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Anxiety Promoting Parenting Behaviors: A Comparison of Anxious Mothers and Fathers

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Abstract

The majority of research identifying anxiety-promoting parenting behaviors has been conducted with mothers, leaving a gap in current knowledge about the role of fathers' parenting behaviors. In an attempt to fill this gap, this study compared anxiety-promoting parenting behaviors of anxious mothers and fathers. Parents completed self-report measures of parenting behavior and independent coders rated parenting behaviors (i.e., overcontrol, granting of autonomy, warmth, hostility, anxious behavior) of mothers ($n = 34$) and fathers ($n = 21$) during a challenging parent-child interaction task (children were ages 6–12). Results indicated that anxious fathers were observed to be more controlling than anxious mothers; while anxious mothers reported using more punishment and reinforcement of children's dependence in anxiety provoking situations compared to fathers. Findings extend our knowledge about anxious fathers, and highlight the need for additional research on the impact of fathers' parenting with respect to the development of child anxiety.

Keywords

parental anxiety; parenting behavior; parental control; anxious fathers

Introduction

Developmental models identify several parenting behaviors as playing a key role in the etiology of childhood anxiety disorders [1, 2, 3]. For instance, numerous studies using both clinical and community samples have shown that higher levels of parental overcontrol, criticism, modeling of anxious avoidance, punishment, and the use of force are associated with higher levels of child anxiety [3, 4, 5, 6, 7, 8]. Two relatively recent meta-analyses have shown medium-to-large effect sizes for the relation between parental controlling behavior and child anxiety during parent-child interaction tasks [7, 9]. Moreover, some studies have found that anxious parents engage in greater amounts of these "anxiety-promoting" parenting behaviors than nonanxious parents [10, 11].

Unfortunately, the majority of studies, with both anxious and nonanxious parents, examining these anxiety-promoting parenting behaviors have focused on mothers or have reported on combined samples of both mothers and fathers, leaving a gap in knowledge regarding whether fathers and mothers engage in similar parenting behaviors and whether the impact

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of fathers' parenting behaviors on child anxiety levels is similar to that of mothers [12]. The absence of data on fathers, and anxious fathers in particular, has generated recent calls for research examining potential differences between mothers' and fathers' parenting behaviors [12, 13, 14, 15, 16].

The rationale for examining anxious fathers' parenting behaviors is based on theoretical models that suggest mothers and fathers interact with their children differently which, in turn, may differentially influence children's anxiety levels [12, 14, 17, 18]. In their review of this literature, Bogels and Phares [12] suggest that fathers are more likely than mothers to engage in "rough and tumble" play activities, which could foster a sense of competition, autonomy, competence, and exploration of the outside world, which may be associated with lower anxiety. In contrast, mothers may be more likely to engage in caretaking, comforting, and protective behaviors with their children, which could foster a sense of security and comfort and lower anxiety in their children. However, these same behaviors may inadvertently foster greater dependence, less autonomy, and higher anxiety, particularly in children at risk for anxiety due to parental anxiety (a known risk factor for child anxiety development). Relatedly, drawing on an evolutionary perspective in which fathers were more involved in helping children navigate the external environment (e.g., new humans, dangerous animals) and mothers were more involved with the internal environment of the immediate family (e.g., providing emotional care and support), Bogels and Perotti [14] hypothesize that children instinctively reference their father's behavior (as opposed to their mother's behavior) in novel and social situations; therefore fathers' reactions to new people, experiences, and events may be more pertinent for children. Thus, fathers' modeling of anxiety and avoidance may be more salient for children than mothers' reactions and anxiety.

Anxiety-Promoting Parenting Behaviors of Mothers and Fathers

Very few studies have directly compared the use of anxiety-promoting parenting behaviors between mothers and fathers and across these studies differences in informants and methodologies make drawing conclusions difficult. To date, the use of three parenting behaviors (in three studies) have been compared in nonanxious mothers and fathers: overcontrol, warmth, and rejection. Hudson and Rapee [3] examined the use of parental control in mothers ($n = 57$) and fathers ($n = 57$) during interactions with their anxious children and the anxious child's sibling during a challenging interaction task. The total sample consisted of 114 children (ages 7–16 years, 37 were clinic-referred, 20 were non-clinic-referred, and 57 siblings). Parents in this study were given self-report measures of anxiety and depression. There were no differences between parental levels of anxiety between clinic-referred and non-clinic-referred groups and parents were not clinically anxious. Parent-child dyads were observed during a difficult puzzle task in which children and parents worked together to complete a series of difficult puzzles. Relevant results indicated that fathers of clinically anxious children were more controlling during the task than mothers of clinically anxious children based on independent observer report [3].

Rork and Morris [6] examined parental warmth and control during a multi-family interaction task in which 31 two-parent families with a socially anxious child (children ranged in age from 10–13 years) were asked to create and perform a skit together. Parents in this study were not clinically anxious. In contrast to Hudson and Rapee, there were no differences in the levels of parental warmth or control between mothers and fathers. Finally, Bogels and Van Melick [19] examined differences in parental report of rejecting behavior and psychological control in nonanxious mothers ($n = 75$) and fathers ($n = 75$) of nonanxious children ages 8–13 years. Relevant findings indicated that fathers rated themselves as more psychologically controlling and rejecting than mothers.

Taken together this small but growing body of literature has yielded mixed results. Potential reasons for the mixed findings include the variation in samples (anxious/nonanxious child), child ages, and inconsistencies in measurement and definitions of parenting constructs. Moreover, previous studies failed to control for confounding variables such as child anxiety level and child behavior, which have been shown to affect parenting behavior [20]. Additionally, previous studies have included only a small number of parental behaviors within one study (e.g., warmth, control, rejection). Thus, data on whether mothers and fathers engage in similar anxiety-promoting parenting behaviors in general remains scant and unclear. Importantly, none of the studies that have made direct comparisons between mothers and fathers have involved clinically anxious parents, leaving a dearth of information about the differences between anxious mothers' and fathers' parenting behaviors specifically, further highlighting the need for additional research.

The present study attempted to address previous limitations and extend the literature by comparing the parenting behaviors of anxious mothers and fathers while controlling for child age, gender, and anxiety level. Specifically, this study compared anxious mothers and fathers on five observed parenting behaviors (warmth, hostility, overcontrol, granting of autonomy, and anxious behavior) and five parent-reported parenting behaviors (use of positive reinforcement, punishment, force, reinforcement of dependence on the parent, and modeling of anxiety). These behaviors were selected because each is theoretically linked to anxiety in youth. It was hypothesized that anxious fathers would engage in more overcontrolling behaviors (e.g., intrusive help, commanding the child, limiting child's involvement in task) [3, 19] and display lower levels of warmth (e.g., less praise, not complimenting the child) and lower levels of granting of autonomy (e.g., not allowing the child to work on the task freely, not taking the child's suggestions) [3, 19].

Method

Participants

Participants included 34 mother-child dyads and 21 father-child dyads; parents were unrelated to each other. Parents were between the ages of 27 and 53 years ($M = 41.69$, $SD = 5.11$). The sample consisted of primarily Caucasian (83.6%), married (94.5%), high income families (85.5%) earning over \$80,000 or more per year, and highly educated parents (83.6% with college degrees or advanced degrees). In the current sample, 27% of mothers were reported to be the child's primary caregiver, 2% of fathers were reported to be the child's primary caregiver, and 71% of children were reported to be taken care of equally by "both parents." Parents met DSM-IV-TR diagnostic criteria for a primary anxiety disorder based on the Anxiety Disorders Interview Schedule for DSM-IV [21]. The most common disorder in this sample was generalized anxiety disorder ($n = 39$), followed by panic disorder with agoraphobia ($n = 6$), social phobia ($n = 4$), panic disorder without agoraphobia ($n = 2$), and obsessive compulsive disorder ($n = 4$). In the current sample of anxious parents, 62% ($n = 34$) had comorbid diagnoses. See Table 2 for comparisons between mothers and fathers on all demographic variables. Child participants were between the ages of 6 and 12 years ($M = 8.82$, $SD = 1.89$) and were 51% female. None of the children met DSM-IV-TR diagnostic criteria for an anxiety disorder, based on the Anxiety Disorders Interview Schedule for DSM-IV, parent and child versions [22, 23, 24, 25].

Procedure

Families were recruited as part of a larger study examining the impact of an anxiety prevention program for children of parents with anxiety disorders [26]. Interested families contacted the study and completed a phone screen with study staff. If families met preliminary inclusion criteria they were brought in for a comprehensive baseline evaluation.

At the first evaluation all parents and children signed written informed consent and assent to participate. The present study utilized information collected during the first evaluation, which included diagnostic interviews, measures completed by parents and children, and a parent-child interaction task. All children were aided by a trained research assistant during questionnaire completion to insure complete and accurate data collection. For younger children (i.e., 6 year olds), a trained research assistant read each question and assisted the child in responding to each item. Any data that was deemed invalid (i.e., the child clearly did not understand the question content or rating scale) was omitted from subsequent analyses. Trained independent evaluators (IEs) administered semi-structured diagnostic interviews to determine if the parents and children met DSM-IV-TR diagnostic criteria for an anxiety disorder.

Measures—Comparison and Control Variables

Child Anxiety

Anxiety Disorders Interview Schedule for DSM-IV, Parent and Child Versions (ADIS-IV-C) [22, 23, 24, 25]. The ADIS-IV-C is a semi-structured diagnostic interview administered by a trained IE that provides a direct assessment of a broad range of anxiety, mood, and externalizing behavior disorders. This measure was used to assess inclusion/exclusion criteria at the beginning of the larger study [26]. The IE conducted the interview with both the parent and child. Impairment ratings are generated for each diagnosis using the Clinician Severity Rating (CSR, range = 0–8; 4 required to assign a diagnosis). Diagnoses are derived separately from the child and parent report, which yields a composite diagnosis. Discrepancies in parent and child report are reconciled in accordance with the procedural guidelines specified by Albano and Silverman's Clinician Manual [23]. The ADIS-C has good test-retest reliability ($r = 0.98$ for the parent interview and $r = 0.93$ for the child interview) [25] and good inter-rater reliability (e.g., $k = 0.76$ for the child interview and $k = 0.67$ for the parent interview [24, 22]).

The Screen for Child Anxiety Related Disorders, child and parent versions (SCARED-C and SCARED-P) [27] were both used to measure child and parent report of child anxiety level. The 41-item measure asks children and parents to respond to items using a 3-point Likert-type scale describing the degree to which various statements are “not true or hardly ever true,” “somewhat true or sometimes true,” or “very true or often true.” Higher total scores on the measure indicate higher levels of child anxiety. The SCARED-C was used as a control variable for analyses of covariance. In the present sample, the internal consistencies for the child version (SCARED-C) were .92 for children of mothers and .90 for children of fathers. The SCARED-P was completed by parents to evaluate baseline equivalence across the two groups based on mothers and fathers' report of child anxiety level. The internal consistencies for the parent version (SCARED-P) were .93 for mothers and .93 for fathers.

Parental Anxiety

Anxiety Disorders Interview Schedule for DSM-IV (ADIS) [21]. Parental diagnostic status was assessed using the ADIS and determined inclusion/or exclusion at the beginning of the larger study [26]. This semi-structured interview was conducted by a trained IE. The ADIS has demonstrated good internal consistency and inter-rater reliability [28]. This diagnostic interview assesses a broad range of DSM-IV disorders and screens for other disorders such as psychosis and substance abuse. Like the parent and child ADIS, CSRs are generated for each diagnosis (range = 0–8; a 4 is required to make a diagnosis) and were used to categorize all positive diagnoses as primary or secondary. *The State-Trait Anxiety Inventory (STAI)* [29] was used to measure parent report of anxiety symptoms. The Trait Scale consists of 20 items, responses range from 1 (almost never) to 4 (almost always) and yields a

total score (ranging from 20–80) indicating the severity of parental anxiety symptoms; higher scores reflect a higher level of anxiety. The STAI has shown excellent test-retest reliability ($rs = 0.73$ – 0.86) and correlates highly with other measures of adult anxiety symptoms ($rs = 0.73$ – 0.85). The internal consistencies for the current sample were .92 and .94 for mothers and fathers, respectively.

Parenting Stress

The Parenting Stress Index-Short Form (PSI-SF) [30] was used to measure the parent's self-reported levels of parenting stress. This measure consists of 36 items that were taken from the original PSI which consisted of 120 items. Parents were asked to indicate their agreement with various statements (e.g., "There are quite a few things that bother me about my life," "My child is not able to do as much as I expected") on a 5-point Likert-type scale, which ranged from 1 (strongly disagree) to 5 (strongly agree). The current study utilized the total score; higher scores indicate higher levels of parenting stress. For the current sample, internal consistency coefficients were .92 for mothers and .88 for fathers.

Parenting Behavior–Dependent Variables

The Etch-a-Sketch (EAS) [20] observational paradigm was used to elicit and code parent-child interactions. The EAS is a cooperative learning challenge task that requires both the parent and child to work as a team in order to succeed. In this study, mother-child and father-child dyads were given an etch-a-sketch board and asked to use the board to copy a series of three pictures that increased in difficulty. The parent controlled the right knob of the board and the child controlled the left knob of the board as they worked together to complete each drawing within the 5 minutes provided. In this study, parent-child interactions during the final drawing were video recorded and then coded by trained study staff. The third drawing was selected for coding based on previous research suggesting that challenging tasks are more likely to elicit the parenting behaviors of interest (i.e., overcontrolling behavior) [31]. Additionally, the first two drawings were easy and quickly completed by the dyads. Families were given a maximum of five minutes to complete the final drawing and were instructed to tell the staff member providing instructions to say, "We are done" upon completion of the drawing. Families in this sample, spent a range of 2–5 minutes depending on the speed at which the family was able to complete the drawing, the average number of minutes was 3.87 ($SD = 1.05$).

Training of IEs took approximately 15–20 hours and consisted of reviewing the coding manual and related readings, reviewing and discussing sample tapes, and matching at least 80% of parental and child ratings of behavior on five gold standard tapes prior to coding study tapes.

With regard to the coding procedures, two IEs, trained in the manualized coding system, independently watched and coded five different parenting behaviors including: overcontrol, granting of autonomy, hostility/negative affect, warmth/positive affect, and anxious behavior during the task (see Table 1 for definitions and examples of the behaviors coded). Scores for each behavior during the interaction ranged from 0 (never present) to 4 (present most of the time); higher scores indicated greater usage (frequency and intensity). In the event of a disagreement between IEs, the tape was reviewed and a consensus rating was determined. Ratings by both IEs that were within 1 point of each other were considered a match; agreement between IE ratings in this sample was 100% for all the parent behaviors.

Using the same procedures, IEs also rated six child behaviors during the task including: overcontrol, hostility/negative affect, warmth/positive affect, uninvolved/off task behavior, anxious behavior, and noncompliant/oppositional behavior. Scores ranged from 0 (never

present) to 4 (present most of the time); higher scores indicated greater engagement of a certain behavior as rated by the IE. Inter rater agreement between IEs for child behaviors in this sample was 100%. The child behaviors were used as control variables in the present study.

The Child Development Questionnaire (CDQ) [8] is a parent self-report measure that assesses parent's behavioral responses to their child's fears across a variety of situations. This 14-item measure includes descriptions of scenarios in which children often feel frightened and asks parents to indicate the degree to which they use each of five different behavioral responses using a 5-point Likert-type scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always). Each response option is associated with one of five parenting strategies: positive reinforcement, punishment, use of force, reinforcement of dependence, and modeling. For example, for the following scenario, "If I took my child to get a haircut and s/he absolutely refused to sit on the chair because s/he was frightened, I would most likely...", parents were asked to indicate the degree to which they would: "tell child they will get a lollipop if they sit in the chair and behave (positive reinforcement)", "tell child they will get mild spanking if they don't sit down (punishment)", "put child in chair and hold (force)", "take child home immediately (reinforcement of dependence)", and "explain that children get haircuts all the time and nothing bad happens (modeling)." This measure yields a subscale score for each parenting strategy consisting of 14 items, except the reinforcement of dependence subscale which consists of 9 items; higher scores on a subscale indicated greater endorsement of the specific parenting strategy. For the current sample the internal consistencies for mothers were .82 (positive reinforcement), .68 (punishment), .82 (force), .52 (reinforcement of dependence), and .68 (modeling). For the current sample the internal consistencies for fathers were .89, .57, .69, .79, and .54, respectively.

Results

Group Comparisons on Demographic Variables

To examine baseline equivalence of mothers and fathers with respect to demographic variables, independent samples t-tests on dimensional variables and chi-square analyses on categorical variables were completed. Results indicated that there were no significant group differences between anxious mothers and fathers with respect to child age, child gender, race, income, marital status, parental primary diagnosis, and parental level of education (see Table 2). There was however, a statistically significant difference for parent age, such that fathers were older ($M = 44.14$, $SD = 4.21$) than mothers ($M = 40.18$, $SD = 5.08$), $t(53) = 2.99$, $p < .05$. Given this difference, we controlled for parent age in all subsequent analyses.

Group Comparisons on Baseline Clinical Variables

Additionally, in order to evaluate equality between groups on clinical variables, anxious mothers and fathers were compared on: parent-report of parental anxiety severity (STAI), parent-report of parenting stress level (PSI), child- and parent-report of child anxiety (SCARED-C, SCARED-P), and the six IE observed child behaviors (e.g., overcontrol, hostility/negative affect, warmth/positive affect, anxious behavior, non-compliant/oppositional behavior, and uninvolved/off-task behavior). As can be seen in Table 3, there were no significant differences between mothers and fathers on the following clinical variables: parent anxiety severity, parenting stress level, or child anxiety level (based on both child and parent report). For observed child behaviors, there were no differences between children of mothers and fathers with one exception: children of anxious mothers displayed more hostility/negative affect ($M = 0.56$, $SD = 0.89$) than children of anxious fathers ($M = .14$, $SD = .36$), $t(47) = 2.42$, $p < .05$ (equal variances not assumed). Given this

difference, we controlled for child hostile behavior in all subsequent analyses of IE observed parenting behaviors.

Observed Parenting Behaviors

To detect differences between the behaviors exhibited by anxious mothers and fathers during the parent-child interaction task, analyses of covariance (ANCOVAs) controlling for parent age, child age, child gender, child-reported anxiety level, and hostile child behavior, were conducted (see Table 4). Analyses revealed a significant, medium effect of parent gender on overcontrolling behavior during the parent-child interaction task, $F(1,47) = 6.66$, $p < .05$, $\eta_p^2 = .12$. Specifically, anxious fathers ($M = 1.52$, $SD = 1.44$) were rated as using more overcontrol than anxious mothers ($M = 0.94$, $SD = 1.09$). No differences in the observed levels of granting of autonomy, hostility/negative affect, warmth/positive affect, or anxious behavior of anxious mothers and fathers were found.

Parent-Reported Parenting Behaviors

To detect differences between anxious mothers and fathers' report of their parenting behaviors, ANCOVAs controlling for parent and child age, child gender, and child-reported anxiety level were conducted (see Table 4). Analyses revealed a significant, medium effect of parent gender on parents' endorsement of the use of punishment in response to their children's fear, $F(1,47) = 4.34$, $p < .05$, $\eta_p^2 = .09$. Specifically, anxious mothers ($M = 24.56$, $SD = 5.35$) reported using higher levels of punishment compared to anxious fathers ($M = 20.76$, $SD = 3.83$). Additionally, there was a significant, medium effect of parent gender on parents' endorsement of reinforcing the child's dependence in response to their children's fear, $F(1,47) = 5.49$, $p < .05$, $\eta_p^2 = .13$. Specifically, anxious mothers ($M = 28.88$, $SD = 4.93$) reported using higher levels of reinforcing dependence than anxious fathers ($M = 24.95$, $SD = 5.49$). No significant differences were found in the amount of positive reinforcement, use of force, or modeling behavior endorsed by anxious mothers or fathers.

Discussion

The current study aimed to expand the literature by exploring potential differences between anxious mothers and fathers' use of anxiety-promoting parenting behaviors while controlling for potentially confounding variables such as child age, child gender, child anxiety level, and child behavior. Overall, results indicated similarities and differences between anxious mothers and fathers and highlight the need for additional research.

Observed Parenting Behavior

The current study found that anxious fathers exhibited more controlling behaviors than anxious mothers during the parent-child interaction task. Specifically, anxious fathers provided more intrusive and unsolicited help, were overinvolved in the task (e.g., not giving the child a chance to participate, fully completing parts of the task for the child), and over-directed the child's behavior (e.g., telling the child how to do every aspect of the task) more than anxious mothers. This finding is consistent with previous literature comparing nonanxious mothers and fathers [3], which also found fathers to be more controlling than mothers, and extends these earlier findings to clinically anxious samples. There are several possible explanations for this finding. First, it may be that anxious fathers are, in fact, more overcontrolling than anxious mothers when interacting with their children, suggesting a specific risk factor for youth with an anxious father. It may also be that the type of task used in this study, namely a task that is solution-oriented, structured, and requires visual spatial skills affected anxious fathers more than mothers highlighting specific contexts that may be identified as problematic for anxious fathers. Additionally, given that fathers in this study of anxious parents and fathers in a previous study of nonanxious parents [3] all exhibited more

overcontrolling behavior than mothers, it is also possible that this is a more general gender difference and is unrelated to the presence of anxiety. Alternatively, there may have been a gender bias on the part of IEs during the coding of the task, such that coders perceived anxious fathers to be more dominant and controlling than anxious mothers. However, researchers attempted to minimize such biases by having IEs complete rigorous training and requiring two IEs to match on all observed behaviors.

For all other observed parenting behaviors, anxious mothers and fathers were found to be similar with respect to displays of hostility/negative affect, warmth/positive affect, anxious behavior, and granting of autonomy – all of which are parenting behaviors associated with child anxiety. As children of anxious parents are at a greater risk for developing anxiety, current findings suggest that it may not matter which parent is anxious (mother or father) since they behave in mostly the same ways with respect to the anxiety-promoting parenting behaviors observed in this study. Future research is needed to determine whether, according to Bogels and Perotti's model [14], the importance of paternal, compared to maternal, anxious behavior has different effects on the child.

Parent-Report of Parenting Behavior

The current study also found some differences in the ways that anxious mothers and fathers would respond to their child when confronted with an anxiety-provoking situation. Specifically, anxious mothers reported that they would respond to their child's fear or anxiety by using mild spanking, removing privileges or rewarding activities (e.g., telling the child that s/he is not allowed to play with friends) and name calling (e.g., telling the child that s/he is a "chicken") more than fathers. In contrast to the use of punishment, anxious mothers also reported that they would reinforce their child's dependence more than anxious fathers. For example, mothers reported that when their child is fearful they might permit them to avoid a scary (but harmless) situation (e.g., stay out of the water, not touch the dog, not practice for the recital, and allow them to sleep with the parent at night). Taken together, the more frequent use of parenting extremes (overprotection or punishment) by mothers may reflect inconsistent parenting behaviors related to being a primary caregiver and the fatigue and stress associated with parenting combined with their own anxiety. Even in the current sample where most families (71%) reported that "both parents" were the primary caregiver, 27% of mothers compared to 2% of fathers were reported to be the child's primary caregiver. Anxious fathers may spend less time with their children and less time parenting in anxiety provoking situations of daily life and therefore do not report engaging in these behaviors as frequently. In terms of clinical utility, parenting behaviors such as punishment, overprotection, and facilitating their child's avoidance of feared situations are associated with greater anxiety in youth and can be targeted in prevention or treatment when indicated [1, 20].

Regarding the other parent-reported behaviors examined, anxious mothers and fathers reported utilizing similar amounts of positive reinforcement by providing rewards for facing the feared situation (e.g., giving the child a prize or candy), using physical force (e.g., physically putting the child in bed and turning the lights off, or placing the child's hand on a dog when they are afraid), and modeling coping behavior (e.g., showing the child how to deal with the feared situation) in response to their children's fear. Taken together, these findings suggest similarities and differences in parenting strategies of anxious mothers and fathers, which will hopefully spur additional research.

Limitations

Findings from this study should be interpreted in the context of several limitations. The small number of total participants may have limited the power to detect differences between

parent groups. An additional limitation was related to the measurement of parenting behaviors. Specifically, with regard to observed parenting behaviors, parents were observed in a laboratory setting, for one assessment, doing one specific task; observations in multiple times and settings would allow researchers to obtain a more representative sample of parental behavior. With respect to parent-reported parenting behaviors, internal consistencies for three subscales (e.g., the punishment and modeling subscales for fathers and the reinforcement of dependence subscale for mothers) were low and may have affected the results. Additionally, although research on the parenting practices among diverse populations exist [32], given the demographics of the current sample (i.e., middle class, two-parent homes, Caucasian, and highly-educated), it is not clear whether the current findings would generalize to more diverse populations.

The majority of the parents in this study had a primary diagnosis of GAD, thus, it is possible that current findings reflect the behaviors of parents with GAD as opposed to other disorders (i.e., social phobia, OCD, panic disorder). Previous work has found evidence to suggest that the type of parental anxiety may influence specific parenting behaviors [33]. Specifically, Crosby Budinger, Drazdowski, & Ginsburg found that parents with social phobia were observed to be less warm, more critical, and expressed more doubts about their child's competence compared to parents without social phobia during a parent-child interaction task (the same EAS task used in this study) [33]. However, in the current sample most parents (62%) had more than one anxiety disorder diagnosis, so examining the role of specific parent diagnoses was not feasible. Finally, the current study did not include child-report of parenting behavior; such information would have provided a more complete picture of the parenting behaviors of anxious parents and possible differences between anxious mothers and fathers and perhaps resolve some of the observed discrepancies found between parent and IE reports.

Future Directions

In sum, this study aimed to extend and improve upon existing literature in multiple ways. The current study utilized data from anxious fathers, examined a broader range of parental behaviors than previous studies (e.g., the use of force, punishment, reinforcement of dependence), and collected information from multiple informants (parent and IE). Most importantly, the current study controlled for a number of variables such as child behavior, child age, child gender, child anxiety, and parent anxiety in order to examine differences in parental behaviors based on parent gender alone. Future research is needed to examine possible differential associations between maternal and paternal behaviors and child anxiety and behavior. Examination of that relationship was not feasible with the current sample as the children in this study were not clinically anxious and thus had a restricted range of anxiety symptom severity. However, a few studies have begun to explore the potential differential effects of parent gender and parental behavior on child social anxiety and results support Bogels and Perotti's model [6, 14, 18]. For instance, Bogels and colleagues [18] compared a community sample of low and high socially anxious children's responses during hypothetical, ambiguous, social situations (in the form of vignettes) involving anxious and nonanxious mothers and fathers (each situation involved only one parent at a time) to determine which parent's behavior would be the most influential on the child's anxiety. Findings revealed that high socially anxious children gave more weight to fathers' anxious behavior than mothers' and low socially anxious children gave more weight to the anxious cues of mothers in ambiguous social situations than fathers [18].

Similarly, Rork and Morris [6] found that maternal overprotection was related to child social anxiety and that paternal overprotection was related to child general anxiety [6]. Indeed,

both studies found that child anxiety was differentially influenced by maternal and paternal overcontrolling [6] and anxious [18] behavior.

In a related line of research, researchers have examined the differential impact of mothers and fathers' parenting behaviors on child anxiety treatment outcome. Liber and colleagues [34] examined the effects of paternal and maternal anxiety, depression, warmth, rejection, and overprotection on treatment outcome for anxious youth (ages 8–12 years) and found that higher levels of paternal anxiety, rejection, and depressive symptoms and notably, higher levels of child-reported maternal warmth predicted less favorable treatment outcomes. Such research further highlights the importance of understanding the differential impact of maternal and paternal anxiety and parenting behavior on children's anxiety, behaviors, and treatment outcomes.

Summary

The majority of research identifying anxiety-promoting parenting behaviors has been conducted with mothers, leaving a gap in current knowledge about the role of fathers' parenting. In an attempt to fill this gap, this study compared the anxiety-promoting parenting behaviors of anxious mothers and fathers of non-clinically anxious children. Parents completed self-report measures of five parenting behaviors (use of positive reinforcement, punishment, force, reinforcement of dependence on the parent, and modeling of anxiety) and independent coders rated parenting behaviors (overcontrol, granting of autonomy, warmth, hostility, and anxious behavior) during a challenging parent-child interaction task. Results indicated that anxious fathers were observed to be more controlling than anxious mothers; while anxious mothers reported using more punishment and reinforcement of children's dependence during anxiety-provoking situations compared to anxious fathers. Findings highlight important differences and similarities with respect to their parenting strategies. Additional research on the impact of parent gender, anxiety levels, and parenting strategies with respect to the development of child anxiety and treatment outcome is needed.

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Table 1

Definitions and Examples of Parent Behaviors coded during the EAS Task

Parent Behavior	Description/Examples
Overcontrol	Parent provided unsolicited help, completed parts of the task without being asked, took over the task completely (e.g., grabbed the child's knob or grabbed the board), or frequently directed the child's behavior by commanding and using harsh tones or language.
Granting of Autonomy	Parent explicitly supported or encouraged the child's approach to working on the task, accepted and acknowledged the child's suggestions for completing the task, and followed the child's lead during the task (e.g., the child suggests the parent turn their knob more and the parent complies).
Hostility/Negative Affect	Parent appeared angry, irritated, frustrated, annoyed, used harsh/hostile tones, appeared sad or discouraged, made negative statements such as, "This isn't any fun," and/or made any verbal or physical threats of aggression directed toward the child or the task.
Warmth/Positive Affect	Parent expressed positive emotions toward the child during the task including: praise, encouragement, words/gestures of endearment (e.g., "honey"), affectionate gestures (e.g., laughing, smiling, high fives, rubbing the child's back), and seemed comfortable with the child.
Anxious Behavior	Parent made anxious or fearful statements such as, "Oh no, I think we really messed up," cautioned the child in the absence of danger/threat, expressed worry, sought reassurance, catastrophized the situation, and/or engaged in perfectionistic behaviors (e.g., wanting everything to be perfect or "just right," engaged in excessive measuring using paper, pencils, or hands).

Table 2

Demographic Comparisons between Anxious Mothers and Fathers

Demographic Variable	Mothers (<i>n</i> = 34)		Fathers (<i>n</i> = 21)	
	M	SD	M	SD
Parent Age (range = 27-53)	40.18	5.08	44.14 *	4.21
Child Age (range = 6-12)	8.85	1.91	8.76	1.92
	Mothers		Fathers	
	<i>n</i>	%	<i>n</i>	%
Child Gender				
Male	14	41.2	13	62.0
Female	20	58.8	8	38.0
Race				
Caucasian	26	76.5	20	95.2
Other	8	23.5	1	4.8
Parental Primary Diagnosis				
GAD	24	70.6	15	71.4
Social Phobia	3	8.8	1	4.8
OCD	3	8.8	1	4.8
Panic Disorder without Agoraphobia	1	2.9	1	4.8
Panic Disorder with Agoraphobia	3	8.8	3	14.2
Family income				
Over \$80,000/year	29	85.3	18	86.0
Marital Status				
Married	32	94.1	20	95.0
Parental Education Level				
Advanced Degree/College	29	85.3	17	81.0

Note.

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

Table 3
Mean Comparisons Between Anxious Mothers and Fathers on Baseline Clinical Variables

Variable	Range	Mothers (n = 34)		Fathers (n = 21)	
		M	SD	M	SD
Parental Anxiety Severity (STAI)	28 – 72	49.82	8.29	49.81	9.16
Parental Stress Level (PSI)	51 – 125	81.03	19.06	77.79	13.71
Child-report Anxiety (SCARED-C)	0 – 57	19.60	13.32	16.95	11.21
Parent-report of Child Anxiety (SCARED-P)	1 – 46	19.53	13.82	17.58	11.54
Child Overcontrol Behavior	0–3	.79	.95	.62	.87
Child Hostility/Negative affect	0–3	.56	.89	.14*	.36
Child Warmth/Positive affect	0–3	.53	.56	.43	.75
Child Anxious Behavior	0–3	1.21	.98	1.24	1.09
Child Non-compliant/Oppositional Behavior	0–2	.24	.55	.05	.22
Child Uninvolved/Off-task Behavior	0–2	.35	.77	.33	.58

Note.

* $p < .05$;

** $p < .01$.

STAI = State-Trait Anxiety Inventory, PSI = Parenting Stress Index.

SCARED-C = Screen for Child Anxiety Related Disorders Child Version.

SCARED-P = Screen for Child Anxiety Related Disorders Parent Version.

Table 4
ANCOVA Results for Observed and Parent-Reported Differences in Parenting Behaviors

Parent Behavior	Mothers		Fathers		<i>F</i> statistic	η^2
	M	SD	M	SD		
Overcontrol ^a	.94	1.09	1.52	1.44	6.66*	.12
Granting of Autonomy ^a	1.27	.80	1.24	.89	.04	.00
Hostility/Negative Affect ^a	.33	.65	.14	.36	.38	.01
Warmth/Positive Affect ^a	1.0	.75	.95	.92	.27	.01
Anxious Behavior ^a	1.33	1.14	1.48	1.25	.44	.01
Positive Reinforcement ^b (CDQ)	36.71	9.48	36.38	10.11	.06	.00
Punishment ^b (CDQ)	24.56	5.35	20.76	3.83	4.34*	.09
Use of Force ^b (CDQ)	25.84	8.22	21.95	5.27	3.10	.06
Reinforcement of Dependence ^b (CDQ)	28.88	4.93	24.95	5.49	6.97*	.13
Modeling ^b (CDQ)	53.47	6.13	52.0	4.99	2.71	.06

Note.

* $p < .05$;

*** $p < .01$.

^a Covariates for observed behaviors = parent age, child age, child gender, child-report of child anxiety, and observed child hostile behavior.

^b Covariates for parent-reported behaviors = parent age, child age, child gender, and child-report of child anxiety.

CDQ= Child Development Questionnaire.