, Hoogendijk T, et al. Childrearing style of anxiety-disordered parents. *Child Psychiatry and Human Development*. 2006; 37:89–102. [PubMed: 16775762]
- Lyneham HJ, Abbott MJ, Rapee RM. Interrater reliability of the anxiety disorders interview schedule for DSM-IV: Child and parent version. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2007; 46:731–736. [PubMed: 17513985]
- McClure EB, Brennan PA, Hammen C, Le Brocque RM. Parental anxiety disorders, child anxiety disorders, and the perceived parent-child relationship in an Australian high-risk sample. *Journal of Abnormal Child Psychology*. 2001; 29:1–10. [PubMed: 11316331]
- McLeod BD, Wood JJ, Weisz JR. Examining the association between parenting and childhood anxiety: A meta-analysis. *Clinical Psychology Review*. 2007; 27:155–172. [PubMed: 17112647]
- Messer SC, Beidel DC. Psychosocial correlates of childhood anxiety disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1994; 33:975–983. [PubMed: 7961353]
- Moore PS, Whaley SE, Sigman M. Interactions between mothers and children: Impact of maternal and child anxiety. *Journal of Abnormal Psychology*. 2004; 113:471–476. [PubMed: 15311992]

- Muris P, Meesters C, von Brakel A. Assessment of anxious rearing behaviors with a modified version of 'Egna Minnen Beträffande Uppfostran' questionnaire for children. *Journal of Psychopathology and Behavioral Assessment*. 2003; 25:229–237.
- Muris P, Merckelbach H. Perceived parental rearing behaviour and anxiety disorders symptoms in normal children. *Personality and Individual Differences*. 1998; 25:1199–1206.
- Muris P, Merckelbach H, Gadet B, Moulart V, Tierney S. Sensitivity for treatment effects of the Screen for Child Anxiety Related Emotional Disorders. *Journal of Psychopathology and Behavioral Assessment*. 1999; 21:323–335.
- Rachman S. The conditioning theory of fear-acquisition: A critical examination. *Behaviour Research and Therapy*. 1977; 15:375–387. [PubMed: 612338]
- Rapee RM. Potential role of childrearing practices in the development of anxiety and depression. *Clinical Psychology Review*. 1997; 17:46–67.
- Rapee RM. The development and modification of temperamental risk for anxiety disorders: Prevention of a lifetime of anxiety? *Biological Psychiatry*. 2002; 52:947–957. [PubMed: 12437936]
- Schreier A, Wittchen H, Höfler M, Lieb R. Anxiety disorders in mothers and their children: Prospective longitudinal community study. *British Journal of Psychiatry*. 2008; 192:308–309. [PubMed: 18378996]
- Silverman, WK.; Albano, AM. The anxiety disorders interview schedule for DSM-IV: Child and parent versions. San Antonio, TX: Psychological Corporation; 1996.
- Silverman WK, Saavedra LM, Pina AA. Test retest reliability of anxiety symptoms and diagnoses with the Anxiety Disorders Interview Schedule for *DSM-IV*: Child and parent versions. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2001; 40:937–944. [PubMed: 11501694]
- Spence SH, Donovan C, Brechman-Toussaint M. The treatment of childhood social phobia: The effectiveness of a social skills training-based, cognitive-behavioral intervention, with and without parental involvement. *The Journal of Child Psychology and Psychiatry and Allied Disciplines*. 2000; 41:713–726.
- Stark KD, Humphrey LL, Crook K, Lewis K. Perceived family environments of depressed and anxious children: Child's and maternal figure's perspectives. *Journal of Abnormal Child Psychology*. 1990; 18:527–547. [PubMed: 2266224]
- Stark KD, Humphrey LL, Laurent J, Livingston R, Christopher J. Cognitive, behavioral, and family factors in the differentiation of depressive and anxiety disorders during childhood. *Journal of Consulting and Clinical Psychology*. 1993; 61:878–886. [PubMed: 8245285]
- Turner SM, Beidel DC, Costello A. Psychopathology in the offspring of anxiety disorders patients. *Journal of Consulting and Clinical Psychology*. 1987; 55:229–235. [PubMed: 3571678]
- Turner SM, Beidel DC, Roberson-Nay R. Offspring of anxious parents: Reactivity, habituation, and anxiety-proneness. *Behaviour Research and Therapy*. 2005; 43:1263–1279. [PubMed: 16086980]
- Turner SM, Beidel DC, Robertson-Nay R, Tervo K. Parenting behaviors in parents with anxiety disorders. *Behaviour Research and Therapy*. 2003; 41:541–554. [PubMed: 12711263]
- van der Bruggen C, Stams G, Bögels S. Research review: The relation between child and parent anxiety and parental control: A meta-analytic review. *Journal of Child Psychology and Psychiatry*. 2008; 49:1257–1269. [PubMed: 18355216]
- Whaley SE, Pinto A, Sigman M. Characterizing interactions between anxious mothers and their children. *Journal of Consulting and Clinical Psychology*. 1999; 67:826–836. [PubMed: 10596505]
- Wood J, McLeod BD, Sigman M, Hwang WC, Chu BC. Parenting and childhood anxiety: Theory, empirical findings, and future directions. *Journal of Child Psychology and Psychiatry*. 2003; 44:134–151. [PubMed: 12553416]
- Woodruff-Borden J, Morrow C, Bourland S, Cambron S. The behavior of anxious parents: Examining mechanisms of transmission of anxiety from parent to child. *Journal of Clinical Child and Adolescent Psychology*. 2002; 31:364–374. [PubMed: 12149974]

Table 1**Group Comparisons**

	Anxious Mothers (<i>n</i> = 38)	Non-Anxious Mothers (<i>n</i> = 44)	Difference Between Groups
Mother's Age ^{<i>I</i>}	<i>M</i> = 40.32, <i>SD</i> = 5.16	<i>M</i> = 39.14, <i>SD</i> = 6.29	<i>t</i> ₍₇₈₎ = .91, <i>p</i> (two-tailed) = .36
Primary Caretaker	0.50 (19) Both Parents	0.44 (19) Both Parents	χ^2 (1, <i>N</i> = 79) = .58, <i>p</i> = .45
Marital Status	0.84 (32) Married	0.75 (33) Married	χ^2 (1, <i>N</i> = 82) = 1.05, <i>p</i> = .31
Mother's Education	0.86 (31) College or more	0.79 (31) College or more	χ^2 (2, <i>N</i> = 75) = .57, <i>p</i> = .75
Father's Education	0.88 (28) College or more	0.82 (28) College or more	χ^2 (2, <i>N</i> = 66) = 2.19, <i>p</i> = .34
Family Income	0.66 (25) Over \$80,000	0.50 (22) Over \$80,000	χ^2 (1, <i>N</i> = 82) = 2.08, <i>p</i> = .15
Child's Age ^{<i>I</i>}	<i>M</i> = 8.75, <i>SD</i> = 1.67	<i>M</i> = 9.22, <i>SD</i> = 1.53	<i>t</i> ₍₈₀₎ = -1.32, <i>p</i> (two-tailed) = .19
Child's Gender	0.53 (20) Male	0.43 (19) Male	χ^2 (1, <i>N</i> = 82) = .73, <i>p</i> = .39
Child's Ethnicity	0.92 (35) European American	0.64 (27) European American	χ^2 (1, <i>N</i> = 76) = 8.13, <i>p</i> = .004**
Child Anxiety Symptoms ^{<i>I</i>} (maternal report)	<i>M</i> = 17.17, <i>SD</i> = 10.32	<i>M</i> = 7.65, <i>SD</i> = 6.68	<i>t</i> ₍₇₉₎ = 5, <i>p</i> (two-tailed) = .000***
Child Anxiety Symptoms ^{<i>I</i>} (child report)	<i>M</i> = 24.84, <i>SD</i> = 12.70	<i>M</i> = 21.18, <i>SD</i> = 14.44	<i>t</i> ₍₇₇₎ = 1.19, <i>p</i> (two-tailed) = .24

Note: Results presented in percents, number of respondents indicated in parentheses.

^{*I*}Results are presented in means and standard deviations.

*
p < .05,

**
p < .01;

p < .001.

Table 2

Summary of Hierarchical Regression Analyses for Variables Predicting Parental Over-Control among Anxious (n = 38) and Non-Anxious Mothers (n = 44)

Predictor Variable	Step 1			Step 2			Step 3			Step 4		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE B	β
EMBU-C Overprotection (child report)												
Race	.76	1.19	.08	.85	1.22	.09	-1.56	1.16	-1.16	-1.94	1.19	-.19
Child Anxiety-Maternal Report				.02	.05	.04	-.05	.05	-.11	-.02	.05	-.05
Child Anxiety-Child Report							.17	.03	.58***	.17	.03	.61***
Maternal Anxiety Status										1.22	.96	.16
R²		.01			.01			.27***			.29	
ST Granting Autonomy (IO report)												
Race	-.04	.23	-.02	-.12	.24	-.06	.16	.25	.08	.10	.26	.05
Child Anxiety-Maternal Report				-.01	.01	-.17	-.01	.01	-.09	-.00	.01	-.04
Child Anxiety-Child Report							-.02	.01	-.33*	-.02	.01	-.31*
Maternal Anxiety Status										.21	.21	.14
R²		.00			.03			.11*			.13	

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Summary of Hierarchical Regression Analyses for Variables Predicting Parental Warmth among Anxious (n = 38) and Non-Anxious Mothers (n = 44)

Table 3

Predictor Variable	Step 1			Step 2			Step 3			Step 4		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
<u>SRMFF Cohesion (mother report)</u>												
Race	-.04	.16	-.03	-.12	.16	-.09	-.15	.17	-.11	-.24	.18	-.18
Child Anxiety-Maternal Report				-.01	.01	-.24*	-.01	.01	-.26*	-.01	.01	-.13
Child Anxiety-Child Report							.00	.01	.05	.00	.01	.11
Maternal Anxiety Status										.31	.15	.29*
R²		.00			.06*			.06			.12*	
<u>EMBU-C Emotional Warmth (child report)</u>												
Race	-1.80	1.14	-.18	-2.19	1.16	-.22	-1.75	1.28	-.18	-2.03	1.32	-.21
Child Anxiety-Maternal Report				-.07	.05	-.18	-.06	.05	-.15	-.04	.05	-.11
Child Anxiety-Child Report							-.03	.04	-.11	-.02	.04	-.08
Maternal Anxiety Status										.93	1.07	.12
R²		.03			.07			.08			.09	
<u>ST Warmth/Positive Affect (IO report)</u>												
Race	-.41	.26	-.18	-.34	.27	-.16	-.42	.30	-.19	-.30	.31	-.14
Child Anxiety-Maternal Report				.01	.01	.12	.01	.01	.10	.00	.01	.01
Child Anxiety-Child Report							.01	.01	.08	.00	.01	.04
Maternal Anxiety Status										-.40	.24	-.23
R²		.03			.05			.05			.09	

* $p < .05$.** $p < .01$.*** $p < .001$.

Summary of Hierarchical Regression Analyses for Variables Predicting Parental Criticism among Anxious (n = 38) and Non-Anxious Mothers (n = 44)

Table 4

Predictor Variable	Step 1			Step 2			Step 3			Step 4		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
SRMFF Conflict (mother report)												
Race	.26	.15	.20	.35	.15	.27*	.33	.17	.25	.35	.17	.27*
Child Anxiety-Maternal Report				.02	.01	.29*	.02	.01	.27*	.01	.01	.24
Child Anxiety-Child Report							.00	.01	.05	.00	.01	.04
Maternal Anxiety Status										-.09	.14	-.09
R²		.04			.12*			.12			.13	
EMBU-C Rejection (child report)												
Race	.71	1.13	.07	.83	1.17	.09	-.27	1.25	-.03	-.23	1.30	-.02
Child Anxiety-Maternal Report				.02	.05	.06	-.01	.05	-.01	-.01	.05	-.02
Child Anxiety-Child Report							.08	.04	.28*	.08	.04	.27*
Maternal Anxiety Status										-.11	1.05	-.01
R²		.01			.01			.07*			.07	
ST Criticism/Hostility (IO report)												
Race	6.32	7.50	.10	6.18	7.77	.10	6.82	8.64	.10	5.55	9.06	.09
Child Anxiety-Maternal Report				-.03	.33	-.01	-.01	.34	-.00	.07	.38	.03
Child Anxiety-Child Report							-.04	.26	-.02	-.02	.26	-.01
Maternal Anxiety Status										3.70	7.52	.07
R²		.01			.01			.01			.01	

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 5

Summary of Hierarchical Regression Analyses for Variables Predicting Parental Anxious Modeling among Anxious (n = 38) and Non-Anxious Mothers (n = 44)

Predictor Variable	Step 1			Step 2			Step 3			Step 4		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
SRMFF Active/Recreational/Social Orientation (mother report)												
Race	-.51	.30	-.20	-.64	.30	-.25*	-.71	.33	-.28*	-.96	.33	-.37**
Child Anxiety-Maternal Report				-.02	.01	-.19	-.02	.01	-.21	-.01	.01	-.04
Child Anxiety-Child Report							.01	.01	.07	.01	.01	.14
Maternal Anxiety Status										.81	.27	.39**
R²		.04			.08			.08			.18**	
EMBU-C Anxious Rearing Style (child report)												
Race	4.83	1.46	.37**	4.92	1.51	.37**	2.30	1.49	.17	2.20	1.55	.17
Child Anxiety-Maternal Report				.02	.06	.03	-.05	.06	-.10	-.04	.06	-.08
Child Anxiety-Child Report							.18	.04	.47***	.18	.04	.48***
Maternal Anxiety Status										.35	1.25	.03
R²		.13**			.13			.31***			.31	
ST Anxious Behavior (IO report)												
Race	-.22	.16	-.16	-.27	.17	-.19	-.27	.19	-.20	-.19	.19	-.14
Child Anxiety-Maternal Report				-.01	.01	-.12	-.01	.01	-.13	-.01	.01	-.22
Child Anxiety-Child Report							.00	.01	.01	-.00	.01	-.03
Maternal Anxiety Status										-.25	.15	-.23
R²		.03			.04			.04			.08	

* $p < .05$.

** $p < .01$.

*** $p < .001$.