Parental Attachment Anxiety and Avoidance Predicting Child's Anxiety and Academic Efficacy in Middle Childhood

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Abstract

Previous work has documented that attachment security is systematically linked with child adjustment and academic competence. This study aims to examine the associations between parents' own report of anxious and avoidant attachment and their children's report of trait anxiety and academic self-efficacy in math and Turkish literature courses. Mothers (N=1539) and fathers (N=1436) from four cities in Turkey, separately completed the measures of attachment orientations, and their children (N=1877), attending 4th and 5th grades, completed the measures of trait anxiety and academic self-concept on math and literature courses in their school. Regression analyses showed that whereas mother attachment anxiety predicted boys' trait anxiety, father attachment avoidance predicted girls' anxiety. In predicting academic self-efficacy, mother attachment avoidance predicted their son's and father attachment anxiety predicted their daughter's academic self-efficacy in both math and literature courses. Our results confirmed the importance of having a warm and secure romantic attachment between spouses in marriage, not only for their relationship satisfaction and happiness, but also for their children's emotional adjustment and academic competence.

Keywords: parental attachment anxiety, avoidance, middle childhood, anxiety, academic self-concept

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Introduction

Bowlby (1969) conceptualized that the quality of attachment between parents and children shapes the fundamental trajectories in later development. Consistent with this conceptualization, the accumulated work has demonstrated that parental insecurity is associated with insensitive, unresponsive or inconsistent caregiving, which results in child adjustment problems (e.g., DeWolff & Van IJzendoorn, 1997; Thompson, 2008; Van IJzendoonm, 1992). Although there is extensive literature on the association between parental and child attachment security and the effect of parents' own attachment, measured with the implicit measures such as Adult Attachment Interview, on child's adjustment (e.g., Main, Kaplan, & Cassidy, 1985; Thompson, 2008), there is almost no study examining the role of parents' attachment anxiety and avoidance on children's critical outcomes, especially on their chronic anxiety problems and academic self-efficacy.

In this study, we aimed to explore this association by using separate reports from both parents and children. Moreover, past studies were mainly conducted in early childhood and mostly among the North American and Western European samples. We examined the proposed associations in relatively collectivist Turkish culture and among children in middle childhood experiencing a major transition in their emotional and social development with a heightened peer influence. Specifically, we aimed to examine the effects of self-reported romantic attachment dimensions on the two critical outcomes related to personal competence, trait anxiety and academic self-efficacy among Turkish children. Considering that individual differences in attachment can be most parsimoniously captured along the two fundamental dimensions representing attachment-related anxiety and avoidance (Brennan, Clark, & Shaver, 1998; Mikulincer & Shaver, 2007), the current study has primarily aimed to examine the effects of parents' anxious and avoidance attachment on childhood anxiety and academic competence, separately for boys and girls.

Attachment Dimensions

According to Bowlby (1973), children develop mental representations (internal working models) reflecting the degree of both their worthiness for love/care and attachment figures' trustworthiness on the basis of the quality of their early interactions. These mental representations guide belief, expectations, and behaviors in all sorts of close relationships and shape their intra and interpersonal competence in various domains across the life-span. Beginning with Ainsworth, Blehar, Waters, and Wall's (1978) study, it has been widely documented that securely attached children effectively use their parents as a secure base from which to explore the environment and as a haven of safety in times of need. In this process, the attachment figures' prompt responsiveness soothes children's distress
and helps them cope with their anxiety whenever they feel insecure. However, if the caregiver is unresponsive or cold to a child's need it may lead to the feeling of rejection and may result in early detachment or compulsive self-reliance to regulate anxiety using deactivating emotion regulation strategy. However, if the caregiver is inconsistently responsive or very intrusive, this may lead to the feeling of inadequacy, helplessness, and elevated expressed anxiety as a function of hyperactivating emotion regulation strategy. Whereas the former describes children with anxious-avoidant attachment pattern (A type), the later describes those with anxious ambivalent or resistant pattern (C type). In both cases, the underlying theme is the attempt to deal with anxiety provoked by insecurity via deactivating (avoidant) or hyperactivating (anxious) regulation strategies (see Belsky & Fearon, 2008; Cassidy, 2008; Mikulincer & Shaver, 2007, for more information). The attachment patterns seen in early childhood are largely stable with similar strategies in middle childhood with the exception that children seek more proximity from their peers and become more competent in cognitive as well as emotional regulation (Kerns, 2008).

Accumulated work, especially on adult attachment, has demonstrated that individual differences in attachment orientations and their underlying internal working models can be best represented in the two fundamental dimensions reflecting attachment-related anxiety and avoidance, rather than attachment categories (Shaver & Mikulincer, 2007; Sümer, 2006). Attachment anxiety mirrors worries in close, especially romantic relationships and is expressed as a strong need for closeness and fear of being abandoned. Anxiously attached people use a hyperactivating emotion and behavior-regulation strategy, and thus, they are also extremely hyper-vigilant, anxiety prone, and get distressed in intimate relationships. Attachment avoidance mirrors an extreme level of self-reliance and emotional distance from close relationships. Avoidantly attached people employ a deactivating emotion and behavior-regulation strategy, and thus, they try to avoid potential rejections by maintaining emotional distance and independence in close relationship (see Mikulincer & Shaver, 2007).

Attachment and Anxiety in Middle Childhood

According to Bowlby (1973), if children are unsure about the availability of their attachment figure this leads to extreme fear and anxiety. Therefore, especially children with anxious ambivalent attachment display heightened anxiety and other negative emotions accompanied with the clingy dependence behaviors to the attachment figure hoping to gain continuous attention and responsiveness from their inconsistent caregiver. Children with chronic avoidant attachment do not show very clear signs of anxiety and/or distress since the deactivating strategy which was built on the rejection of attachment figure prefers self-reliance over clingy or needy behaviors to avoid further rejection possibilities (Cassidy, 2008; Main & Solomon,
Therefore, both trait and social anxiety experienced in childhood is related to early attachment insecurity. Carlson and Sroufe (1995) proposed that both anxious ambivalent and avoidantly attached children show different internalizing problems, but anxiously attached children especially develop anxiety symptoms.

Consistent with the theoretical claims, past studies have consistently shown that anxious ambivalent or resistant attachment is strongly associated with all sorts of internalizing problems, especially with anxiety and depression in both early childhood (DeKlyen & Greenberg, 2008; Thompson, 2008) and middle childhood and early adolescence (Brumariu & Kerns, 2010). Although previous studies extensively examined the link between attachment insecurity and anxiety disorders, studies investigating the association between the two attachment dimensions and anxiety in middle childhood are relatively rare with a few exceptions (e.g., Brumariu & Kerns, 2010).

In a recent review, Brumariu and Kerns (2010) reviewed the link between parent-child attachment and internalizing symptoms including depression and anxiety in middle childhood and adolescence. In this review, studies assessing attachment anxiety and avoidance yielded inconsistent associations with the anxiety symptoms. Out of the 11 studies that included different classification of anxious and avoidant attachment, only four studies showed a significant effect of anxious ambivalent attachment on anxiety disorders (Brumariu & Kerns, 2010). Furthermore, none of these studies specifically measured parents’ own attachment anxiety and avoidance. In their studies, Doyle and Markiewicz (2005) found a significant association between anxious attachment to mothers and anxiety in late middle childhood. In that study, however, rather than parents’ own reports, children reported their own anxious attachment to their mothers using the reworded Relationships Scales developed by Bartholomew and Horowitz's (1991), which are measuring the four attachment prototypes.

Moreover, although attachment to fathers gains critical importance during middle childhood (Grossmann et al., 2002; Kerns, 2008), past studies mainly focused on the mother effect and generally ignored the effects of fathers’ own attachment insecurity on child related outcomes (i.e., child anxiety). In this study, we aimed to assess both mothers’ and fathers' own attachment anxiety and avoidance and examined both their unique and interactive effects on children's trait anxiety. We expected that although parents' attachment anxiety would have a larger effect than their attachment avoidance, the effect of father attachment anxiety would be stronger on girls than that of mother attachment anxiety since father anxiety from both cultural and gender role perspective is incongruent with the paternal parenting roles in Turkish context. Finally, considering that attachment anxiety is usually higher among women than men, especially in community samples (Del Giudice, 2011) and girls in middle childhood tend to have higher trait anxiety than boys (see Albano & Krain, 2005), we tested the attachment effects of both parents on boys and girls separately.
Attachment and Academic Self-Concept

One of the most critical changes in middle childhood is the transition to formal school environment. Similarly to the role of anxiety, the quality of peer relationships in school and academic self-efficacy become the critical barometers of psychological indicators in these years. The effect of early attachment on later development is not limited to emotional development or psychological adjustment, but also extends to cognitive performance. Past studies in both preschool and school years have shown that attachment security enhances cognitive performance that includes academic achievement (Kerns, 2008; Moss, St-Laurent, Dubois-Comtois, & Cyr, 2005; West, Mathews, & Kerns, 2013).

Jacobsen and Hofmann (1997) showed that attachment security of children measured at the age of 7 predicted perceived academic competence at age 9 during middle childhood. In addition, they demonstrated that secure children had other positive school behaviors such as greater attention and participation in class, and attachment security also indirectly predicted achievement via these positive academic behaviors. Moss and St-Laurent (2001) showed that attachment security at age 6 significantly predicted academic mastery motivation at age 8 among French Canadians.

Bacro (2012) found that attachment to father, but not attachment to mother was the only significant predictor of children's GPA in language mastery and academic self-efficacy after controlling for sex, age and cognitive performance among French students in middle childhood. Other studies have supported that attachment security is positively associated with both academic achievement (GPA) and perceived academic efficacy during adolescence (e.g., Larose, Bernier, & Tarabulsy, 2005) and college years (e.g., Cutrona, Cole, Colangelo, Assouline, & Russell, 1994). In a recent study, West et al. (2013) examined the link between mother-child attachment and different indicators of cognitive performance including academic competence and IQ longitudinally in middle childhood. It was found that children with secure attachment at 24 or 36 months had higher school performance than those with anxious ambivalent and disorganized attachment.

Previous studies investigating the effect of attachment security on both anxiety and academic efficacy have been mostly conducted in Western cultures. Furthermore, the majority of the previous studies utilized a secure vs. insecure split in their analyses from children's perspective and did not specially investigate the effects of parents' own attachment anxiety and avoidance on the academic competence in middle childhood. In the current study, considering that academic self-concept is strongly associated with actual academic performance (e.g., Lee, Lee, & Bong, 2014; Marsh & O'Mara, 2008), we aim to examine both unique and interactive effects of parents' romantic attachment insecurity (i.e., attachment-related anxiety and avoidance) on children academic self-concept in math and literature courses.
Academic self-concept and related instruments (i.e., the *Self-Description Questionnaire*) were originally developed by Marsh (1990) on the basis of hierarchical multidimensional model of self-concept. Academic self-concept refers to self-evaluations in specific academic domains and strongly associated with academic self-efficacy (Marsh & O'Mara, 2008). Therefore, we use academic self-concept and self-efficacy interchangeably in this study. Past studies in educational psychology have shown that academic self-concepts or evaluations strongly predict self-esteem, self-efficacy, and academic achievement (Lee et al., 2014; Marsh & Craven, 2006; Marsh & O'Mara, 2008; Zeidner & Schleyer, 1999). Academic self-concept is also related to general anxiety and previous studies have revealed that high academic self-concept has an effect on reducing test anxiety (Zeidner & Schleyer, 1999).

**Attachment in Cultural Context**

Past studies have demonstrated that whereas attachment security is the optimal pattern in the majority of the cultures with small variations, the degree of attachment insecurity greatly differs across cultures (Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000; Schmitt, 2010; Van IJzendoorn & Sagi-Swartz, 2008). Probably because of their adaptive function, attachment anxiety in collectivist and attachment avoidance in individualistic cultures seem to be predominant. For instance, Schmitt et al. (2004) employed samples from 64 cultures representing all continents and found that preoccupied romantic attachment, which is marked by high attachment anxiety and low avoidance, is common in East Asian cultures and dismissing attachment which is characterized by low attachment anxiety and high attachment avoidance is common in Western cultures. In collectivist cultures such as Turkish, attachment avoidance rather than attachment anxiety seems to be a risk factor in middle childhood (Sümer & Kağıtçıbaşı, 2010). Attachment anxiety, especially at moderate levels, may not pose a specific risk since closely knit relatedness is extremely valued so dependency, especially between the mother and the child, is indeed functional. In contrast, because attachment avoidance implies a complete separation, rejection or even exclusion, it is fundamentally maladaptive in Turkey and other collectivist or relational cultures.

In consistence with these arguments, Friedman and his colleagues (2010) proposed a *cultural fit hypothesis* suggesting that a culturally incongruent pattern of attachment orientation would have stronger effects on relationship quality. We believe that this effect is not limited to the relationships domain only, attachment dimensions should also have differential predictive role in explaining trait anxiety and academic self-concept. Therefore, we expect that parents' attachment avoidance may especially be predictive of academic self-concept. Considering the potential overlap between attachment anxiety and trait anxiety or anxiety disorders
(Bernstein, Borchardt, & Perwien, 1996), attachment anxiety would be a stronger predictor of trait anxiety.

Current Study

The present study tested whether mothers' and fathers' self-reported romantic attachment dimensions predict children's own evaluations of academic self-concept and trait anxiety. Considering the cultural arguments summarized above we expect that the power of attachment avoidance would be stronger than that of attachment anxiety in predicting the outcome variables. However, because attachment anxiety and trait anxiety partially overlap, attachment anxiety would also have a strong effect on a child's trait anxiety. A number of gender effects can be expected. First, we measured both parents' attachment orientations. Considering the special characteristics of middle childhood, not only the mother attachment dimensions, but also the father attachment dimensions can be expected to predict the child outcome variables. Second, considering its cultural asymmetry, fathers' attachment anxiety, rather than their attachment avoidance is expected to have stronger effects. Finally, father attachment may have stronger effects on girls and mother attachment on boys considering the role of parents in opposite sex children.

The current study extends the previous work in at least five ways. First, rather than looking at children's attachment to their parents, we examined parents own reports of their romantic attachment anxiety and avoidance in their marital life. Specifically, we examined both the unique effects of attachment dimensions and their interactions on the child's anxiety and academic self-concept. Second, we measured both parents' attachment dimensions, rather than measuring the mothers' attachment only as in the majority of the previous studies. Third, we investigated the two critical child outcome variables together (i.e., trait anxiety and academic self-concept in math and literature) using independent reports by children. Because independent variables (i.e., parents' report of attachment dimensions) and dependent variables (children's report of trait anxiety and academic self-concept) were separately measured there was no common method variance, and thus, the association can be expected to be lower than the ones collected from the same sources. Four, we tested the proposed associations using a very large community samples. Considering that maternal education and child age are critical predictors of children's academic self-concept, we controlled for the effect of mothers' education level and child age in regression analyses. Finally, we tested the associations between attachment and child outcomes in a rarely investigated collectivist Turkish culture, with specific cultural expectations.
Method

Participants

The current study was conducted as part of a larger study on attachment, caregiving, and family dynamics in middle childhood in Turkey (Sümer et al., 2009). The sample included randomly selected 1877 4th and 5th grade students (Mage=10.16 yrs, SD=0.66; Nboys=950) and their parents (Nmother=1539, Mage=36.50, SD=5.03; Nfather=1436, Mage=40.75, SD=5.46), residing in four different cities in Turkey (i.e., Ankara, Samsun, Mersin, and Manisa).

Two separate envelopes, each containing a questionnaire packet was sent to 2132 parents via their children. Of participants, 1784 mothers and 1546 fathers returned the completed questionnaires (return rate = 83.68% and 72.51%, respectively). Only data from intact families were used in the current analyses and thus, we used 1539 mothers and 1436 fathers in our analyses. After questionnaires were obtained from parents, they were thanked for their participation and we sent a booklet about healthy parent-child interaction as compensation.

The average length of marriage was 14.61 years (SD=4.53). The educational levels of parents were diverse. Of mothers, 33.60% graduated from primary school; 11.90% from secondary school; 33.10% from high school, and 21.40% from university and above. Of father, 20% graduated from primary school; 15.50% from secondary school; 30.20% from high school, and 34.30% from university and above. Whereas 90% of the fathers were employed, only 30% of the mothers were employed, which is consistent with the employment pattern in Turkey. The monthly household income was relatively moderate, ranging from 11,000 TL (~4500 $) to 1,500 TL (~680$), overall corresponding to lower middle class in Turkey.

Instruments

Child reported trait anxiety was assessed by the Turkish translation (Özusta, 1993) of State Trait Anxiety Inventory for Children (STAIC) developed by Spielberger (1973). The STAIC consists of 20-item scale that measures trait anxiety in children between the ages of 8 and 14 (α=.85). It measures longer-term trait anxiety, which addresses how the child generally feels (e.g., I notice my heart beats fast). Children indicated their level of agreement with each item on a 3-point Likert scale (1=hardly ever, 2=sometimes, 3=often).

Academic Self-Description Questionnaire (ASDQ) developed by Marsh (1990) was used to measure children's academic self-concept about math and literature (Turkish) courses. In the original scale, there were 6 items in each subscale measuring self-efficacy in different academic areas. For the current study,
only literature and mathematics subscales were given to the children to fill items (12 items). The items were rated on a 4-point scale ranging from "false" to "true" (1=false, 2=mostly false, 3=mostly true, 4=true). Özdemir (2002) translated the ASDQ into Turkish and Cronbach alpha coefficients of the scale were satisfactory (α=.92 and α=.89 for the literature and math courses subsequently).

Attachment dimensions were measured via the Turkish translation (Selçuk, Günüaydın, Sümer, & Uysal, 2005) of Experiences in Close Relationships (ECR-R) developed by Fraley, Waller, and Brennan (2000) assessing the adult attachment anxiety and avoidance dimensions. The avoidance subscale (18 items; α=.88, and .85; for mothers and fathers, respectively) measures the extent of an individual's discomfort with closeness, dependence, and self-disclosure (e.g., *I am nervous when my spouse gets too close to me*). The anxiety subscale (18 items; α=.85, and .83; for wives and husbands, respectively) refers to a strong need for closeness, fear of being abandoned, and rejection (e.g., *I often worry that my spouse doesn't really love me*). Participants indicated their level of agreement with each item on a 5-point Likert scale. The mean scores of each dimension were calculated. Similar to previous studies on married couples (e.g., Carnelley & Rowe, 2007; Rowe & Carnelley, 2003), items were changed slightly by replacing the term "your partner" with "your husband" or "your wife" to make them appropriate for the marital context. The parents also provided demographic information about their age, education level, monthly income, and the duration of their marriage.

**Procedure**

Questionnaires were distributed to the parents after obtaining consent forms. A parent packet was given to the students to take to their mothers and fathers. Mothers and fathers were requested to complete the given questionnaires including demographic information and measures of attachment, separately. Children were asked to complete a series of questionnaires including trait anxiety and academic self-concept for literature (Turkish) and math courses.

**Results**

We first examined potential gender differences on the major variables. A series of independent sample t-tests showed that there were gender differences only in math (*t*=3.91, *df*=1875, *p*<.001) and literature self-efficacy (*t*=8.61, *df*=1875, *p*<.001). As would be expected, girls reported higher (M=3.40, SD=0.50) literature self-efficacy than boys (M=3.20, SD=0.52), whereas boys reported higher math self-efficacy (M=3.19, SD=0.55) than girls (M=3.09, SD=0.56). There was no significant gender difference in other study variables (see Table 1).
Table 1. *Descriptive Statistics and Gender Differences on the Study Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Girls (N=927)</th>
<th>Boys (N=950)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>Min</td>
</tr>
<tr>
<td>Child's Age (in years)</td>
<td>10.14</td>
<td>0.66</td>
<td>8.00</td>
</tr>
<tr>
<td>Mother Education Level (1-5)</td>
<td>3.40</td>
<td>1.20</td>
<td>1.00</td>
</tr>
<tr>
<td>Father Education Level (1-5)</td>
<td>3.79</td>
<td>1.13</td>
<td>1.00</td>
</tr>
<tr>
<td>Child Anxiety</td>
<td>1.86</td>
<td>0.35</td>
<td>1.00</td>
</tr>
<tr>
<td>Math Self-Efficacy (1-4)</td>
<td>3.09</td>
<td>0.56</td>
<td>1.00</td>
</tr>
<tr>
<td>Literature Self-Efficacy (1-4)</td>
<td>3.40</td>
<td>0.50</td>
<td>1.00</td>
</tr>
<tr>
<td>Mother Attachment Anxiety (1-5)</td>
<td>2.26</td>
<td>0.65</td>
<td>1.00</td>
</tr>
<tr>
<td>Mother Attachment Avoidance (1-5)</td>
<td>1.74</td>
<td>0.69</td>
<td>1.00</td>
</tr>
<tr>
<td>Father Attachment Anxiety (1-5)</td>
<td>2.15</td>
<td>0.57</td>
<td>1.00</td>
</tr>
<tr>
<td>Father Attachment Avoidance (1-5)</td>
<td>1.74</td>
<td>0.61</td>
<td>1.00</td>
</tr>
</tbody>
</table>

***p<.001

As presented in Table 2, zero-order correlations yielded that girls' age was negatively correlated with math self-concept and boys' age was positively correlated with literature self-efficacy. Mothers' level of education was negatively correlated with child anxiety, mother attachment anxiety, and father attachment anxiety, whereas positively associated with children's math and literature self-efficacy. Fathers' education level was negatively correlated with child trait anxiety, mothers' and fathers' attachment dimensions. As would be expected, both girls' and boys' trait anxiety was negatively associated with both math and literature self-efficacy, and positively linked with mother and father attachment dimensions (i.e., anxiety and avoidance), except that boys' trait anxiety was not significantly correlated with their fathers' attachment avoidance. Finally, girls' math self-efficacy was correlated to mother attachment avoidance and father attachment anxiety, whereas literature self-efficacy was only linked to father attachment anxiety. Overall, correlation coefficients among study variables obtained from different sources indicated that mothers' attachment dimensions, especially avoidance, and fathers' attachment anxiety were significantly associated with child outcome variables (see Table 2).
Considering that this study aims to examine the power of parent reported attachment dimensions in predicting child reported anxiety and academic self-concept, separate hierarchical moderated regressions were conducted to predict child anxiety, math and literature self-concepts from both mother and father attachment anxiety and avoidance. Besides, the power of the interaction terms between mothers' and fathers' attachment dimensions (i.e., four interaction terms) in predicting child outcomes were also examined, after controlling for child age, mothers' and fathers' level of education in the first step. All analyses were run separately for boys and girls.

Analyses yielded significant associations between mothers' and fathers' attachment dimensions and boys' and girls' outcomes, separately. Specifically, as seen Table 3, child age significantly predicted boys' math self-efficacy ($\beta=-.08$, $p<.05$) and girls' literature self-efficacy ($\beta=.09$, $p<.05$) in the first step. Besides, mothers' level of education significantly predicted girls' trait anxiety ($\beta=-.14$, $p<.01$), boys' ($\beta=.16$, $p<.01$) and girls' math self-efficacy ($\beta=.14$, $p<.01$) as well as boys' ($\beta=.11$, $p<.01$) and girls' literature self-efficacy ($\beta=.13$, $p<.01$), signifying the critical role of maternal education. Fathers' education level also significantly
predicted math self-efficacy of both boys and girls, and only boys' literature self-efficacy (see Table 3).

In the second step, whereas mothers' attachment anxiety predicted boys' trait anxiety ($\beta=.12$, $p<.05$), fathers' attachment avoidance predicted girls' trait anxiety ($\beta=.10$, $p<.05$). A gender specific pattern was observed in predicting academic self-efficacy. Whereas maternal attachment dimensions predicted boys' academic self-efficacy, paternal attachment dimension predicted girls' academic efficacy only. Specifically, partially supporting our expectations, mothers' attachment anxiety negatively predicted boys' math self-efficacy ($\beta=-.11$, $p<.05$) and mothers' attachment avoidance predicted boys' both math ($\beta=-.10$, $p<.05$) and literature self-efficacy ($\beta=-.11$, $p<.05$). As expected, whereas fathers' attachment anxiety negatively predicted girls' academic self-efficacy in both math ($\beta=-.14$, $p<.01$) and Turkish literature ($\beta=-.12$, $p<.05$), fathers' attachment avoidance did not predict children's academic self-efficacy.

Regression analyses yielded only one significant interaction effect in the final step. The interaction between parents' attachment anxiety significantly predicted girls' math self-efficacy ($\beta=.10$, $p<.05$). Partially supporting our expectation, girls with anxiously attached fathers reported low levels of math self-efficacy regardless of whether their mothers had low or high levels of attachment anxiety. However, girls with both their father and mother having low level of attachment anxiety reported high math self-efficacy, signifying the role of father attachment security in girls' math self-concept (see Figure 1).

Figure 1. Interplay Between Mothers' and Fathers' Attachment Anxiety in Predicting Girls' Math Self-Efficacy
Table 3. Hierarchical Regression Analyses in Predicting Child’s Anxiety and Academic Self-Concept

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Child Anxiety</th>
<th>Math Self-Efficacy</th>
<th>Literature Self-Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
<td>Boys</td>
</tr>
<tr>
<td></td>
<td>β</td>
<td>R²</td>
<td>∆R²</td>
</tr>
<tr>
<td>Step 1: Demographics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-.05</td>
<td>.01</td>
<td>.03*</td>
</tr>
<tr>
<td>Mother Education</td>
<td>-.05</td>
<td>-.14**</td>
<td>.16**</td>
</tr>
<tr>
<td>Father Education</td>
<td>-.07</td>
<td>.01</td>
<td>.14**</td>
</tr>
<tr>
<td>Step 2: Main Effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MANX</td>
<td>.12*</td>
<td>.06</td>
<td>.05*</td>
</tr>
<tr>
<td>MAVO</td>
<td>.07</td>
<td>-.02</td>
<td>-.10*</td>
</tr>
<tr>
<td>FANX</td>
<td>.03</td>
<td>.07</td>
<td>.04</td>
</tr>
<tr>
<td>FAVO</td>
<td>-.01</td>
<td>.10*</td>
<td>.02</td>
</tr>
<tr>
<td>Step 3: Interaction Terms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MANX X MAVO</td>
<td>-.03</td>
<td>-.03</td>
<td>.07</td>
</tr>
<tr>
<td>FANX X FAVO</td>
<td>.05</td>
<td>-.04</td>
<td>.04</td>
</tr>
<tr>
<td>MANX X FANX</td>
<td>-.01</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>MAVO X FANX</td>
<td>-.06</td>
<td>.00</td>
<td>-.02</td>
</tr>
<tr>
<td>MANX X FAVO</td>
<td>.02</td>
<td>-.03</td>
<td>.02</td>
</tr>
<tr>
<td>MAVO X FAVO</td>
<td>-.03</td>
<td>.06</td>
<td>-.01</td>
</tr>
</tbody>
</table>

Note: MANX=Mother Attachment Anxiety, MAVO=Mother Attachment Avoidance, FANX=Father Attachment Anxiety, FAVO=Father Attachment Avoidance

*p<.05; **p<.01
Discussion

Considering that academic performance in school is one of the most critical cognitive performance and developmental markers in middle childhood, it is important to investigate if parents' romantic attachment orientations have an influence on their children's academic competence. Considering culture-specific effects and potential gender differences, we expected attachment avoidance to be more predictive than attachment anxiety and mothers' attachment dimensions to have stronger effects on boys and fathers' attachment dimensions stronger effects on girls. Regression analyses have provided partial support to our expectations.

This study has specifically focused on the effects of parents' own reports of romantic attachments on children's trait anxiety and academic competence (self-concept), using data from parents and their children. Although the effects of attachment (in)security on a child's internalization symptoms, including trait anxiety (see Brumariu & Kerns, 2010) and academic achievement (e.g., West et al., 2013) have been investigated, past studies usually examined the effects of a child's own attachment insecurity on their own anxiety and/or academic competence, and mostly utilized a single source of data, either from parents or children. Our study is among the first to examine the links between parents' own attachment insecurity (attachment anxiety and avoidance) and children's report of trait anxiety and academic self-concept. Considering both culture specific characteristics and gender role division between mothers and fathers in Turkey, we expected that mothers' attachment avoidance and fathers' attachment anxiety would be the chief predictors of the child outcome variables though it may differ depending on the child gender.

First, on the mean level of analyses, only gender difference was found in academic self-efficacy. Consistent with the previous findings in other countries (see Marsh & Craven, 2006), we found that boys had higher math self-concept and girls had higher Turkish literacy self-concept in middle schools. Considering that the effect size is larger in literature course (Cohen's $d = .39$) than math (Cohen's $d = .18$), girls in Turkish middle schools seemed to have markedly higher literature course self-efficacy, which is also consistent with their higher ability in verbal skills.

Moreover, replicating the well-known negative associations between trait anxiety and academic competence, our findings showed that trait anxiety in middle childhood was strongly linked with low levels of academic self-concept for both girls and boys. Another critical descriptive finding was that maternal education had consistently significant associations with children's academic self-concepts. As would be expected, high levels of mother education enhance children's academic self-concept. Considering this effect, we controlled for the effect of maternal education together with the child's age in the regression analyses.

Correlational analyses have also confirmed our expectations that both mother and father attachment anxiety and avoidance significantly and positively correlated with child anxiety and negatively correlated with both academic self-concepts.
Testing our expectations, first, regression analyses in predicting children's trait anxiety showed that mothers' attachment anxiety had an effect on boys' anxiety, whereas fathers' attachment avoidance had an effect on girls' anxiety. Considering the moderately strong link between attachment anxiety and general anxiety, it is expected that attachment anxiety had an effect on trait anxiety. However, our findings showed that mothers' romantic attachment anxiety had an adverse effect on their boys' trait anxiety only, but not on girls' anxiety. Past studies in Western cultures have shown that maternal attachment insecurity increases the risk of anxiety disorder in children (see Berstein et al., 1996). This effect seems to be consistent only for boys in Turkey. Having an avoidant fathers, however, seems to make girls, but not boys, more anxious. A recent longitudinal study by van Eijick, Branje, Hale, and Meeus (2012) among Dutch adolescents has demonstrated that the quality of attachment to father and general anxiety disorder symptoms bidirectionally negatively affected each other over time. For mothers, however, adolescents' anxiety symptoms predicted perceived mother-adolescent attachment relationship quality over time, rather than mother attachment predicting the adolescents' anxiety. Although parents' own attachment was not measured in this study, attachment to father was found to be the critical predictor of girls' anxiety symptoms. Consistently, our study showed that fathers' own attachment avoidance may be a critical role in this relationship. Considering that overall girls tend to show more relational orientations than boys and this tendency may be predominant in a collectivist context, fathers' avoidance may be seen more salient and might have influenced girls more negatively than boys.

Our specific findings on this issue should be explored more in the future studies. Past studies in Turkey have shown that attachment to fathers has a strong effect in predicting anxiety in middle childhood (Sümer & Anafarta, 2009). This study adds that fathers' attachment avoidance is a risk factor for girls' general anxiety.

Second, although the link between attachment security and cognitive performance, including academic achievement, has been investigated (see West et al., 2013, for a recent review), the effects of parents' own attachment orientations were left largely unexamined. Consistent with our cultural arguments, the findings have shown that mothers' attachment avoidance negatively affects their sons' academic self-efficacy and fathers' attachment anxiety affects their daughters' academic self-efficacy in both math and literature courses. In addition, maternal attachment anxiety has an effect on boys' math efficacy, and the interaction between maternal and paternal attachment anxiety influences girls' math efficacy above and beyond the main effects of attachment dimension. Girls with both parents having a low level of attachment anxiety seem to benefit by having the highest level of math efficacy.

These findings have confirmed previously shown effects in Turkey that fathers' attachment anxiety and father attachment avoidance are the predominant
risk factors for child attachment to parents (Sümer & Kağıtçıbaşı, 2010) as well as for the other outcome variables, such as friendship quality and happiness (Sümer, in press) in a collectivist cultural context. Consistent with the arguments regarding the effects of culture and gender roles on attachment, fathers' attachment anxiety is incongruent with cultural gender role expectations in Turkish context, and therefore, it may have an adverse effect especially on girls' academic self-efficacy. However, it is unclear why anxiously attached fathers did not have an effect on boys' academic efficacy. Indeed, past research has fundamentally focused on mother-child relationships and the link between father attachment and daughter outcome variables have not been examined in detail. Considering the gender consistency, past studies have mostly looked at the mother–daughter and father–son relationships (see Brumariu & Kerns, 2010). Our study has shown that cross-gender relationships between parents and children seem to be more influential when attachment (in)security is concerned.

Our findings suggest that parents' romantic attachment in their marital relationship may have critical implications for children's academic performance during middle childhood. Having an avoidantly attached mother for boys and having an anxiously attached father for girls seems to create a risk factor for academic self-efficacy in middle childhood though the effect sizes are relatively small. In other words, it is plausible to speculate that parents' secure attachment provides a small but clear benefit for their children's academic performance.

Consistent with the previous findings (e.g. Moss & St-Laurent, 2001; West et al., 2013), we found that parents attachment security in general and low levels of mothers' attachment avoidance and fathers' attachment anxiety in specific seem to contribute to children's academic self-efficacy in Turkish collectivist context. Moreover, mothers' attachment anxiety seems to increase boys' trait anxiety and fathers' attachment avoidance seems to increase girls' trait anxiety. Future studies should investigate why or through which mechanisms high maternal avoidance and paternal attachment anxiety interfere with children's academic performance and if the gender specific pattern in both trait anxiety and academic self-efficacy would be replicated in the future studies.

Although this study contributes to the literature on attachment, trait anxiety and academic self-efficacy, it has some limitations that should be considered in evaluating our findings. First, although we used different data sources in measuring the dependent and independent variables, this is a cross-sectional study, which bounds causal interpretations. The second limitation is the sample composition. Although it is very large and collected from four different cities, it does not represent all of Turkish children or collectivist context only. Parents' level of education with 21% of mothers in this study with a university degree was higher than Turkey's average level of maternal education. The third limitation is our measure of attachment. Past studies showed that self-reported attachment had a weak correlation with the implicit measure of attachment and has critical
limitations in capturing the underlying attachment internal working models (see Roisman et al., 2007). Therefore, parents' report of attachment orientation mainly reflects their romantic attachment evaluation and future studies should also employ implicit measures of attachment such as Adult Attachment Interview. Finally, although a strong aspect of this study is that there is no common method variance (the independent and the dependent variables were completely measured from different sources, from parents and children), both the correlations and beta weights were weaker than expected with relatively small effect sizes. This may have resulted in shrinkage in beta weights and explained variances. Therefore, the total explained variances on the outcome variables were relatively small ranging from .04 to .09. Moreover, we used a very large sample size, which also deflate the size of the correlations though it does not influence their significance. Hence, resulting correlations and explained variance were weak to moderate in size.

**Conclusion**

The results of the present study indicate that parents' own attachment anxiety and avoidance are significantly and systematically associated with children's trait anxiety and academic self-efficacy. Cross gender effects between parents and children seem to be more influential than the same gender effect within the family. Specifically, the links between mother attachment anxiety and son trait anxiety, and father attachment avoidance and girl trait anxiety appear to be stronger than the reversed pattern. Regarding the prediction of academic self-efficacy, mother attachment avoidance for boys' academic efficacy and father attachment anxiety for girls' academic efficacy seem to be the primary risk factors. The obtained findings have provided support for our cultural and gender role based arguments regarding the effects of attachment orientations. Our results confirmed the importance of having a warm and secure romantic attachment between spouses in marriage, not only for their relationship satisfaction and happiness, but also for their children's emotional adjustment and academic competence.

**References**


Apego ansioso y evitativo de los padres como predictor de ansiedad y eficacia académica de los hijos en la niñez media

Resumen

El trabajo anterior documentó que el apego seguro está sistemáticamente relacionado con la adaptación y las competencias académicas de los hijos. Este estudio pretende investigar la relación entre el informe de los padres sobre el apego ansioso y evitativo y el informe de sus hijos sobre la ansiedad rasgo y la autoeficacia académica en matemáticas y literatura turca. Madres ($N=1539$) y padres ($N=1436$) de cuatro ciudades en Turquía completaron por separado medidas de orientaciones de apego y sus hijos ($N=1877$) que frecuentan la 4ª y la 5ª clase completaron medidas de ansiedad rasgo y autoconcepto académico en matemáticas y literatura turca en su escuela. El análisis regresivo ha mostrado que el apego ansioso de las madres predecía la ansiedad rasgo de los niños, y el apego evitativo predecía la ansiedad de las niñas. Cuando se trata de la autoeficacia académica, el apego evitativo de las madres predecía la autoeficacia académica de sus hijos, y el apego ansioso de los padres predecía la autoeficacia de sus hijas, tanto en matemáticas como en la literatura turca. Nuestros resultados confirman la importancia que tiene una relación romántica segura entre los cónyuges, no sólo para la satisfacción y felicidad en su relación, sino también para la adaptación emocional y la competencia académica de sus hijos.

Palabras claves: apego ansioso de los padres, evitación, niñez media, ansiedad, autoconcepto académico

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