MODELING THE ROLE OF FATHERS IN CHILD ANXIETY

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SUMMARY

The current study investigated links between child, and paternal and maternal anxiety, and family process factors, over a nine year period. Specifically, we examined the role of parental anxiety, partner conflict, attachment security and parental autonomy granting in explaining changes in child, father, and mother anxiety symptoms. The primary goal of the study was to examine the long-term impact of fathers in child anxiety, which has been under-studied in the literature. We utilized data from the NICHD Study of Early Child Care and Youth Development (N=252), from when target children were in first grade, fifth grade, and fifteen years of age. We tested identical longitudinal path models for both mothers and fathers and found that both models were a good fit for the data. We also found that lower attachment security to fathers and mothers, and a restriction of maternal autonomy granting, predicted increases in child anxiety over time. Additionally, we found that partner conflict explained the association between earlier and later parental anxiety, which is a novel finding in the literature. Together, these findings suggest that fathers play an important long-term role in child anxiety, similar to that of mothers, even as children move from early childhood into adolescence.
Modeling the role of fathers in child anxiety

One of the most problematic and prevalent psychological disorders for children and adolescents is anxiety (Albano, Chorpita & Barlow, 2003). For example, research has found that children with anxiety disorders have difficulty with school (Albano et al. 2003), and parent and peer relationships (LaGreca & Harrison, 2005; McLeod, Wood, & Weisz, 2007). Experiences in families have been found to predict child anxiety (e.g., Bögels & Brechman-Toussaint, 2006; Kerns, Siener & Brumariu, 2011), and thus it is important to study child anxiety within the context of the family. The extent research has largely focused on the role of mothers in child anxiety to the relative exclusion of fathers, despite literature suggesting fathers are likely to have a significant impact on their children’s development (Lamb, 1997; Lamb & Tamis-Lemonda, 2004). Especially absent from the literature is knowledge about the long term role that fathers may play in child anxiety. Although family process models are a relatively common paradigm in the child anxiety literature, and several models of child anxiety including family process factors have been proposed (e.g., DeKlyen & Greenberg, 2008; Bögels & Phares, 2008; Bögels & Perotti, 2011), many studies have looked at one or two risk factors in isolation (Vasey & Dadds, 2001). More recently, multi-risk factors models have been tested, although studies looking at
the development and maintenance of child anxiety over time are still few in number.

Given that research combining and testing multiple risk factors is relatively new, as well as a lack of understanding of the long term role of fathers, our study sought to contribute to these gaps. We compared the roles of mothers and fathers by proposing and testing identical models of child anxiety (see Figure 1) that examine the influence of family processes on changes in child anxiety across childhood and adolescence. The models focused on the following family processes, which have been identified as key factors in several models of child psychopathology, or more specifically anxiety (DeKlyen & Greenberg, 2008; Bögels & Brechmann-Toussaint, 2006): parental anxiety, partner conflict, insecure attachment, and a restriction of autonomy granting. These factors are common in the literature but to our knowledge, have not been combined previously with fathers. In addition, research has begun to explore changes in anxiety over longer time periods as well, although this has largely been done with younger children. For example, Feng, Shaw & Silk (2008) examined anxiety trajectories over an eight year period, when children were ages 2-10 years. Our study is one of the few to examine how family factors predict changes in anxiety from childhood to adolescence (ages 6 to 15 years).

*Parental Anxiety*

Evidence has accumulated to suggest that maternal anxiety is a risk factor for child anxiety (Costa & Weems, 2005; Shamir-Essakow, Ungerer & Rapee, 2005), although it has been hypothesized that parenting factors may mediate the relationship between parent and child anxiety (Costa & Weems, 2005). Less is known about the role
fathers may play in the development of child anxiety. Phares & Compas (1992) looked at the effects of different types of paternal psychopathology (e.g., depression, anxiety) on children and determined that, in general, paternal psychopathology was “sufficient, but not necessary” to influence children’s psychopathology. However, at the time of Phares & Compas’ (1992) review, only one study examined anxious fathers’ influence on their children. In addition, there is a need to examine processes that may account for associations between parent and child well-being. For example, Bögels and Phares (2008) hypothesize that fathers may be especially important in child anxiety with regards to the closeness of their relationship or attachment to their child, how much autonomy they grant their child, and whether they are anxious themselves and model that to their child. Given this literature, we wanted to look not just at paternal anxiety as a predictor of child anxiety, but also at mechanisms by which fathers might contribute to changes in child anxiety.

**Partner Conflict**

It has long been recognized that the marital or partner relationship, especially the amount of conflict and types of conflict resolution, affect children’s adjustment (Teyber, 1989). For example, Grych, Seid & Fincham (1992) found that when children perceived their parent’s conflicts as stable, intense and poorly resolved, they were more likely to experience internalizing problems such as anxiety. In addition, destructive forms of marital conflict such as aggression, violence, withdrawal from the relationship, threats, and child-related conflicts have been found to be particularly harmful for children (Cummings, 1998). In this study, we hypothesized that parental anxiety might lead to
greater partner conflict, in line with prior research suggesting that couples with anxiety are more likely to report low marital quality (McLeod, 1994), which would then be related to later child anxiety via the mediators of parent-child attachment and parental autonomy granting (see Figure 1 for proposed model).

A number of mechanisms might account for why marital conflict is associated with child anxiety. The Emotional Security Hypothesis (Davies & Cummings, 1994; Davies & Martin, 2014) suggests that destructive forms of marital conflict may undermine a child’s feelings of emotional security regarding the marital relationship, leaving children vulnerable to difficulties such as anxiety as a product of arousal and hyper-vigilance resulting from observing conflict. Marital conflict might also influence child anxiety by affecting the child’s sense of attachment security within parent-child relationships. For example, parents who are burdened by conflict may be more likely to withdraw from their children (i.e., children may experience lower attachment security). Although emotional security about the marital relationship has been studied extensively, few studies have considered how attachment security within parent-child relationships may explain effects associated with exposure to marital conflict (Harold, Shelton, Goeke-Morey & Cummings, 2004). In addition, parents experiencing partner conflict might be over-controlling and/or absent in providing appropriate boundaries (i.e., autonomy) necessary for optimal development (Cox, Paley & Harter, 2001; Cummings & Davies, 2002). This study tested whether, for both mothers and fathers, attachment security and parental autonomy granting explain associations between marital conflict and child
Figure 1
Hypothesized Model of Family Processes and Anxiety

Time 1: 1st grade
Parental Anxiety → Partner Conflict
Child Anxiety

Time 2: 5th grade
Partner Conflict → Attachment Security with Parents
Attachment Security with Parents → Parental Autonomy granting
Parental Autonomy granting → Parental Anxiety

Time 3: Age 15 years
Parental Anxiety
Child Anxiety
anxiety. These mechanisms were the focus as both insecure attachment to mothers and restricted maternal autonomy granting have been associated with child anxiety. Some research has looked at these mechanisms with fathers, and found evidence for their importance as well.

*Parent-Child Attachment*

According to attachment theory (Bowlby, 1969; Bowlby, 1973), caregivers can act as both a safe haven to afford their child comfort in times of distress, and a secure base from which to explore the world (Ainsworth, 1989; Waters & Cummings, 2000). Children are hypothesized to be less prone to experiencing anxiety if they form secure attachments, that is, are readily able to use a parent figure as a secure base or safe haven (Bowlby, 1973). Although Bowlby’s initial proposal emphasized the role of primary caregivers, who were typically mothers, fathers have been identified as important attachment figures as well, although their role in comparison to mothers is not as well understood (Bretherton, 2010).

A connection between mother-child attachment and child anxiety has been established in childhood and adolescence (Brumariu & Kerns, 2010; Colonessi, Draijer, Stams, Van der Bruggen, Bögels & Nooms, 2011; Madigan, Atkinson, Laurin & Benoit, 2013; Groh, Roisman, van IJzendoorn, Bakersman-Kranenburg, & Fearon, 2012). In a narrative review by Brumariu & Kerns (2010), which included mother and father attachment measures, attachment insecurity was related to child anxiety, particularly in adolescence. This effect was clearer for mothers, although Brumariu & Kerns (2010) reported a need for further research on fathers, as few studies in the review examined
father-child attachment. In contrast, Groh et al. (2012) reported on three studies looking at father-child attachment, concluding that father-child attachment was not associated with internalizing disorders. However, these reviews differed in terms of studies included and the type of attachment measures included (Kerns & Brumariu, 2014), thus the importance of father-child attachment requires greater exploration. Existing individual studies provide some support for the attachment role of fathers. For example, Verschueren & Marcoen (1999) found that father-child attachment was a stronger predictor than mother-child attachment of anxious and withdrawn behaviors when children were in kindergarten, and a recent longitudinal study of parent-child attachment and generalized anxiety symptoms found that adolescents’ perceived attachment relationships with their fathers, but not mothers, were related to higher anxiety symptoms from when children were 12 to 16, and 16 to 20 years of age (van Eijck, Branje, Hale, & Meeus, 2012). These findings suggest that the father-child attachment relationship may be influential in the development and maintenance of child anxiety as proposed by Bögels and colleagues (e.g., Bögels & Brechmann-Toussaint, 2006; Bögels & Phares, 2008), although further evidence is needed to bolster this hypothesis.

*Parental Control and Autonomy Granting*

Parental control is another factor related to child anxiety which has often been studied in isolation. Although moderate levels of control (i.e., discipline) may be positive for children’s development (Paquette, 2004), over-controlling parental behaviors, or a restriction of autonomy granting, may result in anxiety (Wood, McLeod, Sigman, Hwang & Chu, 2003). In a meta-analysis, McLeod, Wood & Weisz (2007) found that parental
over-control was related to increased child anxiety. Autonomy granting in particular was the aspect of parenting most strongly related to child anxiety compared with other aspects of parenting, such as withdrawal or over-involvement, and accounted for eighteen percent of the variance in child anxiety. Of note though, most studies in the meta-analysis focused on mothers’ parenting.

Several recent studies of over-control and autonomy granting as factors predicting anxiety have looked at the role of fathers and found that paternal controlling behavior is an important factor in the development of child anxiety (Greco & Morris, 2002; Bögels & van Melick, 2004). Edwards, Rapee & Kennedy (2010) looked at changes in child anxiety over one year in children ages 3-5 years, and found, that over-controlling behaviors by both mothers and fathers led to an increase in child anxiety. Verhoeven, Bögels & van der Bruggen (2012) looked at parental over-control, rejection and autonomy granting in two samples of children, 8-12-year-olds and 13-18-year-olds and found that paternal over-control was important in predicting adolescent anxiety, especially from age fifteen on. They also found that higher levels of autonomy granting by both parents in younger children was related to greater anxiety. These results suggest that excessive autonomy for younger children may be anxiety provoking, as they require support and guidance. Conversely, restriction of autonomy for adolescents may hinder growth of independence and confidence necessary for exploring their expanding worlds. We hypothesize that restriction of autonomy may be more key in anxiety during the preadolescent period, as children are becoming more independent (Allen, 2008; Kerns, 2008). Overall, based on prior evidence and proposed models of child anxiety (e.g.,
parental autonomy granting is a factor which is important to consider in a family process model, but is unlikely to be a sole predictor of child anxiety.

Study Goals

The goal of this study was to compare the role of fathers and mothers in the development of child anxiety by testing a longitudinal, multi-risk factor model, with a focus on family processes. This study utilized the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care Database. Parent and child anxiety were measured when the child was in first grade (time 1), partner conflict, parent-child attachment and parental autonomy were measured when the child was in fifth grade (time 2), and parent and child anxiety were assessed again when the child was fifteen years of age (time 3). We chose these ages because they were relatively evenly spaced, and because middle childhood (around fifth grade) brings important change to the emerging adolescent’s life (e.g., growing independence, expanding world; Kerns, 2008; Mayseless, 2005), which may influence attachment and autonomy, and thereby later anxiety.

Previous studies utilizing the NICHD database have explored several factors related to anxiety. For example, Brumariu & Kerns (2013) examined whether temperament, peer competence and the ability to manage intense emotions, in conjunction with attachment history, predicted later child anxiety. Other studies using the database also looked at the relationship between infant security, aggression, and anxiety in first grade (Dallaire & Weinraub, 2007) or predicted toddler’s anxious and depressive symptoms from maternal separation anxiety and depressive symptoms, infant
temperament, and maternal sensitivity (Warren & Simmens, 2005). Kerns et al. (2011) examined several factors that might account for changes in child anxiety across middle childhood (ages 6 to 12 years): mother-child attachment, child characteristics (e.g., temperament) and the family context (e.g., maternal anxiety), and found that attachment, maternal anxiety, behavioral inhibition, and negative life events predicted changes in anxiety. To our knowledge, little research using the NICHD database has looked at either adolescent anxiety or fathers; thus, our study extends the previous use of the database, and, more importantly, the literature as a whole, by exploring the longitudinal links between child and adolescent anxiety and the role of fathers.

Given our primary goal of understanding the long-term impact of fathers in the development and maintenance of child anxiety, we put forth the following hypotheses. We expected that our models (see Figure 1 for the hypothesized father and mother models) would be a good fit for the data for both mothers and fathers, in conjunction with the previous research described. We hypothesized that parent and child anxiety at time 1 would be associated with more negative family processes which would, in turn, lead to increases in child anxiety at time 3. These models are the next theoretical step in understanding the development of child and adolescent anxiety because they test multiple risk factors over time (Kerns & Brumariu, 2014), seek to understand the long-term impact of fathers (Bögels & Phares, 2008), and further our understanding of anxiety in the context of family process factors.
Method

Participants

Participants were from the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care. Families with infants were recruited from ten different locations in the United States at the beginning of the study. Data were collected from families in four phases, with multiple waves of data collection at each phase: phase one (birth to three years), phase two (3 years to first grade), phase three (second grade to sixth grade) and phase four (age fifteen). In the present study, we utilized data from phases 2 (first grade only), 3 (fifth grade only) and 4 (age 15 years). For simplicity, in the following, we will refer to the time points in the following way: time 1 (first grade), time 2 (fifth grade), and time 3 (age 15). The study began with 1,364 families, and had, at phases 2, 3 and 4, 1,226, 1,061 and 1,007 families respectively who continued to participate (for more information about data collection and procedures, see NICHD Early Child Care Research Network, 2001). At the beginning of data collection, the sample was 48% female, 80.4% Caucasian, 12.9% African American, and 6.7% other ethnicity.

Because we were interested in the role of partner conflict and fathers in child anxiety, we selected a subset of the sample based on household type at times 1 and 2; that is, families were selected if they were comprised of a mother and father figure (biological
father, adopted father, or step-father). We then split families into two groups, intact mother-father families (families with biological fathers or adoptive fathers) and stepfather families, based on the way the NICHD dataset characterized household type. Additionally, we excluded any participants who had any missing data at time 1, and participants who had 100% of their data missing at either time 2 or time 3, so that we were only estimating missing data for cases for which we had substantial data at later waves. In this selected subsample, at time 1, intact mother-father families accounted for 91.3% of families, and stepfather families accounted for 8.7% of families. At time 2, 89.3% of families were intact mother-father families and 10.7% were stepfather families. At time 3, intact mother-father families were 82.2% of the families, and stepfather families or single parent families were 17.8% of the families. At time 3, several families in our sample (10%) had become single parent households. We chose to retain these families that later divorced so as not to exclude the most partner distressed families, although we controlled for household type at time 3 in the analyses (single parent families were grouped with stepfather families). See Table 1 for sample N’s, following the specific selection criteria described above.

The present sample was not representative of the NICHD dataset as a whole, as we selected only families with two parent households, given our interest in partner

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1 Household type classifications included traditional nuclear families, step-father families, two-parent extended or extended and augmented families, two-parent augmented families, nontraditional nuclear families, nontraditional step-father families, nontraditional extended or extended and augmented families, and nontraditional augmented families. All family types that were not step-father families included a father figure who was classified as the child’s biological or adoptive father. We combined these latter families into an “intact mother-father” group for the purposes of this study, which contrasts with the “step-father” group.
Table 1  
*Means, standard deviations, minimum and maximum values of the main study variables.*

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother Anxiety at time 1</td>
<td>585</td>
<td>17.25</td>
<td>5.09</td>
<td>10.00</td>
<td>38.00</td>
</tr>
<tr>
<td>Father Anxiety at time 1</td>
<td>585</td>
<td>16.76</td>
<td>4.86</td>
<td>10.00</td>
<td>36.00</td>
</tr>
<tr>
<td>Child Anxiety at time 1, Mother report</td>
<td>585</td>
<td>0.19</td>
<td>0.19</td>
<td>0.00</td>
<td>1.25</td>
</tr>
<tr>
<td>Child Anxiety at time 1, Father report</td>
<td>585</td>
<td>0.22</td>
<td>0.21</td>
<td>0.00</td>
<td>1.50</td>
</tr>
<tr>
<td>Partner Conflict at time 2, Mother report</td>
<td>571</td>
<td>3.61</td>
<td>1.47</td>
<td>1.00</td>
<td>8.20</td>
</tr>
<tr>
<td>Partner Conflict at time 2, Father report</td>
<td>536</td>
<td>3.37</td>
<td>1.38</td>
<td>1.00</td>
<td>9.00</td>
</tr>
<tr>
<td>Security with Mother at time 2, child report</td>
<td>572</td>
<td>3.41</td>
<td>0.44</td>
<td>1.73</td>
<td>4.00</td>
</tr>
<tr>
<td>Security with Father at time 2, child report</td>
<td>571</td>
<td>3.35</td>
<td>0.50</td>
<td>1.53</td>
<td>4.00</td>
</tr>
<tr>
<td>Autonomy Granted by Mother at time 2</td>
<td>533</td>
<td>5.16</td>
<td>0.85</td>
<td>3.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Autonomy Granted by Father at time 2</td>
<td>521</td>
<td>5.20</td>
<td>0.94</td>
<td>2.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Mother Anxiety at time 3</td>
<td>576</td>
<td>17.81</td>
<td>5.72</td>
<td>10.00</td>
<td>40.00</td>
</tr>
<tr>
<td>Father Anxiety at time 3</td>
<td>513</td>
<td>16.24</td>
<td>4.72</td>
<td>10.00</td>
<td>36.00</td>
</tr>
<tr>
<td>Child self-reported Anxiety at time 3</td>
<td>570</td>
<td>0.42</td>
<td>0.31</td>
<td>0.00</td>
<td>1.67</td>
</tr>
</tbody>
</table>

Note: Higher values reflect higher levels of the given construct.
conflict and fathers. The current sample was a total of 585 children with data at time 1, with the sample 48.9% male and 90.4% Caucasian. We did assess whether the participants who were lost to attrition (i.e., missing all data at time 2 and time 3) were missing at random. We counted families as having been lost to attrition if they had 100% of their data missing at either time 2 or time 3. Families retained after time 1 were not different from those lost to attrition on demographic variables, with the exception of gender. There were significantly more boys ($p=.004$) who dropped out of the study (n=50), than girls (n=25). Families retained also did not differ from families lost to attrition on any of the key study variables assessed during the three time points (see Table 1 for a list of key study variables).

Procedure

The NICHD study collected many more measures than were utilized for this study; thus, only the specific procedures related to the measures used in this study are described here. Fathers completed questionnaires about their own anxiety as well as a measure of their children’s anxiety in their home when children were in 1st grade. Mothers completed the same questionnaires in the laboratory in regard to themselves and the target child. At fifth grade, children completed a questionnaire about their relatedness and security to their fathers and mothers in the laboratory. At home, the children and fathers engaged in a discussion task and planning activity designed to assess autonomy granting. This activity was also done with mothers and children in the laboratory. Additionally during the fifth grade period, information about partner conflict was collected from fathers in the home and mothers in the laboratory. When the children were
fifteen years of age, fathers and mothers completed a questionnaire about their own anxiety. Fathers completed these in their homes, and mothers completed these questionnaires in the laboratory. Finally, children completed a self-report questionnaire about their own anxiety in the laboratory when they were fifteen years old.

**Measures**

*Parental Anxiety Symptoms.* Anxiety was assessed for both fathers and mothers at time 1 and time 3 with the State-Trait Anger and Anxiety questionnaire. The even numbered items were part of the State-Trait Anger Scale (Spielberger, Jacobs, Russell, & Crane, 1983) and the odd numbered items were 10 of 20 anxiety items on the State-Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vaggs & Jacob, 1983). For the purposes of this study, only the anxiety questions (odd numbered items) were considered (Example items include: I was tense, I was worrying over possible misfortune, I was worried). Items were considered based on how the father or mother felt during the past week and were rated on a four-point scale, from 1 (not at all) to 4 (very much), with higher scores reflecting greater anxiety. A total score was calculated by summing the items, after reverse scoring was completed. The alpha value for fathers’ reports of anxiety was ($\alpha=.85$) and for mothers was ($\alpha=.86$).

*Child Anxiety Symptoms-Parent report.* Fathers and mothers separately completed the Child Behavior Checklist (CBCL; Achenbach, 1991) in the home about their children at time 1. This measure can be used with children ages 4-18 and is often used to assess both problem behaviors and social competence. A twelve item anxiety scale was created from the CBCL, based on previous literature, and has adequate internal consistency.
(Bosquet & Egeland, 2006; Kerns et al., 2011). The items used were 8 items from the Depression/Anxiety scale (31, 32, 34, 45, 50, 71, 89 and 112) as well as 4 additional anxiety related items (9, 29, 30 and 66). (Examples of anxiety items include: Worries, Can’t get his/her mind off certain thoughts/obsessions). A mean was calculated from these items after fathers and mothers rated items on a scale of 0 (not true of the child) to 2 (very true of the child). The alpha level at time 1 for father rated child anxiety was ($\alpha=.71$), and for mother rated child anxiety was ($\alpha=.70$).

**Child Anxiety Symptoms-Self-report.** At age 15, self-reports of anxiety were utilized, as research has demonstrated that self-reports of internalizing symptoms are more accurate than parents’ reports in adolescence (Achenbach, 1991). Anxiety was measured using the Youth Self-Report (Achenbach, 2001), which included the same 8 items from the Depression/Anxiety scale (31, 32, 34, 45, 50, 71, 89 and 112) and 4 additional items (9, 29, 30 and 66), as described above. The alpha level for adolescents’ self-report of their anxiety was ($\alpha=.80$) for the present sample.

**Partner Conflict.** Partner conflict was assessed at time 2. The questionnaire, as adapted for the NICHD study, included five items for the parental/partner conflict subscale (Braiker & Kelley, 1979), and thirteen items from the resolution scale (Kerig, 1996). Only the five conflict items were used for this study. (Examples of these items include: How often do you feel angry or resentful to your partner; what is the extent to which you communicate negative feelings to your partner). Items from the parental/partner conflict subscale were rated on a 1 (not at all) to 9 (very much) scale,
with higher scores reflecting greater amounts of conflict. The alpha level for the conflict scale for fathers was ($\alpha=.81$) and for mothers was ($\alpha=.83$) for this sample.

**Parent-Child Attachment.** To assess father-child and mother-child attachment, the Related and Security Questionnaire was completed by the target child. These questions included aspects of the parent-child relationship including proximity seeking, security in relationship and emotional quality of the relationship. It has 18 items, 11 of which come from the fifteen item Security Scale (Kerns, Klepac & Cole, 1996), and 7 items from the Relatedness Questionnaire (Lynch & Cicchetti, 1997; Toth & Cicchetti, 1996). The measure used in the present study included 16 items total; 11 items from the original Security Scale and 5 items which were similar to the original Security Scale from the Relatedness Questionnaire. (Example items include: It’s easy to count on my dad for help, I think my mom does not listen to me). This combination of items has been used to measure attachment security in a previous study (Kerns et al., 2011). Items were rated by the child on a 4-point scale from 1 (not true at all) to 4 (very true), with higher scores indicating higher levels of security (i.e., attachment). The reliability for this aggregated measure was ($\alpha=.83$) for mothers and ($\alpha=.87$) for fathers.

**Parental Autonomy Granting.** A discussion task and planning activity at time 2 were used to code parent-child interactions for parental autonomy granting (coding system based on Egeland & Hiester, 1993; adapted by Barfoot, Burchell, Klausli & Tresch for the NICHD Study of Early Child Care, 2000). The activities included a discussion task, each time with a different topic, as well as problem-solving activities. The activities were videotaped and then coded by two trained observers. Several
qualitative rating scales were utilized, but for the purposes of this study, respect for autonomy was used as the target variable. Respect for Child Autonomy codes were given for the two tasks, as well as an overall rating. Coding was based on a 1 (very low) to 7 (very high) scale, where higher scores indicated greater respect for autonomy. The intra-class correlation coefficient for observer ratings was .68 for fathers and .65 for mothers.
Results

Analysis Plan

We first conducted preliminary analyses to examine the relationships between the demographic variables and our variables of interest to determine whether there was a need to control for any demographic variables within the primary analyses. Then, to test our hypotheses, we ran zero-order correlations to analyze the strength of the relationships between our variables of interest. Next, we employed path analysis to test the father and mother models separately, controlling for demographic variables, to determine whether these models fit the data well, and to test the proposed direct and mediational pathways. We also tested the models without the family process links, to determine whether the family process factors contributed significantly to changes in child anxiety. Finally, we tested the father and mother models separately for boys and girls to determine if the gender of the child moderated any of the model pathways.

Preliminary Analyses

Associations among the demographic variables² (gender, race, household type, income) included the following: No significant correlations were found

² Note: Race was categorized as Caucasian and Other; Household type was categorized as intact mother-father families and mother-stepfather families.
between gender and any of the other demographic variables. Race was
significantly related, at each time point, to household type (time 1 \( r = .15, p < .01 \)
\[\text{time 2 } r = .17, p < .01\], time 3 \( r = .14, p < .01\)) and family income (time 1 \( r = .13, p < .01\),
\[\text{time 2 } r = .10, p < .01\], time 3 \( r = .09, p < .05\)), with Caucasian families more
likely to be intact families with higher income. Household type and income at
time 1 \( r = .15, p < .01\) and 2 \( r = .13, p < .01\) were also significantly related to one
another, with intact households reporting higher income. Household type at time 1
and 2 were strongly related to household type at time 3 \( r = .60, p < .01 \) and \( r = .73, p < .01 \) respectively). Similarly, income at time 1 and 2 were strongly related to
income at time 3 \( r = .73, p < .01 \) and \( r = .83, p < .01 \) respectively). At time 3,
household type and income were not related to one another. Because household
type had a high, significant correlation across all 3 time points, we only included
household type at time 3 in further analyses. The same was true for income.

Correlations were then calculated to examine how the main study
variables were related to the following demographic variables: gender, race,
household type (time 3) and income (time 3). All of the substantive variables were
correlated with at least one of the demographic variables. As seen in Table 2,
mothers granted significantly less autonomy if the target child was a girl, and girls
reported significantly more anxiety than boys at time 3. Regarding race,
Caucasian fathers reported significantly less partner conflict than fathers of other
races, Caucasian children reported more security with their mothers, and
Caucasian mothers experienced less anxiety than mothers of other races at time 3.
Table 2

*Correlations between Demographic and Main Study variables (Note: only significant correlations are included).*

<table>
<thead>
<tr>
<th>Time 1</th>
<th>Gender</th>
<th>Race</th>
<th>Household T3</th>
<th>Income T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal Anxiety</td>
<td></td>
<td>-0.11*</td>
<td></td>
<td>-0.14**</td>
</tr>
<tr>
<td>Paternal Anxiety</td>
<td></td>
<td></td>
<td>-0.10*</td>
<td></td>
</tr>
<tr>
<td>Father report of Child Anxiety</td>
<td></td>
<td></td>
<td>-0.11*</td>
<td></td>
</tr>
</tbody>
</table>

| Time 5 | | | | |
|--------| | | | |
| Conflict reported by Father | -0.09* | -0.15** | |
| Security with Mother | 0.14** | 0.14** | 0.10* |
| Security with Father | 0.22** | | 0.12** |
| Autonomy granted by Mother | -0.11* | 0.11* | 0.14** |
| Autonomy granted by Father | 0.13** | | 0.12** |

| Time 3 | | | | |
|--------| | | | |
| Maternal Anxiety | -0.11* | -0.17** | | -0.18** |
| Paternal Anxiety | | | | -0.11* |
| Child self-reported Anxiety | | -0.20** | | -0.10* |

Note: Gender was coded as 0=girls, 1=boys; Race was coded as 0=other, 1=Caucasian; Household type was coded as 0=stepfather/single families, 1=intact mother-father households; Income is a continuous variable.

*p=.05; **p=.01
Table 3
Zero-order correlations among father and mother reported variables.

<table>
<thead>
<tr>
<th></th>
<th>Parent Anxiety T1</th>
<th>Child Anxiety T1</th>
<th>Partner Conflict</th>
<th>Attachment Security</th>
<th>Autonomy Granting</th>
<th>Parent Anxiety T3</th>
<th>Child Anxiety T3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Anxiety</td>
<td>--</td>
<td>0.25**</td>
<td>0.23**</td>
<td>-0.12**</td>
<td>-0.13**</td>
<td>0.45**</td>
<td>0.12**</td>
</tr>
<tr>
<td>Child Anxiety</td>
<td>0.24**</td>
<td>--</td>
<td>0.12**</td>
<td>-0.06</td>
<td>-0.06</td>
<td>0.13**</td>
<td>0.19**</td>
</tr>
<tr>
<td><strong>Time 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner Conflict</td>
<td>0.24**</td>
<td>0.11**</td>
<td>--</td>
<td>-0.09*</td>
<td>-0.01</td>
<td>0.20**</td>
<td>0.06</td>
</tr>
<tr>
<td>Attachment Security</td>
<td>-0.08</td>
<td>-0.13**</td>
<td>-0.10*</td>
<td>--</td>
<td>0.12**</td>
<td>-0.05</td>
<td>-0.18**</td>
</tr>
<tr>
<td>Autonomy Granting</td>
<td>0.03</td>
<td>-0.03</td>
<td>-0.03</td>
<td>0.09</td>
<td>--</td>
<td>-0.10*</td>
<td>-0.10*</td>
</tr>
<tr>
<td><strong>Time 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Anxiety</td>
<td>0.39**</td>
<td>0.16**</td>
<td>0.23**</td>
<td>-0.07</td>
<td>-0.03</td>
<td>--</td>
<td>0.16**</td>
</tr>
<tr>
<td>Child Anxiety</td>
<td>0.18**</td>
<td>0.12**</td>
<td>0.07</td>
<td>-0.24**</td>
<td>0.02</td>
<td>0.15**</td>
<td>--</td>
</tr>
</tbody>
</table>

Note: Mother correlations are reported on the top half of the table. Father correlations are reported on the bottom half of the table.

*p=.05; **p=.01
In intact mother-father households (compared to stepfather families), mothers and father reported less anxiety at time 1, fathers reported that their child had significantly less anxiety at time 1, fathers reported less partner conflict, and children rated their security with both mothers and fathers as higher. Autonomy granting for both mothers and fathers was also higher in intact mother-father households. Finally, higher income was associated with less anxiety for mothers at time 1, higher security with mothers and fathers, more autonomy granting by both mothers and fathers, and lower anxiety for mothers, fathers, and target children at time 3. Given the multiple significant relationships, we chose to control for demographic variables in the model tests.

**Correlations Between the Main Study Variables**

Table 3 presents the zero-order correlations among the main study variables. Correlations for father and child reported variables are below the diagonal, and correlations for mother and child reported variables are above the diagonal. For the father and child reported variables, correlations were generally modest in magnitude, with significant correlations ranging from -.08 to 0.39. Father and child anxiety were correlated at time 1 and time 3. Both child and father anxiety were significantly correlated over time, although father anxiety was more stable over time than was child anxiety. Child anxiety at time 1 were associated with higher partner conflict and less secure father-child attachment at time 2. However, neither father nor child anxiety at time 1 were associated with autonomy granting at time 2. Partner conflict at time 2 was related to father
anxiety at time 3, but not to child anxiety. Partner conflict was also associated
with lower father-child attachment security concurrently. Lower father-child
attachment security was associated with greater anxiety for children at time 3.
Autonomy granting was not related to father or child anxiety at time 3.

Zero-order correlations for the mother and child reported variables were
again modest in magnitude, ranging from -0.09 to 0.45. Mother and child anxiety
were concurrently correlated at time 1 and time 3. Child anxiety was stable over
time, as was mother anxiety, which had higher stability than did child anxiety.
Mother and child anxiety at time 1 both predicted greater partner conflict at time
2. Mother, but not child, anxiety at time 1 predicted lower mother-child
attachment security, and lower autonomy granting at time 2. Partner conflict
predicted lower mother-child attachment security concurrently and lower mother
anxiety at time 3, but was not related to child anxiety at time 3. Lower mother-
child attachment security predicted more child anxiety at time 3. Greater
autonomy granting by mothers also predicted less anxiety for both mother and
child at time 3.

Tests of Models, Direct Paths, and Mediated Paths

To test the proposed models, we ran path analyses separately for fathers
and mothers (see Figures 2 and 3) using Mplus (Muthén & Muthén, 1998-2011).
Maximum likelihood estimation was used to handle missing data. The baseline
model results initially indicated that it would be beneficial to add a path to our
original model, specifically a link between partner conflict at time 2 and parental
Figure 2
Model for Fathers, controlling for demographic variables: Significant standardized path estimates, all starred paths are (p<.05).

Time 1: 1st grade

- Paternal Anxiety
- Child Anxiety
- Partner Conflict

Time 2: 5th grade

- Partner Conflict
- Attachment Security with Fathers
- Paternal Autonomy granting

Time 3: Age 15 years

- Paternal Anxiety
- Child Anxiety
Figure 3
Model for Mothers, controlling for demographic variables: Significant standardized path estimates, all starred paths are (p<.05).

Time 1: 1st grade

Maternal Anxiety

- .25*

Child Anxiety

- .22*

Time 2: 5th grade

Partner Conflict

- .04

Attachment Security with Mothers

- .05

Maternal Autonomy granting

- .06

- .08*

Time 3: Age 15 years

Maternal Anxiety

- .10*

Child Anxiety

- .17*

.40*

- .07
anxiety at time 3, for both fathers and mothers. Because this link seemed highly plausible, we added it to our model. We then re-ran our models with this link included, and found that it significantly improved the model fit. Demographic variables were controlled for in all analyses.

Findings indicated that the model for fathers was a good fit for the data (see Figure 2). Although the Chi-square test of model fit for the father model found a significant result ($\chi^2(8) = 16.63, p = .03$), significant Chi square values are not uncommon with large samples. The Comparative Fit Index (CFI) for our data was 0.97, indicating that our model was a significant improvement over the baseline model. The RMSEA (Root Mean Square Error of Approximation) value was 0.04 (with a 90% confidence interval from 0.011 to 0.072). Thus, we cannot reject the close fit hypothesis, which indicates our model likely closely fits our data. The SRMR (Standardized Root Mean Square Residual) estimate was 0.02, indicating that there was not a large overall difference between the observed and predicted correlations for our data. Overall, these fit indices suggest that our proposed model fits the data well.

In addition to the test of overall model fit, several direct paths were of note. For the father model, the following paths were significant: Father and child anxiety were related to one another at time 1. Paternal anxiety at time 1 was related to greater partner conflict at time 2, and partner conflict at time 2 predicted greater paternal anxiety at time 3. This is indicative of the important role of partner conflict in maintaining or exacerbating parental anxiety. Child anxiety at
time 1 was related to lower attachment security with fathers at time 2, suggesting that anxious children have a poorer quality relationship with their fathers, and lower attachment security at time 2 predicted greater child anxiety at time 3. Paths which were not significant included: a relationship between father and child anxiety at time 3, the link from paternal anxiety to attachment security, partner conflict to attachment security and autonomy granting, child anxiety at time 1 to autonomy granting, and autonomy granting to child anxiety at time 3.\(^3\) When the family process variables were removed from the father model, the model fit was worse than our proposed model ($\chi^2(27)=145.16, p<.00, \text{CFI}=.53, \text{RMSEA}=.09, \text{SRMR}=.07$). This suggests that the family process factors contributed to child anxiety in a meaningful way.

For the mother model (see Figure 3), the Chi-square test was not significant ($\chi^2(8)=14.89, p = .06$), indicating a non-significant difference between population and predicted covariances. The CFI estimate for this model was 0.98, indicating that our model was a significant improvement over the baseline model. The RMSEA estimate was 0.04 (with a 90% confidence interval from 0.0 to 0.07). Thus, we cannot reject the close fit hypothesis, indicating that our model likely fits the data. Finally, the SRMR estimate was 0.02, indicating that there was not a large overall difference between the observed and predicted

\[^3\text{Although we did not include a direct link in the model from partner conflict to child anxiety at time 3 as we were examining mediated pathways from partner conflict to child anxiety, we tested this direct link given its significance in prior research, and found that it was not a significant direct path, nor did adding it improve model fit.}\]
correlations. Together, these fit indices suggest that our proposed model fits the data well.

Direct paths which were significant in the mother model included the following: Mother and child anxiety were related to one another at both time 1 and time 3. Maternal anxiety at time 1 was related to partner conflict at time 2, which subsequently predicted a rise in maternal anxiety at time 3. As with the father model described above, these results also point to the importance of partner conflict in maintaining mothers’ anxiety over time. Lower attachment security and lower autonomy granting by mothers at time 2 predicted an increase in child anxiety at time 3. These results suggest that, similarly to fathers, that parent-child attachment predicts changes in children’s anxiety and additionally with mothers, restriction of children’s autonomy leads to more anxiety for children. Paths which were not significant included: Maternal anxiety at time 1 to attachment security, partner conflict to attachment security and autonomy granting, and child anxiety at time 1 to attachment security or autonomy granting.\(^4\) When the mother model was tested without the family process factors, the model fit was worse (\(\chi^2 (27)=128.75, p<.00, \text{CFI}=.66, \text{RMSEA}=.08, \text{SRMR}, .07\)). This suggests, similarly to the father model, that the family process factors contribute to child anxiety in a notable manner.

\(^4\) As with the father model, we also tested the model with a direct link from partner conflict to child anxiety at time 3. We did not find the path to be significant or to improve model fit in the mother model.
To test for mediation effects, we tested each mediation path within our model separately using Mplus. We found one significant mediation pathway for the father model, between paternal anxiety at time 1, partner conflict, and paternal anxiety at time 3 ($p=.001$). The same path was also significant for the mother model ($p=.02$). Thus, marital conflict at time 2 accounted for the association between earlier and later parental anxiety for both mothers and fathers. We also found two mediation effects, one for the father ($p=.06$) and one for the mother model ($p=.07$), which were marginally significant. The mediated pathway for the father model was from child anxiety at time 1 to child anxiety at time 3 via attachment security. Thus, children with anxiety at time 1 were more likely to be anxious at time 3 if they had a more insecure attachment relationship with their father at time 2. The mediated pathway for the mother model was from maternal anxiety at time 1 to child anxiety at time 3 via attachment security. Thus, mothers with greater anxiety at time 1 were more likely to have children with greater anxiety at time 3 as a result of greater attachment insecurity at time 2.

Given the significance of gender for anxiety, and previous work looking at results separated by gender (i.e., Edwards et al., 2010; van Eijck et al., 2012), we also tested whether the father and mother model pathways were different for boys and girls. Our findings suggest that the mother models for boys and girls are not substantially different from one other. Comparisons of the father models for boys and girls did indicate one significantly different path (out of the seven total pathways). The path from partner conflict to paternal anxiety at time 3, while
significant for both fathers with girls and fathers with boys, had a significantly higher beta weight for fathers with girls than for fathers with boys. Given an overall lack of differences for the gender separated models, we chose to interpret results based on the full sample.
Discussion

The present longitudinal study sought to understand the relations between parent and child anxiety and family processes. We included multiple family process risk factors—partner conflict, child attachment security, and parental autonomy granting—and examined these risk factors over a nine year period. This study extended earlier work by including fathers, who have often been overlooked in research, especially with regards to their long-term impact on child anxiety. Although child anxiety was moderately stable over a nine year period, from middle childhood into adolescence, we did identify family process variables that accounted for change in anxiety, with the proposed family process model showing a good fit for the data for both mothers and fathers. Further, we identified specific family processes—lower mother-child attachment security, lower father-child attachment security, and restricted maternal autonomy granting—that explained a rise in child anxiety, and one process (partner conflict) that accounted for increases in parental anxiety over time. Our results point to the importance of family process variables and to an important long-term impact of fathers in child anxiety, although we did not find evidence that fathers play a unique role in child anxiety as proposed by Bögels & Phares (2008).

The present study also highlighted an important role that partner conflict may play in parents’ anxiety. Higher parental anxiety, for both fathers and mothers, predicted greater partner conflict four years later, which in turn predicted higher anxiety 5 years
later. Thus, it is likely that partner conflict is a factor that both maintains and strengthens anxiety for both mothers and fathers over time. Previous literature has noted some links between parental anxiety and marital quality (McLeod, 1994), marital adjustment (Dehle & Weiss, 2002), and adjustment in general (Frey & Oppenheimer, 1990). Other research has looked at anxiety and partner conflict over time. For example, El-Skeikh, Kelly & Rauer (2013) looked at the relationship between inter-partner psychological conflict (IPC), anxiety, and sleep over a week’s time. Their results indicated that anxiety symptoms mediated the relationship between IPC and poor sleep quality for women; for men however, depressive symptoms mediated these two variables. Another study looked at marital discord, neuroticism and stress as potential factors related to internalizing problems for couples over six years (Brock & Lawrence, 2014). Although Brock & Lawrence (2014) focused mostly on depression, anxiety symptoms were also included. Their results indicated that for women only, poor conflict management was related to women’s internalizing symptoms. A study by Dehle & Weiss (2002) looked at marital adjustment and state anxiety between married couples over a three month period, and found that greater anxiety symptoms reported by husbands, but not wives, was related to poorer marital quality for both wives and husbands. Dehle & Weiss (2002) also explored bidirectional links between anxiety and marital quality, but did not find that anxiety was a good predictor of marital quality. While these studies establish important connections between anxiety in couples and marital difficulties, our results add to this literature in several ways. Specifically, we extend this literature through the inclusion of a nine year longitudinal design, the demonstration of a mediational link between parental anxiety and
partner conflict, and the finding that this relationship operates similarly for both mothers and fathers.

Although partner conflict was related to later parental anxiety, it did not predict later child anxiety via our proposed mediational pathways of parent-child attachment security or autonomy granting. Partner conflict was also not related to child anxiety at time 3, nor was a direct path from partner conflict to child anxiety at time 3 significant for either the father or mother model. This was surprising, given that research in this area has previously found evidence that exposure to inter-parental conflict puts children at risk for psychopathology, including anxiety (Davies, Harold, Goeke-Morey, Cummings, Shelton, Rasi & Jenkins, 2002), especially for girls (El-Sheikh, Keiley, Erath & Dyer, 2013). In a similar vein, Katz & Gottman (1996) suggested that there may be a “spillover” effect (i.e., the transfer of mood, emotions, or behaviors from one setting to another) for partner conflict, where specific types of conflict experienced by both fathers and mothers influences their children’s well-being. The current study does not support these prior findings, although our study does differ in an important way from previous work, specifically, our consideration of conflict globally as opposed to its more specific forms, and the use of parent report (rather than child report) of partner conflict. In addition, it is possible that in selecting families that were still intact when children were in fifth grade may have resulted in testing these questions in a sample with relatively low levels of marital distress. By contrast, our findings did suggest that the relationships in which the child directly participates (e.g., the parent-child relationship) have a more direct effect on children’s well-being.
Attachment security was also part of the model, and we tested two ideas regarding how attachment security might play a role in the development of anxiety. One hypothesis was that insecure parent-child attachment might mediate the link between partner conflict and child anxiety. This was based on an extension of the Emotional Security Hypothesis (Davies & Cummings, 1994), which proposes that destructive forms of partner conflict lead to children feeling insecure about the marital relationship, which in turn contributes to the development of internalizing and externalizing problems. Substantial research has found that emotional security related to parental conflict uniquely predicts children’s adjustment problems (e.g., Sturge-Apple, Davies, Winter, Cummings, & Schermerhorn, 2011; Davies et al., 2002). As noted by Davies & Martin (2014) however, emotional security and attachment security are distinct constructs; emotional security refers to security in relation to the parents’ relationship, whereas attachment security refers to security within the parent-child relationship. We did not find that lower attachment security in parent-child relationships explained the link between partner conflict and child anxiety. Our findings support Davies & Martin’s (2014) distinction between attachment security and emotional security based on the parental or marital relationship, in that the latter may be more influenced by conflict in the marital relationship, although studies assessing both parent-child attachment security and emotional security in relation to the marital relationship are needed to test this proposal.

A second idea that our study tested regarding attachment security was empirically supported. We found that lower attachment security to either parent at grade 5, controlling for child anxiety at time 1, led to increases in child anxiety from first grade to
fifteen years. This finding is consistent with previous research which showed that insecure attachment is related to child anxiety both concurrently and as a predictor of later anxiety (e.g., Brumariu & Kerns, 2010; Colonessi et al., 2011), and extends other research by showing that attachment predicts changes in anxiety from early childhood to mid-adolescence. Of note, others have found specific forms of attachment insecurity to be related to anxiety; we did not make these distinctions. In addition to contributing generally to this growing literature, our study is one of the first to test several newer ideas in this area. One example is our finding that lower attachment security can explain changes in anxiety over time. To our knowledge, few studies have examined these factors spanning from childhood into adolescence; thus, another contribution of our findings is a broadened understanding of the lasting impact of attachment relationships into adolescence. Finally, our results lend support to the idea that lower father-child attachment security can explain changes in anxiety as well as mother-child attachment. Some research has examined this idea during adolescence (e.g., van Eijck et al., 2012), although our findings present an alternative idea from van Eijck et al. (2012) and Bögels & Phares (2008)—fathers do matter in child anxiety, although not more so than mothers.

Although our results were similar for fathers and mothers, we did find a few small differences between fathers’ and mothers’ influence on child anxiety. One interesting difference was that child anxiety at time 1 was related to later father-child attachment, but not to mother-child attachment. There was also a marginally significant mediating effect ($p=.06$) from child anxiety at time 1 to child anxiety at time 3, via lower father-child attachment security. We hypothesize that fathers may be more prone to respond
negatively to their children’s anxiety and withdraw more so than mothers, which would lead to a more insecure father-child attachment relationship. As fathers may be particularly important for helping children to explore the world (e.g., Grossmann, Grossmann, Fremmer-Bombik, Kindler, & Scheuerer-Englisch, 2002), a consequence of fathers’ withdrawal from their anxious children is that fathers might be unable to successfully fulfill this critical role. If this is the case, then pre-existing child anxiety may induce a reciprocal relationship between child anxiety and father and child withdrawal from their relationship. However, it is important to note that we did not control for earlier attachment security in our model, thus, this speculation should be interpreted cautiously. Another point of note relating to the attachment security findings was a marginally significant mediating effect of lower mother-child attachment between maternal anxiety at time 1 and child anxiety at time 3 ($p=.07$). A study using the same sample at a younger age looked at factors that predicted increases in child anxiety from preschool into middle childhood, and found that maternal anxiety was one key factor (Kerns et al., 2011). Thus, the current findings are line with previous work in suggesting that children with anxious mothers may be more anxious themselves, as a result of a more insecure attachment relationship.

Autonomy granting was another potential risk factor for child anxiety that differed for mothers and fathers in this study. Low autonomy granting and high parental control are established correlates of child anxiety (McLeod et al., 2007; van der Bruggen, Stams & Bögels, 2008), although the majority of studies have only included mothers, and the directionality of findings (i.e., are low autonomy granting and high parental control a
response to or the cause of child anxiety) are currently unclear. Some studies that have attempted to parse out directionality have provided mixed evidence regarding how child anxiety and parenting are related over time. In a longitudinal study of child anxiety and parental over-involvement (Hale, Klimstra, Branje, Wijsbroek, & Meeus, 2013), child anxiety predicted increases in parental over-involvement rather than parenting predicting changes in anxiety. Similarly to Edwards et al. (2010) however, we found that a restriction of maternal autonomy granting was related to increases in child anxiety, but was not related to prior child anxiety. Interestingly, although a restriction of autonomy granting by both parents may contribute to later child anxiety (Verhoeven et al., 2012), we did not find an association for fathers in this study. Thus, the control mothers exert over their children was more influential than that of fathers for child anxiety. As with the attachment findings, however, it is important to interpret these results with caution, as we did not assess for autonomy granting at younger ages. That we did not find an association with fathers may be a product of fathers being less involved in children’s lives, as compared to mothers (however the literature suggests this trend is slowly changing; Lamb & Tamis-Lemonda, 2004), with mothers playing a more direct role in creating rules or providing discipline (aspects of autonomy granting) than fathers. More research is needed to further establish both the directionality of effects, as well as gaining a better understanding of the potential differences between fathers and mothers, and to evaluate how fathers’ changing involvement in their children’s lives may influence the role of autonomy granting in child anxiety.
This study possesses several strengths, including the large sample size and longitudinal design. Although the magnitude of the effects of our findings were small, we were able to detect important relationships between our variables over a nine year period. We also examined both mother-child and father-child relationships, which is a particular strength of the present study as father data are not as commonly utilized in the literature, particularly from the NICHD dataset. Despite these strengths, the use of the NICHD Study of Early Child Care data did introduce some limitations. As the data were already collected, the authors had no control over the measures used, and a few of the measures were not optimal to the study’s questions (e.g., State-Trait Anxiety assessed over the past week instead of an explicit trait measure of anxiety). It is also important to note that path models do not indicate causality, and can only inform whether the model is a good fit for the data, and suggest relationships between variables. It is also possible that alternative models may better answer questions regarding the role of parents in child anxiety. For example, other factors such as behavioral inhibition, environmental risk factors such as peer relationships and school experiences (e.g., Degnan, Almas & Fox, 2010), or child characteristics such as emotion regulation (e.g., Suveg & Zeman, 2004) should also be considered. Finally, the results were based on a primarily Caucasian, upper-to-middle class, two parent household sample; thus, they may not be generalizable to other populations.

The present indicate a number of potential clinical considerations. Current literature questions the efficacy of including parents in their children’s treatment, with some research suggesting that including parents does not result in more effective therapy
outcomes (White, Taylor, & Moss, 1992) and that treating the parent-child relationship may have only limited effects on child anxiety (Silverman, Kurtines, Jaccard, & Pina, 2009). Results of a meta-analysis suggested however, that the harm or benefit in including parents is as yet, inconclusive (Barmish & Kendall, 2005). Given the importance of parent-child relationships both in general and in our study, it may be important to involve parents in treatment to improve communication, warmth, or appropriate autonomy granting within the parent-child relationship. Our study also suggests clinical considerations for couples counseling. For example, it may be helpful for couples attending therapy who have high levels of conflict to be screened for anxiety, and either or both partners in the dyad may benefit from individual treatment for anxiety disorders if needed.

In conclusion, the present study provided evidence that family processes contribute to a rise in and the maintenance of both parent and child anxiety over time. Our results supply knowledge on fathers’ long-term contribution to child anxiety, and indicate that fathers and mothers are both important in influencing children’s anxiety, although this occurs via slightly different mechanisms. In addition to findings regarding child anxiety, the mediated relationship between parental anxiety, partner conflict, and later parental anxiety is a novel finding that provides new knowledge regarding the effects of partner conflict for parents. While this study made progress towards the identification of the long-term impact of fathers in child anxiety, important next steps include examining the current study’s risk factors utilizing different measures, and
looking at additional risk factors or different combinations of factors that may further explain child anxiety, particularly with regards to the role of fathers.
References


