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Maternal Overcontrol and Child Anxiety: The Mediating Role of Perceived Competence

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Abstract

Previous research has shown that maternal overcontrol is related to higher levels of child anxiety. It has been theorized, though not empirically tested, that maternal overcontrol decreases child perceived competence and mastery, which increases child anxiety. The present study investigated this theory using a sample of 89 mother–child dyads (children aged 6–13, 84.3% Caucasian, 6.7% African American, and 51.7% male). After statistically controlling for maternal anxiety level, child perceived competence was shown to partially mediate the relationship between maternal overcontrol and child anxiety. Though current findings are based on cross sectional data, they suggest multiple pathways through which maternal overcontrol impacts child anxiety. One pathway, described in theoretical models, posits that greater levels of parental control reduce children's opportunities to acquire appropriate developmental skills, lowering their perceived competence, and thus increasing their anxiety. Implications of these findings and directions for future research are discussed.

Keywords

Parenting; Anxiety; Overcontrol; Perceived competence; Child anxiety

Introduction

Anxiety is one of the most pervasive psychiatric problems experienced by children [1]. Thus, research on the etiology of these problems is paramount. One factor found to contribute to child anxiety problems is specific parenting behaviors [2–4]. Indeed, parenting has become a central focus of research due to the increased probability of familial transmission of anxiety disorders [5, 6] as well as empirical research examining the parents of anxious youths (see [7–9] for reviews). One particular parenting behavior, parental control, has received the most attention (and empirical evidence) and has been shown to be associated with higher levels of anxiety in children [2, 10, 11].

Parental overcontrol refers to an excessive amount of involvement in a child's activities, daily routines, or emotional experiences and an encouragement of dependence on the parents [12–14]. The common assumption is that parental overcontrol is a result of increased parental anxiety; however, research in this area is inconsistent [15, 16]. Indeed, studies have shown that anxious and nonanxious parents do not always differ in their use of overcontrol [16–18]. In contrast, parents of anxious, compared to nonanxious youth, have been

consistently found to use a greater degree of overcontrol [8, 19], suggesting that regardless of parental anxiety status, the use of parental overcontrol appears related to higher levels of anxiety in children.

Despite the ambiguity in the relation between parental anxiety and parental overcontrol, it has been posited that overcontrolling behaviors restrict a child's access to his/her environment and also communicate to a child that there is an excessive amount of threat that the child will not be able to cope with or master on his/her own. Thus, it is hypothesized that this parenting behavior reduces the opportunity for the child to develop competence, or mastery over things in their environment, particularly, novel or threatening situations [20, 21]. Theoretically, it is this decrease in child self-competence which leads to an increased level of anxiety in the child. Conversely, granting of a child's autonomy is thought to encourage a child's independence, thereby allowing him/her to gain a sense of mastery of his/her environment and reducing his/her level of anxiety [9].

There is a growing body of empirical support for the theory that lowered child self-perceived competence is related to higher levels of child anxiety. In a recent longitudinal study [22] a community sample of 185 adolescents were followed from age 13 to age 18 to evaluate prospective predictors of social anxiety and fears of negative evaluation. As expected, structural equation modeling analyses found that a lack of perceived social acceptance (or competence) predicted subsequent explicit social anxiety (i.e., those responses which are subject to conscious control and measured by self-report), even after accounting for pre-existing social withdrawal symptoms [22]. This finding was supported in a cross sectional study, which found that low levels of perceived competence, in adolescents 10–14 years old, were associated with current symptoms of both child anxiety and depression ($N = 214$) [23]. Furthermore, adolescents' self-perceptions about competency were more consistent predictors of symptoms of anxiety than beliefs about control and contingency.

Data using clinical samples have found similar results. In a study of 47 children with anxiety disorders versus 31 non-anxious controls, researchers found that anxious children, compared to their nonanxious peers, reported significantly lower self-competence than controls [24]. Ekornås et al. [25], in a study of 329 children aged 8–11 years also found that children with anxiety disorders, compared to their nondisordered peers, perceived themselves as being less accepted by peers and less competent in physical activities.

There has been inquiry into the effect of parenting behaviors on child and adolescent competency; however, these studies tended to use the general, nonspecific variable of parenting style, rather than specific parenting behaviors and were not specifically focused on anxiety. For instance, in a study of 108 adolescents, high levels of maternal rigid control were related to decreased adolescent social competence and self-worth [26]. Similar findings have been reported in other studies [12, 27].

Taken together, while maternal overcontrol has been associated with higher child anxiety and lower child self-perceived competence has been found to predict higher child anxiety, the extent to which lowered perceptions of competence in children mediate the relation between maternal overcontrol and child anxiety, as hypothesized in developmental models of child anxiety, has not been tested. The current study sought to empirically investigate this model (see Fig. 1). In addition, because some studies have found over-control to be related to subtypes of anxiety [28], we examined both overall levels of anxiety as well as specific domains of anxiety linked to DSM-IV anxiety disorders. It is important to note that though the arrows point in a singular direction in this model, the correlational nature of this research means that claims about causation or directionality cannot be made and reciprocal and

bidirectional effects may occur (e.g. child anxiety level affects maternal control and children's self-perceived competence). Based on extant theory and literature, it was hypothesized that maternal overcontrol and childhood anxiety levels would be mediated by the child's self-perceived competence, after controlling for maternal anxiety.

Method

Participants

Participants were 89 mother–child dyads. Of the 89 mothers, 54 of them met criteria for a DSM-IV anxiety diagnosis, generalized anxiety disorder ($n = 41$), panic disorder with agoraphobia ($n = 4$), specific phobia ($n = 4$), social phobia ($n = 3$), panic disorder without agoraphobia ($n = 2$), and 35 did not meet criteria for any psychiatric disorder. The presence or absence of diagnoses was determined by trained evaluators using the Anxiety Disorders Interview Schedule-Client Version [29]. Mothers ranged in age from 27 to 54 ($M = 40.16$, $SD = 5.60$). The majority of mothers had a college degree or higher (73%), a family income of 80,000 or more (64%), and were married (87.6%).

Child age ranged from 6 to 13 years of age ($M = 9.58$, $SD = 2.0$) and children were primarily Caucasian (84.3%, 6.7% African American). There was an even split between male and female children (51.7% male). None of the children were diagnosed with an anxiety disorder, or any other psychiatric or medical condition needing treatment or contraindicating study participation (e.g. suicidality), or were receiving psychological or pharmacological treatment aimed at reducing anxiety. Non-anxious children were selected for the current study as research has shown that parenting behaviors may be influenced by excessive child anxiety [20, 30]. Thirty-four percent of the children had total Screen for Child Anxiety-Related Emotional Disorders—Child Version (SCARED-C) scores 25 and over (the suggested clinical cut off); the range of scores was 0–61.

Procedure

Anxious mothers were recruited as part of a larger study examining the impact of an anxiety prevention program on their non-anxious offspring [31]; nonanxious mothers were recruited as a community sample of controls. All families who contacted the study completed a preliminary phone screen to determine their eligibility, prior to an in-person evaluation. Families that were deemed eligible based on this phone screen were scheduled for an in-person assessment in which all the measures of the present study were administered. Prior to completing their initial evaluation, all participants, both children and parents, completed a written informed assent/consent.

Measures

Maternal Anxiety—Maternal anxiety was measured using the State-Trait Anxiety Inventory (Trait Version) (STAI; [32]), a 20-item questionnaire measuring the stable, enduring symptoms of anxiety. The measure uses a 4-point likert scale from 1 (almost never) to 4 (almost always) and yields a total score. Scores range from 20 to 80, where higher scores indicate greater anxiety. The STAI correlates highly with other measures of adult anxiety ($rs = 0.73$ – 0.85) and has shown excellent test-retest reliability ($rs = 0.73$ – 0.86). The internal consistency for this scale in the current sample was .64.

Maternal Overcontrol—Maternal overcontrol was measured using child reports on the Egna Minnen av Barndoms Uppfostran—My memories of upbringing—Child version (EMBU-C, [33]), a 40-item scale used to assess perceptions of parental behaviors. The questionnaire includes 4 subscales, each with 10 items; overprotection/control, emotional warmth, rejection, and anxious rearing. Each item is answered using a 4-point likert scale

from 1 (no) to 4 (yes, most of the time). For the purposes of this study only the overprotection/control subscale was used. Scores range from 10 to 40, where higher scores indicate greater overcontrol. A sample item of this subscale is “your parents watch you very carefully.” The internal consistency for the 10-item subscale for the current sample was .66.

Child Perceived Competence—Child self-perceived competence was measured using the three subscales of the Harter Self-Perception Profile for Children [34] that assess the most important domains of children's functioning: scholastic competence, social acceptance and global self-worth. Each scale contains six items and the child chooses one of two contrasting statements (“Some kids would like to have a lot more friends BUT Other kids have as many friends as they want.”) that describes them better and then rates whether that statement is partially true or really true for them. A composite score of perceived competence was used based on the mean of the three subscale scores. Scores range from 1 to 4, where higher scores indicate greater perceived competence. The internal consistency for the composite score for this sample was .81.

Child Anxiety—Child anxiety was measured using the SCARED-C [35]. The SCARED-C is a 41-item measure of pediatric anxiety shown to differentiate between clinically anxious and nonanxious psychiatrically ill youth [35]. Children answer questions using a 3-point likert scale indicating to what degree a statement about themselves is true, from 1 (not true) to 3 (very or often true). The SCARED-C yields a total score, obtained by summing the 41 items, and five subscale scores which correspond to some of the *DSM-IV* anxiety disorders (panic, generalized anxiety, separation anxiety, social anxiety and school phobia). For the purposes of this study the SCARED-C Total score was used to assess overall anxiety levels. Total scores range from 0 to 84, where higher scores reflect higher overall levels of child anxiety. Internal consistency for the Total score for this sample was .92. Because several of the domain-specific subscales scales were too highly skewed (i.e., more than twice the standard error of skewness [36]), we were only able to examine the social and generalized anxiety subscales. Internal consistencies for these scales were .75 and .74, respectively; and higher scores reflect higher anxiety.

Results

Descriptive and Correlational Analyses

Means and standard deviations on all measures appear in Table 1. In order to establish basic relations between variables needed for meditational analyses, first order correlations were calculated between the IV, DV, mediator and covariate. Table 2 shows the first order correlations between child anxiety, parent anxiety, maternal overcontrol and child perceived self-competence. Child anxiety was significantly and positively associated with levels of maternal overcontrol but negatively associated with child perceived self-competence. Levels of child perceived self-competence were significantly related to levels of maternal overcontrol.

Mediational Analyses

Mediation was tested by determining the significance of the indirect effect of the independent variable (maternal overcontrol, X) on the dependent variable (child anxiety, Y) through the mediator (child competence, M), quantified as the product of the effects of Y on M and M on X, deducting the effect of Y. The Sobel test was used to determine if the indirect effect was statistically significant [37, 38]. The following analyses were completed after statistically controlling for maternal anxiety. As Table 3 shows, the total effect of maternal overcontrol on child anxiety was significant ($t = 3.92, p < .001$). Also, there was a significant effect of maternal overcontrol on child perceived self-competence ($t = -2.91, p$

= .005) as well as child perceived self-competence on child anxiety, when controlling for maternal overcontrol ($t = -3.53, p = .001$). This resulted in a significant indirect effect ($z = 2.29, p = .02$). That is, when controlling for maternal anxiety, child perceived self-competence was a significant mediator of the relation between maternal overcontrol and child anxiety (Fig. 1). Despite significant mediation, the direct effect (c') remained significant, suggesting that child perceived self-competence was a partial mediator of the relation. When gender was entered as a covariate it did not influence the results. Although gender was significantly correlated with child anxiety, it was not significantly correlated with either maternal overcontrol or child perceived competence. When conducting the same analyses described above, for each gender, no significant results were discovered.

The Sobel test [37, 38] was also used to determine if child perceived competence mediated the relationship between maternal overcontrol and two subscales of the SCARED-C, social and generalized anxiety. As Fig. 1 shows, there was a significant indirect effect ($z = 2.44, p = .01$) for the mediating role of perceived competence in the relation between maternal overcontrol and child generalized anxiety disorder symptoms. Also, there was a significant indirect effect ($z = 2.27, p = .02$) for the mediating role of perceived competence in the relation between maternal overcontrol and child social anxiety symptoms. However, unlike SCARED-C Total scores, the direct effect (c') for generalized and social anxiety were not significant, suggesting that perceived competence completely mediated the relation between maternal overcontrol and these domains of child anxiety.

Discussion

The purpose of this study was to empirically examine the mediating role of child perceived competence in the relation between maternal overcontrol and child anxiety. Based on theoretical models (e.g. [2]) it was hypothesized that child perceived competence would mediate the relation between maternal overcontrol and child anxiety. Overall, our data partially supported this model for overall anxiety and fully supported the model for social and generalized anxiety. Mothers that exhibited higher levels of overcontrolling behaviors, such as demanding to know what the child is doing, not allowing the child to decide what they want to do, and watching the child very carefully, had children with lower levels of perceived competence and higher levels of anxiety. Overcontrolling parents may increase levels of worry and social anxiety in children as this parental behavior may communicate to youths that they do not have the skills to successfully navigate challenges in their environment, generally or in social situations, thereby causing the child to worry about his/her abilities. This increased worry may increase avoidance and reduce the opportunities for youth to develop appropriate social or problem-solving skills. Although our inquiry into anxiety subtypes was limited to two domains, it remains an important avenue of further research.

These findings support and build upon previous research. For example, our study, using child report of overcontrol, found significant negative associations between maternal overcontrol and child perceived competence, consistent with research examining parent and child report of parental control [26, 27]. Also, our findings were consistent with studies that have shown low levels of perceived competence in children being related to symptoms of child anxiety [22, 23] in older children (i.e., adolescents). Thus, it appears that this pattern of association can also be found in younger children.

Maternal overcontrol may have a twofold effect on child anxiety. First, it may directly affect the level of anxiety a child experiences, as a parent's overcontrolling behaviors could communicate to the child that his/her environment is threatening or uncontrollable. Second, it appears to affect the child's anxiety through lowering the child's self-perceptions of

competence. When the parent intervenes in the child's environment, in an attempt to control it for a beneficial outcome, the child may learn that he/she is not capable of dealing with that environment, thus lowering his/her level of competency. In turn, children's lower perceived competence, may increase their anxiety as they may feel they lack the tools to deal with or master situations they encounter in their daily lives.

Limitations

The present study used correlational analyses and cannot claim causal associations. Thus, it may be that child anxiety leads to reductions in child competence and higher overcontrol in mothers. Furthermore, findings that parental overcontrol may be influenced by levels of child anxiety [15, 17, 39, 40], suggest a reciprocal relation between maternal overcontrol, child perceived competence, and child anxiety. Because child perceived competence accounted for only 10% of the variance in child anxiety, and maternal overcontrol accounted for 15% of the variance in child anxiety, additional variables that help explain the development of anxiety (e.g. locus of control, coping skills, peer rejection) are worth examining. Examination of anxiety subtypes was limited to generalized and social anxiety because data were skewed, thus limiting our knowledge of whether these patterns hold true for separation or other domains of anxiety not specifically examined in this study.

Another limitation is that all measures were self-report and completed by the child. While children's perceptions of these constructs are critical, relying on a single reporter can introduce reporter bias and can cause statements to be influenced by a number of other factors (e.g. the child's comprehension, social desirability). Also, the internal consistencies for the measures of maternal overcontrol (EMBU-C) and maternal anxiety (STAI) were low, which may have reduced the reliability and magnitude of findings. Furthermore, the questions on the measure of maternal overcontrol, the EMBU-C, ask about "parents" not specifically about mothers. Thus, it is possible (though unlikely) that children completed the measure in reference to their father rather than mother. Having an independent and objective measure of child anxiety, maternal overcontrol and child perceived competence could strengthen the empirical support for the models examined.

Lastly, characteristics of our sample limited the generalizability of our study. The sample primarily consisted of two-parent upper middle class families of Caucasian descent. A replication using a more diverse sample is imperative to understand how maternal overcontrol affects child anxiety symptoms among families from diverse backgrounds. This sample was also comprised of only non-anxious children. Replication using a wider range of child anxiety levels, including clinical levels, is important in understanding how maternal overcontrol and child perceptions of competence relate to child anxiety at clinical levels. Data were obtained using only one parent and all parents were mothers. Finally, our sample consisted of 6–13 year olds and as such it was impossible to examine age differences in the model. There is some research [41] that the effect of parental control on child perceived competence and child anxiety may change as a result of the child's age. Although we controlled for child gender, future studies with increased samples should investigate the effect of child gender on parental overcontrol and child anxiety, through perceived competence.

Conclusions

Findings from the current study expand our understanding of the interplay between parenting behaviors, child perceived competence, and child anxiety and provide the first empirical support for the etiological model of anxiety proposed by Chorpita and Barlow [2].

The implications of these findings suggest that the treatment and prevention of anxiety should not only focus on the child's behaviors and cognitions but also on those of the parent. There is growing literature that family-based treatments are quite effective at targeting anxiety symptoms in children (for a review see [42, 43]). As stated above, parental behaviors (e.g. overcontrol) not only are directly associated with anxiety symptoms but are associated with children's self perceptions, which themselves are associated with anxiety. Strategies aimed at reducing parental overcontrol and increasing children's sense of mastery and competence may be important in the prevention and treatment of child anxiety [31].

Summary

In support of theory [2], this study showed that child perceived competence partially mediated the relation between maternal overcontrol and child anxiety (and fully mediated this relation for symptoms of generalized and social anxiety). Theoretically, overcontrolling parents may signal to their children that their environment is threatening and that the child does not have the skills to deal with that threat, thereby increasing the child's dependence on the parent for assistance in dealing with their environment and anxiety level. Maternal overcontrol was also found to be directly associated with higher child anxiety. Interventions aimed at reducing and preventing child anxiety should focus on both the behaviors and cognitions of the child as well as those of the parents.

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Fig. 1.

Empirical model of the mediating role of self-perceived competence in the relationship between maternal overcontrol and child anxiety total score, generalized, and social, controlling for maternal anxiety, with appropriate standardized Betas. Note (a) remains constant for all analyses

Table 1

Range, means, and standard deviations for all variables

Variable (<i>n</i> = 89)	Range	M	SD
Maternal anxiety	21.00–71.00	39.83	11.41
Maternal overcontrol	18.00–36.00	5.88	4.21
Child perceived competence	2.00–4.00	3.19	0.47
Child anxiety total	0.00–61.00	19.84	12.02
Child anxiety-social	0–13	4.5	3.40
Child anxiety-GAD	0–14	5.29	3.40

Table 2

First order correlations for all variables

	Child anxiety-total	Child anxiety-social	Child anxiety-GAD	Maternal anxiety	Maternal overcontrol	Perceived competence
Child anxiety-total	–					
Child anxiety-social	0.74**	–				
Child anxiety-GAD	0.81**	0.48**	–			
Maternal anxiety	0.17	0.12	0.24*	–		
Maternal overcontrol	0.37**	0.28*	0.26*	–0.06	–	
Perceived competence	–0.45**	–0.42**	–0.49**	–0.18	–0.28*	–

* $p < .05$,** $p < .001$

The effect of perceived competence on child anxiety through maternal overcontrol, controlling for maternal anxiety

Table 3

	<i>r</i> ²	B	SE	<i>t</i>	Sig (two)
Child anxiety-total to maternal overcontrol (c)	0.15	1.10	0.28	3.92	0.001
Self-perceived competence to maternal overcontrol (a)	0.09	-0.03	0.01	-2.91	0.005
Child anxiety-total to self-perceived competence, controlling for maternal overcontrol (b)	0.11	-8.93	2.53	-3.53	0.001
Maternal overcontrol to child anxiety-total, controlling for self-perceived competence (c')	0.07	0.81	0.28	3.93	0.004

(c) is the total effect of maternal overcontrol on child anxiety total score, (a) is the effect of self-perceived competence on maternal control, (b) is the effect of self-perceived competence on child anxiety total score while controlling for maternal overcontrol, and (c') is the direct effect of maternal overcontrol on child anxiety total score while controlling for self-perceived competence