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The Mediating Influence of Child Self-Regulation on the Relationship Between
Couple Attachment Security in Parents and Anxiety in Their Children

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A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Science

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ABSTRACT

The Mediating Influence of Child Self-Regulation on the Relationship Between Couple Attachment Security in Parents and Anxiety in Their Children

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This two wave panel study examined child self-regulation as a potential mediator of the relationship between marital attachment security in parents and anxiety in their adolescent child. Data for this study were taken from the two parent families in waves three and four of the Flourishing Families project which included 335 two-parent families with children between the ages of 14 and 16. Both parents and child completed the Novak and Clayton (2001) *Self-regulation Scale* with the child's self-regulation as the target, and both husbands and wives completed a modified version of the *Experiences in Close Relationships Questionnaire* (Fraley, Waller, & Brennan, 2000) for their attachment security in their marriage. Children completed the generalized anxiety subscale of the *Spence Anxiety Inventory* (Spence, 1998) at both waves. Findings showed that child self-regulation was a process through which wife insecure attachment in her marriage indirectly influenced child anxiety in both boys and girls. Self-regulation also mediated the relationship between husband insecure couple attachment and child anxiety for boys but not for girls. Only the mother insecure marital attachment was directly related to both boys' and girls' anxiety. Implications of the findings for family therapy are discussed.

Keywords: child self-regulation, marital attachment, child anxiety

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Introduction

Child anxiety can have a wide range of effects on children and can be expressed in many ways. Problems in school, inability to make friends and bond with peer groups, extreme phobias, obsessive/ compulsive behaviors and separation anxiety from parents are but a few general manifestations of child anxiety (Gumora & Arsenio 2002; Crawford & Manassis, 2011; Whiteside, Gryczkowski, Biggs, Fagen & Owusu, 2012) . Social functioning (Ginsburg & Silverman, 1998) and academic success (Dweck & Wortman, 1982) are two examples of anxiety related issues for which many parents seek professional help for their children. The effects of anxiety on children are often long lasting, and many effects have been shown to carry over to adult functioning (Aschenbrand, Kendall, Webb, Safford & Flannery-Schroeder, 2003). Given the effect of anxiety on developmental functioning of children and its impact across the life span, it is important to better understand this disorder.

Although previous studies have looked at child anxiety, very few studies have looked at how family processes impact child anxiety. The purpose of this study was to examine how family processes are related to anxiety in children. More specifically, the relationship between the quality of the parents' couple attachment and a child's anxiety was investigated with child self-regulation as a possible mediating variable. While many studies have examined different aspects of marital functioning as it relates to child outcomes, little research has examined the couple attachment relationship and how it relates to child outcomes. This study is unique in that it is one of the first studies to examine attachment security in the marital relationship as it relates to child anxiety over time.

Theoretical Foundations

Attachment. Food, water, shelter and love are commonly described as the four basic needs a human being requires for survival. Since the 1950's, researchers have been trying to empirically study and understand the complex role attachment has in the development of children as well as its effects on the life course of adults. Harlow, Ainsworth and Bowlby are but a few that have helped to operationally define love and the developmental necessity of attachment which has opened the door for an entire field of study (Ainsworth, Bleham, Waters & Wall, 1978; Cassidy & Shaver, 1999).

Attachment theory postulates that children are born with an innate tendency to behave in ways that increase connectedness to a caregiver (Bowlby, 1988). The availability and accessibility of the caregiver will establish patterns of receiving protection and comfort from caretaker to child. Over years of development these interactions and relationships result in, and form, an internal working model of attachment which, in turn, is related to a child's sense of self. (Ainsworth, Bleham, Waters & Wall, 1978).

In recent years, attachment theory has been expanded from the study of parent-child relationships to understand romantic adult relationships (van der Horst, 2011; Makinen & Johnson, 2006). The desire for emotional dependency, once pathologized by theorists and researchers, has been the topic of a large body of accepted research on adult attachment. John Bowlby (1988) was one of the first theorists to implicate the need for adults to seek, form and maintain emotional responsiveness and accessibility, as well as the need for soothing interactions in relationships. Bowlby labeled this concept of consistent and reliable emotional security a "secure base". Further empirical research has been conducted on the tenants and application of

attachment theory in adult couple therapy (Johnson & Talitman, 1997; Johnson & Whiffen, 1999).

Family systems. In family systems theory it is generally believed that the sum of the parts are greater than the whole and that the parts mutually influence each other (von Bertalanffy, 1968). In order to understand the individual, family therapists believe it is paramount to understand the influences surrounding the individual, especially how other individuals and other sub-units such as the marital couple influence children. Some family therapist theorists (Bergman & White, 2011; Yahav & Slomo, 2002) have asserted that a child can function as a scapegoat in that the child's symptoms allow the parents to ally together to be concerned about the child rather than focusing their energies on destructive marital interactions. In the therapeutic context, for example, if the primary goal of therapy is treating a child's anxiety, most family therapists would assess the parental sub-system to determine if the child's anxiety is related in some way to what is going on in the marriage. In a multitude of ways this subsystem can have a pervasive effect on the child, and as explored in this study, how the relationship between parents affects child anxiety.

Numerous studies have focused on the attachment relationship between couples (Alexandrov, Cowan & Cowan 2005; Johnson, Makinen, & Millikin 2001) and how attachment affects outcomes for partners in relationships. Other studies have focused on the attachment relationship between parents and children (Bowlby, 1988; Schneider, Atkinson & Tardif, 2001) and how this parent-child attachment affects outcomes in children. However, little is known about how the attachment relationship within the parental couple is related to child outcomes, specifically child anxiety.

Literature Review

Parental Attachment Style and Child Anxiety

One factor that is often associated with child anxiety disorders is parent – child attachment. An overwhelming body of literature examines the relationship between parent-child attachment and child anxiety in two ways. The first is to measure the parents' attachment style and the second is to examine the child's attachment to the parent. Since this study investigated the relationship between parents' couple attachment and child anxiety the research reviewed focuses on the former. One study that examined the parents' attachment styles, particularly mothers' attachment, found that a mother's attachment style was directly related to child anxiety. Crowell and Feldman (1988) interviewed 64 mothers about their own childhood relationship with their parents. The mothers then performed problem solving exercises with her child. Crowell and Feldman found that the mother's attachment in her own childhood affected the responsiveness and sensitivity exhibited with her child, regardless of whether the child was male or female.

Cowan, Cohn, Cowan and Pearson (1996) also used parental attachment histories (using the Adult Attachment Interview, which describes early childhood experiences with their own parents) to better understand the connection between parental attachment styles and child internalizing behaviors, such as anxiety. Twenty seven mothers and fathers were given the interview portion of the study when their first-born son or daughter was 3.5 years old. This was done in order to explore links between parental attachment histories and child problematic behavior in the transition between kindergarten and elementary school. Cowan et al. reported a direct path linking a mother's ability to report loving experiences with her parents and low child

internalizing behaviors. They concluded that the mothers' attachment styles affected their parenting and potentially child anxiety.

Finally, Bogels and Brechman-Toussaint (2006) did a literature review of 25 empirical studies examining the connection between parent-child attachment and child anxiety. These studies included research on the parents' attachment styles, and child's attachment with their parents. They concluded that insecure attachment in both the parents and the child is associated with child anxiety and suggest that attachment seems to predict anxiety disorders. The study reported in this thesis was different from methods in the 25 studies which Bogels and Brechman-Toussaint reviewed because of its longitudinal nature and the fact the multiple respondents within the family were solicited. Another way that this study expands on attachment and child anxiety literature is that child anxiety was examined within the frame work of reported attachment security of parental couple relationship.

The Couple Context for Child Anxiety

Couple attachment. Theoretically and empirically, couple attachment falls under the conceptual umbrella of couple process. While couple attachment security is the only couple process variable in this study, little literature has been published on the link between couple attachment and child anxiety. Therefore, it is important to first review any studies related to couple process and child anxiety. Bogels and Brechman-Toussaint (2006) reviewed 20 empirical studies examining the relationship between couple functioning and child anxiety. They concluded there was a positive association between marital conflict and child anxiety, as well as a negative association between marital satisfaction and child anxiety.

Jekielek (1989) used a longitudinal design to examine the effect that marital conflict had on 1,640 children between the ages of 6-14. Marital conflict was measured by a self-report

questionnaire given to the mothers which indicated the type and amounts of arguing within the parental couple. She found that, after controlling for the initial level of anxiety in the children, both marital conflict and divorce were predictive of child anxiety six years later for both boys and girls. However, Jekielek also reported that anxiety over parent's divorce decreased over time, whereas, children whose parents remained together (and subsequently remained in a high conflict environment) maintained the same levels of stress. Since decreased marital conflict is related to healthier couple attachment (Johnson, 2008), it may be that couple attachment is also related to children's anxiety .

Though not very extensive, there is research to suggest that a parent's attachment style with each other or couple attachment influences child anxiety. Cowan, Cowan and Mehta (2009) were interested in finding the relationship between couple attachment and child's school performance. In a sample of 73 couples, whose first child was about to make the transition from kindergarten to elementary school, they used the Adult Attachment Interview to measure the attachment style between parent and child, as well as the Couple Attachment Interview to measure the attachment within the parental subsystem.

Cowan et al. (2009) measured child internalizing behaviors (shy, withdrawn, anxious, depressed behaviors) and externalizing behaviors (angry, aggressive, disobedient behavior) through assessments filled out by teachers. They concluded that mothers who were insecurely attached within the couple relationship tended to have children with internalizing behaviors and low academic achievement. Fathers with insecure couple attachment were found to be less involved in co-parenting. Fathers' lack of involvement in parenting was linked to internalizing and externalizing behaviors and low achievement for children. Fathers' attachment style within

the couple subsystem was related to both internalizing and externalizing behavior indirectly through couple problem solving and co-parenting.

The Cowan et. al. study is the only reported study that has specifically examined attachment in the couple relationship and how it is related to internalizing behavior. There are several ways in which this study contributes to the existing body of research. One of the ways, is to narrow the investigation of internalizing behaviors and focus specifically on how marital attachment relates to anxiety. Another departure from the pattern of most studies was to include children between the ages of 13 and 16, rather than young children. Kids at this age will be more developmentally matured and, generally speaking, more individuated from their parents.

Additionally, this study focuses on individual child processes which mediate the relationship between the parent or couple attachment and their child's anxiety. It is likely one of these processes is child self-regulation.

Family Process and Self-Regulation

A child's ability to self-soothe and use internal processes to govern and manage inner turmoil is a topic extensively studied over the last twenty years. Children's self-regulation has often been examined within the context of family processes. For example, sibling interaction (Padilla-Walker et al, 2010), parenting styles (Eiden, Edwards, & Leonard, 2007), and the influence of addictions (Grolnick & Farkas, 2002), have all been associated with child self-regulation. Because there are so few published studies on the relationship between couple attachment security in parents and child self-regulation, the broader relationship between family process and child self-regulation helps provide a context.

In one study by Garza (2010), 296 two-parent homes were surveyed and observed in order to understand the relationship between family conflict, child self-regulation, and observed

parent-child humor. Garza found that family conflict negatively influenced a child's self-regulation. Other studies have narrowed the concept of "family conflict" to specifically parenting behavior as influencing a child's self-regulation. Purdie, Carroll and Roche (2004) studied both academic and non-academic self-regulation as it relates to parenting styles. Their findings suggested that high parental involvement was associated a child's academic and non-academic self-regulation.

Gottman (1997) has shown that the way in which parents talk to children about their emotions during the children's emotional episodes is strongly related to the child's ability to self-regulate emotions (Gottman, Katz & Hooven, 1997). Similar to attachment literature most research related to child self-regulation has focused on the relationship between individual parental involvement and child self-regulation (Grolnick & Ryan 1989; Manian, Strauman, & Denney 1998).

However, several studies have found connections between aspects of the marital relationship and child self-regulation. Davies and Cummings (1994) found that a child's emotional and physical security can be threatened by marital conflict, which is typically associated with a decrease in emotional availability and sensitivity of parents. No studies could be found which focus on the quality of the parents' attachment with each other and how that might be related to their child's self-regulation. It is hypothesized, however, that emotional patterns within the couple will model emotional patterns for the child (Johnson, 2008). It may also be surmised that when parents are accessible, available, and emotionally responsive to each other, the child is able to observe better self-regulation in their parents which, in turn, likely leads to better self-regulation in the children (Gottman, 1997). The current study adds to the

research on child anxiety by specifically examining a child's self-regulation as a possible mediating variable in the relationship between the quality of marital attachment and anxiety.

Self-Regulation and Child Anxiety

Many researchers have linked self-regulation to anxiety disorders in both children and adults (Amstadter, 2008; Mennin, Heimberg, Turk & Fresco, 2005; Carthy, Horesh, Apter, Edge & Gross, 2010). Carthy et al. (2010) studied forty-nine children between the ages of 10-17 who were diagnosed with an anxiety disorder. Children with higher self-regulation were found to self soothe after they were confronted with images of situations (e.g. violence) that engender intense emotion. The children with high self-regulation were also found to perform better in school (Last, Hansen & Franco, 1997) and ultimately to overcome anxiety better. However, it should be noted that these studies did not examine whether there were child gender differences.

In a review of literature, Hannesdottier and Ollendick (2007) concluded that children who use self-regulation techniques are better able to effectively modify psychological responses to anxiety and decrease arousal. They suggested that incorporating self-regulation skills into the child's, as well as, the parents' daily life would increase the efficacy of Cognitive/ Behavioral therapies for children with anxiety disorders (Hennesdottier & Ollendick, 2007).

Most of the research linking self-regulation with anxiety has used self-regulation as the main predictor. Only a few studies have used child self-regulation as a mediating variable. In a study involving 395 families with children between the ages of 10 and 13, Padilla-Walker, Harper and Jensen (2010) examined self-regulation as a mediating variable between parent relationships, sibling relationships and adolescent outcomes and found that self-regulation was negatively related to internalizing behaviors for both girls and boys. Since anxiety is a specific

type of internalizing behavior, it is likely that self-regulation in children is negatively related to anxiety. This study, like the previous examined self-regulation as a mediating variable.

Gender Differences

Several studies of adolescents have found that fear and anxiety symptoms are more prevalent in girls than boys (Craske, 1997; Ollendick, King & Muris, 2002). However, Dadds and Powell (1991) examined 282 mothers of children between the ages of 8 and 13 and used questionnaires to measure marital adjustment, parenting style and child anxiety. They found that marital adjustment and parenting problems predicted anxiety for boys but not for girls. No research could be found explicitly discussing the gender differences associated with self-regulation in the context of parenting or parental couple process.

Figure 1 shows the measurement and structural model for this study. It was hypothesized that the quality of mother and father couple attachment at time 1 would be negatively related to the child's anxiety at time 2 when controlling for child anxiety one year earlier. It was also hypothesized that child self-regulation at time 2 would be a possible mediating variable of the relationship between the quality of attachment for each parent and the child's anxiety. Age of the child, household income, and educational level of both parents were used as control variables by examining the strength of their paths to child anxiety at time 2.

Method

Participants

The participants in this study came from a longitudinal study of family processes called the *Flourishing Families Project (FFP)*. The FFP is an ongoing, longitudinal study of inner family life involving families with a child between the ages of 10 and 14 at Wave 1. This study consisted of 500 families (163 single-parent, 337 two-parent) with a child between the ages of 11

and 14 (*M* age of child = 11.49; 51% male). Ninety-four percent of the families in the original wave were still participating in waves three and four. Data for this study was taken from the two-parent families in waves three and four of the project which included 321 two-parent families with children between the ages of 14 and 16 at the time of wave three. The reason for this was that the anxiety measure for children was not added to the questionnaire until wave three.

Sample

The sample used in the analysis consists of two time periods, the 3rd and 4th waves, of the longitudinal study associated with the Flourishing Families data set. Within the two waves used for this study, there are 335 families with 167 son and 168 daughters. The average ages, in the first wave, for fathers in the data set is 47, the average of mothers 45, and the average age of boys and girls is 13; the age distribution in wave two is identical to the distribution found in wave one, with all mean ages increased by one year. The other demographics of the sample provide some interesting information (for a full overview see table 1).

With consideration to race Caucasian represents the dominant group: 86.4% of fathers, 82.8% of mothers, 81.3% of girls, 79.5% of boys are Caucasian. Looking at the second racial group there is a divergence between parents and children. African Americans represent the second largest racial group among parents, with 5.1% of fathers and 4.1% of mothers self-reporting African American. The second largest racial group in regards to children is reported as multi-ethnic, 8.2% of girls and 11% of boys report their race as multi-ethnic. This suggests that outside of couple where both parents are Caucasian, mixed-racial marriages provide the second largest group of couples in the sample.

Educational distribution in the sample suggests that the sample is skewed towards a population with abnormally high rates of college completion among parents. Our sample shows that 38.6% of fathers and 41.4% of mothers completed a bachelor's degree and that 29.4% of fathers and 29.1% of mothers received a graduate or professional degree. Due to the over sampling of families with higher levels of educational attainment it is not surprising that within our sample 68.0% of families in wave 3 report a household income greater than \$80,000 and in wave 4, 78.6% report household income greater than \$80,000 which according to the 2010 U.S. Census is above average for the state of Washington (U.S. Census, 2010). Finally, the demographics of family size and marital status show that within our sample 97% of couples are married and 3% cohabitate. Average family size is approximately 4.4, with a range between 3 and 9.

Procedure

Participant families for the FFP were selected from a large northwestern city and were interviewed during the first eight months of 2007. Families were primarily recruited using a purchased national telephone survey database (Polk Directories/InfoUSA). This database claimed to contain 82 million households across the United States and had detailed information about each household, including presence and age of children. Families identified using the Polk Directory were randomly selected from targeted census tracts that mirrored the socio-economic and racial stratification of reports of local school districts. All families with a child between the ages of 10 and 14 living within target census tracts were deemed eligible to participate in the FFP. Of the 692 eligible families contacted, 423 agreed to participate, resulting in a 61% response rate.

However, the Polk Directory national database was generated using telephone, magazine, and internet subscription reports; so families of lower socio-economic status were under-represented. Therefore, in an attempt to more closely mirror the demographics of the local area, a limited number of families were recruited into the study through other means (e.g., referrals, fliers; $n = 77$, 15%). By broadening our approach, we were able to significantly increase the social-economic and ethnic diversity of the sample.

All families were contacted directly using a multi-stage recruitment protocol. First, a letter of introduction was sent to potentially eligible families (this step was skipped for the 15 families who responded to fliers). Second, interviewers made home visits and phone calls to confirm eligibility and willingness to participate in the study. Once eligibility and consent were established, interviewers made an appointment to come to the family's home to conduct an assessment interview that included video-taped interactions (not used in current study), as well as questionnaires that were completed in the home. The most frequent reasons cited by families for not wanting to participate in the study were lack of time and concerns about privacy. It is important to note that there were very little missing data. As interviewers collected each segment of the in-home interview, questionnaires were screened for missing answers and double marking.

Measures

Couple attachment security in parents. Two latent variables, one for mothers and one for fathers, were created using a modified version of the avoidant and the anxious subscales from the Revised Experiences in Close Relationships Questionnaire (Fraley, Waller, & Brennan, 2000). Mothers and fathers responded to each item using a 7-point Likert scale ranging from 1 (strongly agree) to 7 (strongly disagree). Sample questions included, "I often worry that my

partner will not want to stay with me”; “I feel comfortable sharing my private thoughts and feelings with my partner” and “I am afraid I will lose my partners love.” Higher scores on the anxious subscale indicated a more anxious attachment style and higher scores on the avoidant subscale indicated more avoidant attachment styles. The mean score for the mothers’ answers on the anxious subscale was one indicator, and the mothers’ mean score on the avoidant subscale was the other indicator for the latent variable called “mother couple insecure attachment”. The fathers’ mean scores on these two subscales were used to create the latent variable called “father couple insecure attachment”. Fraley, Waller, & Brennan (2000) originally reported the reliability coefficients for the subscales as .91 for anxiety and .90 for avoidance. Reliability coefficients for the sample in this study were .88 for wives and .86 for husbands.

Sibley, Fischer, and Liu (2005) examined both convergent and discriminant validity for the ECR. They found that the overall scale factored into two components (avoidant loadings=.74 and anxious loadings=.92) that explained 83% of the scale variance. They also found that the ECR significantly predicted levels of anxiety and avoidance related emotions experienced in interaction with a romantic partner. Factor loadings for anxious and avoidant were .80 and .70 for wives and .79 and .68 for husbands. It appears that the ECR has adequate validity for research.

Child self-regulation. To create a latent variable for child self-regulation a 13-item version of the Novak and Clayton (2001) self-regulation measure was used. The child completed these items, and both parents answered the items creating a child self-report, mother report, and father report were used as indicators of the latent variable. In the parental version, parents responded to how much they agreed or disagreed with statements about their child, such as “my child has difficulty controlling his/her temper,” “my child gets distracted by little things,” and

“my child slams doors when she/he is mad.” Responses ranged from 1 (*never true*) to 4 (*always true*) with higher scores indicating that the child is better able to regulate his/her emotions, behavior, and cognitions. Cronbach’s Alphas in the original study were .88 (overall), .88 (emotional subscale), .81 (cognitive subscale), and .79 (behavioral subscale). The alpha coefficients in the sample reported in this study were .80-child, .88-mother, and .87-father for the overall scale.

The child version also included a 13-item questionnaire with the same 1-4 Likert scale as described in the parent version. Children responded to items about their own ability to set goals, regulate negative emotions, and disruptive behavior. Sample items included: “I have a hard time controlling my temper” and “I get distracted by little things.” Novak and Clayton (2001) found reliability coefficients to be .95 (emotional subscale), .96 (cognitive subscale), and .94 (behavioral subscale).

The questionnaire on self-regulation has been shown to have predictive validity in that it has a negative association with substance use, and respondents with lower levels of self-regulation were more likely to transition into more serious drug use. Confirmatory factor analysis showed that the items loaded into a three-factor structure with loadings ranging from .87 to .92. The factor loadings specific to this study were .57 for the child self-report, .85 for mothers, and .78 for fathers.

Anxiety. Children’s anxiety was assessed using the six-item generalized anxiety disorder subscale from the Spence Child Anxiety Inventory (Spence, 1998). A latent variable was created using the six items as six indicators. Children responded to the items using a 4-point Likert scale ranging from 0 (*never*) to 3 (*always*). Higher scores reflected greater levels of anxiety. Sample items included, “I worry a lot about things,” and “When I have a problem, my heart beats really

fast.” Spence, Barrett, and Turner (2003) reported the test-retest reliability for the scale to be .66. In this sample, item reliabilities ranged from .79 to .83.

Original confirmatory factor analysis showed that the items loaded onto one factor with loadings ranging from .58 to .64 (Spence, 1998). Subsequent factor analytic studies have shown factor loadings ranging from .53 to .76 (Nautua, Scholing, Rapee, Abbott, Spence, & Waters, 2004). Concurrent validity studies have shown that the Generalized Anxiety Subscale was correlated with the panic/agoraphobia scale ($r=.80$), with the social phobia scale ($r=.84$), and with the Obsessive-compulsive scale ($r=.81$) (Spence, Barrett, & Turner, 2003). The Generalized Anxiety Disorder Subscale has also been shown to accurately predict actual diagnosis of an anxiety disorder (Nautua, Scholing, Rapee, Abbott, Spence, & Waters, 2004). The factor loadings in this study for the items ranged from .58 to .76 for wave 4 and from .60 to .74 for wave 3.

Analysis

Means, standard deviations, and correlations by gender of the child were first examined for all variables in the study. To be certain that no multicollinearity problems exist, the correlations between mother couple insecure attachment and father couple insecure attachment were examined, and if they were correlated higher than .70, the variables were combined into one latent variable called insecure couple attachment. Factor loadings for the indicators of each latent variable were examined, and if any of them were below .50, that indicator was dropped.

Multiple group analysis using AMOS 19.0 (2011) was used to examine whether the hypothesized paths in the Structural Equation Model were different between boys and girls. A model in which the measurement and structural paths of the model were constrained to be equal for boys and girls was compared to a model where all the paths were unconstrained. A Chi-

square difference test was computed to determine if there were significant statistical differences between the two models. If the Chi-square test was significant, subsequent steps involved comparing models where one path was unconstrained and then in a stepwise fashion each successive path was left unconstrained. Goodness of fit indices were used to determine which model was the best fit. The Goodness of fit indices included the overall Chi-square test which was significant, the Conditional Fit Index (CFI) which was greater than .95 (CFI=.988), the Root Mean Square Error of Approximation (RMSEA) which was less than .05 (RMSEA=.011), and the SRMR (Root Mean Square Residual) which was less than .05 (SRMR=.017)

Results

The correlations, means, and standard deviations for all measured variables are shown in Table 2. Both males and females who had children of either gender were more anxiously attached than they were avoidantly attached ($\chi=.994$ vs. 8.25 for females with sons; $\chi=.940$ vs. 7.38 for females with daughters; 9.88 vs. 8.62 for males with sons; $\chi=9.97$ vs. 8.28 for males with daughters). Fathers and mothers reported that daughters were more self-regulated than sons ($\chi=36.37$ vs. 35.03 for mother report; $\chi=36.37$ vs. 35.03 for father report), but daughters reported slightly less self-regulation than did sons ($\chi=36.38$ vs. 36.32). Sons reported a reduction in anxiety symptoms from time 3 to time 4 ($\chi=4.67$, $SD=3.60$ vs. $\chi=4.45$, $SD=2.90$), but daughters reported an increase in anxiety from time 3 to time 4 ($\chi=5.79$, $SD=3.19$ vs. $\chi=6.02$, $SD=3.98$).

Avoidant and anxious attachment were moderately correlated for both fathers and mothers regardless of whether their target child was a son or daughter (.62, $p<.001$ for mothers of sons and .40, $p<.001$ for mothers of daughters; .58, $p<.001$ for fathers of sons and .55, $p<.001$ for fathers of daughters). All three respondents reports of the child's self-regulation were negatively correlated with maternal anxious attachment in families with sons ($-.33$, $p<.05$ for

child report; $-.22, p < .01$ for mother report, and $-.19, p < .01$ for father report) and in families with daughters ($-.13, p < .05$ for child report; $-.14, p < .05$ for mother report; and $-.19, p < .01$ for father report). All three reports on child self-regulation were also negatively correlated with mother avoidant attachment in families with sons ($-.17, p < .001$ for child report; $-.39, p < .001$ for mother report; and $-.24, p < .001$ for father report) and in families with daughters ($-.15, p < .05$ for child report; $-.18, p < .05$ for mother report, and $-.21, p < .01$ for father report). All three reports of child self-regulation at time 4 were correlated with father anxious attachment and avoidant attachment for families with sons (with father anxious attachment $-.17, p < .05$ for child report; $-.15, p < .05$ for mother report; and $-.14, p < .05$ for father report; with father avoidant attachment $-.23, p < .01$ for child report; $-.24, p < .01$ for mother report; and $-.15, p < .05$ for father report). For families with daughters not all of the reports of child self-regulation at time 4 were significantly correlated with male anxious and avoidant couple attachment. Only father's report of child self-regulation at time 4 was related to father avoidant attachment ($-.19, p < .01$), and only the mother and father report of child self-regulation at time 4 was related to male anxious couple attachment ($-.13, p < .05$ for both reports). Female avoidant and anxious insecure attachment were positively related to male avoidant and anxious couple attachment for both families with sons and with daughters (female avoidant with female anxious $.62, p < .001$ for families with sons and $.40, p < .001$ for families with daughters; female avoidant with male avoidant $.41, p < .001$ for families with sons and $.39, p < .001$ for families with daughters; female avoidant with male anxious $.57, p < .001$ for families with sons and $.38, p < .001$ for families with daughters; female avoidant with male avoidant $.41, p < .001$ for families with sons and $.39, p < .001$ for families with daughters; female anxious with male avoidant $.43, p < .001$ for families with sons and $.32, p < .001$ for families with daughters; female anxious with male anxious $.48, p < .001$ for families with sons

and .39, $p < .001$ for families with daughters; male avoidant with male anxious .58, $p < .001$ for families with sons and .55, $p < .001$ for families with daughters. All three reports of child self-regulation were also negatively correlated with child anxiety and times 3 (-.31, $p < .001$ for child; -.28, $p < .001$ for mother; and -.26, $p < .001$ for father) and 4 (-.39, $p < .001$ for child; -.17, $p < .05$ for mother, and -.14, $p < .05$ for father).

The results for the structural equation model are shown in Figure 2. The fit indices showed that the model provided a good fit to the data. The chi-squared statistic of 286.01 with 264 degrees of freedom was not significant meaning that the hypothesized model was not significantly different from the default model. The CFI was 0.988; the RMSEA was 0.011, and the SRMR was 0.017 suggesting that the model fit the data well.

Direct Effects

The path from wife insecure couple attachment at time 3 to child anxiety at time 4 was significant for sons but not for daughters ($\beta = -0.16$ $p < .05$ for sons; $\beta = -.11$, $p = n.s.$). None of the control variables (child age, race, household, income, parents' education) were significantly related to child anxiety at time 4, so all except for child age were dropped from the model and are not shown in Figure 2. Child age was kept in the model because of its positive relationship to child self-regulation at time 4. Child anxiety at time 3 was controlled for by analyzing its relationship to both child anxiety at time 4 and to child self-regulation at time 4. Child anxiety at time 3 was positively related to child anxiety at time 4 for both sons and daughters ($\beta = 0.60$, $p < .001$ for sons; $\beta = 0.73$ $p < .001$ for daughters). Husband insecure couple attachment at time 3 was not significantly related to child anxiety at time 4 ($\beta = .08$, $p = n.s.$ for sons; $\beta = .06$, $p = n.s.$ for daughters).

Indirect Effects

Wife insecure couple attachment in wave 3 was negatively related to child self-regulation in wave 4 for both sons and daughters ($\beta = -.40, p < .001$; $\beta = -.28, p < .001$ for daughters). Husband insecure attachment in wave 3 was also negatively related to child self-regulation in wave 4 for sons but not for daughters ($\beta = -.18, p < .05$; $\beta = -.03, p = n.s.$). Child anxiety in wave 3 was negatively related to child self-regulation at time 4 for sons but not for daughters ($\beta = -.17, p < .05$; $\beta = .06, p = n.s.$). Child age in wave 3 was positively related to child self-regulation in wave 4 for both sons and daughters ($\beta = .17, p < .05$; $\beta = .15, p < .05$). Self-regulation at time 4 was negatively related to child anxiety at time 4 for both sons and daughters ($\beta = -.26, p < .001$; $\beta = -.28, p < .001$).

There were a total of seven indirect paths that were potentially statistically significant: the paths from wife insecure couple attachment through child self-regulation at time 3 to child anxiety at time 4 for both sons and daughters, the path from husband insecure couple attachment through child self-regulation at time 4 to child anxiety at time 4 for sons only, the paths from child anxiety time 3 through child self-regulation at time 4 to child anxiety at time 4 for both sons and daughters; and the paths from child age through child-self regulation at time 4 to child anxiety at time 4 for both sons and daughters. To test whether these indirect paths were statistically significant, a Sobel test (Sobel, 1982) was conducted for each indirect path. All seven indirect effects were statistically significant.

Child self-regulation at time 4 was a significant mediator for wife insecure couple attachment time 3 and child anxiety at time 4 for both sons and daughters (Sobel=2.19, $p < .05$ for sons; Sobel=2.73, $p < .01$ for daughters). Child self-regulation also significantly mediated the indirect relationship from husband insecure attachment to child anxiety at time 4 (Sobel=5.33,

p<.001). Likewise, the relationship from child anxiety time 3 to child anxiety time 4 was significantly mediated by child self-regulation time 4 for both sons and daughters (Sobel=2.21, p<.05 for sons; Sobel=5.42, p<.001 for daughters). Child self-regulation at time 4 also significantly mediated the relationship from child age to child anxiety for both sons and daughters (Sobel=-2.34, p<.05 for sons; Sobel=-2.74, p<.01 for daughters).

The model explained forty-eight percent of the variance in child anxiety at time 4. A part of this is explained by the fact that child anxiety at time 3 was controlled for, but a highlight of the findings in this study is the strong mediating effect of child self-regulation.

Discussion

The findings that wife insecure couple attachment was negatively related to child anxiety for sons but not for daughters could be a result of a gender effect. It might be that if mothers are insecurely related to husbands, they project some of their insecure feelings onto sons and make them more anxious. This is consistent with previously cited literature that mothers' attachment within the couple relationship has more of an effect on children than fathers' attachment (Cowan, et al., 2009). Cowan et al. (2009) observed that mothers' insecure couple attachment had a direct effect on child internalizing behaviors, while insecure attachment of fathers did not show significant statistical impact. There is related research that suggests that a mother's insecure attachment from childhood has a much higher correlation to a child's internalizing behaviors than externalizing (Cowan et al, 1996). Therefore, this study's assertion that marital insecurity of wives affects their children, sons in particular, is reasonable, consistent with, and builds upon previous research.

On the other hand, husband insecure couple attachment at time 3 was not related to child anxiety at time 4 for either girls or boys. One possible explanation for this is that men and

women may handle anxiety differently. Mothers may deal with their anxiety more relationally, including projecting it onto sons, whereas fathers may deal with it more through external activities like work (Barnett, 1993). It is also possible that time spent with children could be the most influential factor on which gender has the most effect on child anxiety (Hochschild & Machung, 1989). For example, it may be that mothers spend more time with their children whereas fathers who spend less time interacting their children have less time to project their anxiety onto their children.

The change in child anxiety from time 3 to time 4 was stronger for girls than it was for boys, which seems to suggest that anxiety doesn't disappear in adolescence but may get worse over time. This also appears consistent with a number of studies which have found gender differences between male and female adolescents. Specifically, adolescent girls are more likely to exhibit higher levels of internalizing behaviors than adolescent males (Ostrov, Offer, Howard, 1989; Lewinsohn, Gotlib, Lewinsohn, Seeley, Allen, 1998).

It appears that one pathway through which couple attachment security influences child anxiety is child self-regulation. Child self-regulation was found to be a strong mediating variable between couple attachment and child anxiety. Previous to this study, no research could be found establishing a relationship between the quality of the couple attachment and child self-regulation. Attachment and parenting literature allude to the connection between a parent's attachment security and child self-regulation. The healthier attachment you have within the couple relationship, the more available and accessible you are (Johnson, 2008). Gottman (1997) says the more self-regulated the parent is, the better they will be able to teach self-regulation to the child. This study empirically supports that when the parents, especially the mother, report attachment security, the child's ability to self-regulate improves.

On the other hand, in regards to child self-regulation, wives' insecure attachment was associated with self-regulation for both girls and boys. Social learning theory and attachment theory help explain this relationship. According to social learning theory part of this effect of mothers on their children could be explained by imprinting and modeling. In other words, mothers who are insecurely attached within the couple relationship may have increased anxiety or stress which, in turn, lowers her own ability to self-regulate. The children would simply watch and learn (Bandura, 1977). Attachment theory would suggest that the insecure attachment could create a lack of accessibility or availability from the mother to the child. Attachment theory also suggests that since the couple's relationship is not a safe haven for the mother, it may not provide a foundation for children to feel secure so the development of self-regulation is hampered. These mothers' lack of availability and the lack of the couple's marriage as a safe haven for the child increases the child's sense of insecurity affecting the child's ability to self-regulate (Johnson, 2008).

Husband insecure couple attachment was also related to less self-regulation for sons, however, the relationship was not statistically significant for daughters. This gender effect may be that sons look more to their fathers, especially at the adolescent ages. It may be, similar to modeling after mothers' attachment security, that sons are likely to model their father's insecurity through inability to self-regulate. All of these results provide support for attachment theory. When parents feel more secure in their couple attachment, the child feels more secure (Bowlby, 1988), specifically affecting the child's ability to self-regulate and as a result, experience less anxiety.

Child age was related to child-self regulation for both sons and daughters suggesting that as children mature they become better self-regulated. This finding is consistent with results of

other studies that have shown that children become more self-regulated over time (Gestsdóttir & Lerner, 2007).

Limitations

One limitation of this study was that the sample represented only families within the Metropolitan Seattle, Washington area, and not the wider representation of the U. S. or nations outside the U. S. The sample also was not representative of racial diversity. Specifically, Latinos were underrepresented in the sample. Also, the measures included in this study were based on participants' reports. There were no biological measures, such as genetics, bio-feedback, etc. These biological measures likely also factor into child anxiety.

Implications for Further Research

The findings of this study raised several questions that future research could address. For example, further research could be done to explain the observed gender differences. There were observed differences in the relationship between mothers' and fathers' attachment and anxiety of the child based on child gender. It would be interesting to investigate the actual interaction of parent gender/child gender combinations and their association with anxiety in the children.

Another way that this research could be expanded is to look specifically at the type of attachment in the parental couple. This study examined simply secure versus insecure attachment. Further research may look at specific attachment styles, such as anxious, avoidant, disorganized, etc. This study only investigated the effect of process in the parental dyad on children's anxiety. It may be that whole family process characteristics are also related to children's anxiety. For example, specific types of implicit family rules, family styles of expression of emotion, or family styles of coping may also be related to the development of anxiety in children.

Implications for Couple and Family Therapy Intervention

Our results coupled with that of Cowan, Cowan and Mehta (2009) indicated that wife's couple attachment is a strong influence in a child's ability to self-regulate and ultimately, leads to decreased child anxiety. These results implicate a clear systemic application and support for couple and family therapy techniques and modalities in treating child anxiety.

Rather than observing a problem at an individual level, family systems theory looks at the environment the individual is affected by. This environment includes both the overt and subtle effects of relationships experienced every day, for example, parents, siblings and even the community. This study provides evidence to support the claim that problematic child behavior needs to be considered within the context of the family system. This study has shown the power of the security within the couple attachment to affect a child's ability to self-regulate, and ultimately, the child's level of anxiety.

This study adds to the literature on family systems theory in that it is one of the first to consider the effect of couple attachment in relation to child outcomes. A major implication in support of systems theory is that treating a child for anxiety from an individualistic model may only be successful short-term. Therapy may have a greater chance of long-term success if treatment of couple's attachment is included in the broader treatment plan for child anxiety. For example, emotion-focused couples' therapy is one modality that addresses and treats couple attachment patterns (Johnson, 2008).

Whereas, previous research supports behavioral techniques that intervene at an individual level with the child's self-regulation (Weisz, Weiss, Han, Granger & Morton, 1995; Compton, March, Brent, Albano, Weering & Curry, 2004). The research in this study would suggest that working with a child's parents and family system could provide a better solution. It is often said

that CBT and behavioral models provide a short-term, cost-effective solution in treating child anxiety (Butler, Chapman, Forman, & Beck, 2006). However, this study suggests that couple attachment issues may be a major contributing factor to child anxiety. Therefore, treating the couple as well as the child may create more long-term and sustained results.

Conclusion

This study was among the first to examine the mediating effects of child self-regulation between insecure attachment in the parents' marriage and child anxiety while controlling for child anxiety over time. Its strengths included multiple respondents and longitudinal control for child anxiety. The findings draw attention to the importance of marital attachment as a foundation for the development of children's emotional well-being. The importance of increasing attachment security in marital bonds and focusing on strategies to help children appropriately self-regulate their behavior, thoughts, and emotions should prove applicable to both family life educators and family therapists.

References

- Alexandrov, E., Cowan, P., & Cowan, C. (2005). Couple attachment and the quality of marital relationships: Method and concept in the validation of the new couple attachment interview and coding system. *Attachment & Human Development, 7*(2), 123-152.
- Ainsworth, M. D. S., Blehan, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, N.J.: Erlbaum.
- Amstadter, A. (2008). Emotion regulation and anxiety disorders. *Journal of Anxiety Disorders, 22*(2), 211-221.
- Aschenbrand, S.G., Kendall, P.C., Webb, A., Safford, S.M., & Flannery-Schroeder, E. (2003). Is childhood separation anxiety disorder a predictor of adult panic disorder and agoraphobia? – A seven year longitudinal study. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*, 1478–1485.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes, 50*, 248–287.
- Barnett, R. C. (1993). Multiple roles, gender, and psychological distress. In L. Goldberger & S. Breznitz (Eds.), *Handbook of stress: Theoretical and clinical aspects* (pp. 427-448). New York, NY: The Free Press.
- Bregman, O., & White, C. M. (2001). *Bringing systems thinking to life: Expanding the horizons for Bowen family systems theory*. New York, NY: Routledge/Taylor & Francis Group.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York, NY: Basic Books.

- Bogels, S. M., Brechman-Toussaint, M. L. (2006). Family issues in child anxiety: Attachment, family functioning, parental rearing and beliefs. *The Annual Review of Clinical Psychology, 26*, 834–56.
- Butler, A. C., Chapman, J. E., Forman, E. M., & Beck, A. T. (2006). The empirical status of cognitive-behavioral therapy: A review of meta-analyses. *Clinical Psychology Review, 26*, 17-31.
- Carthy, T., Horesh, N., Apter, A., Edge, M. D., & Gross, J. J. (2010). Emotional reactivity and cognitive regulation in anxious children. *Behaviour Research and Therapy, 48*, 384–393.
- Cassidy, J., Shaver, P.R. (1999). *Handbook of attachment: Theory, research and clinical applications*. New York, NY: Guilford Press.
- Compton, S., March, J., Brent, D., Albano, M., Weering, R., & Curry, J. (2004). Cognitive-behavioral therapy for anxiety and depressive disorders in youth: An evidence-based medicine review. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*, 930 –959.
- Cowan, P. A., Cohn, D. A., Cowan, C., & Pearson, J. L. (1996). Parents' attachment histories and children's externalizing and internalizing behaviors: Exploring family systems models of linkage. *Journal of Consulting and Clinical Psychology, 64*(1), 53-63.
- Cowan, P. A., Cowan, C., & Mehta, N. (2009). Adult attachment, couple attachment, and children's adaptation to school: an integrated attachment template and family risk model. *Attachment & Human Development, 11*(1), 29-46.
- Crawford, A., & Manassis, K. (2011). Anxiety, social skills, friendship quality, and peer victimization: An integrated model. *Journal Of Anxiety Disorders, 25*(7), 924-931.

- Craske, M. G. (1997). Fear and anxiety in children and adolescents. *Bulletin of the Menninger Clinic*, 61(2 Suppl A), 4–36.
- Crowell J. A., & Feldman S. S. (1988). Mothers' internal models of relationships and children's behavioral and developmental status: A study of mother-child interaction. *Child Development*, 59(5), 1273-1285.
- Dadds, Mark R., & Powell, M. B., (1991). The relationship of interparental conflict and global marital adjustment to aggression, anxiety, and immaturity in aggressive and nonclinic children, *Journal of Abnormal Child Psychology*, 19(5), 553-567.
- Davies, P. T., & Cummings, E. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin*, 116(3), 387-411.
- Dweck, C., & Wortman, C. (1982). Learned helplessness, anxiety, and achievement motivation: Neglected parallels in cognitive, affective, and coping responses. In H. Krohne & L. Laux (Eds.), *Achievement, stress, and anxiety* (pp. 92-126). Washington, DC: Hemisphere.
- Eiden, R. D., Edwards, E. P., & Leonard, K. E. (2007). A conceptual model for the development of externalizing behavior problems among kindergarten children of alcoholic families: Role of parenting and children's self-regulation. *Developmental Psychology*, 43, 1187–1201.
- Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, 78, 350-365.

- Gestsdóttir, S., & Lerner, R. M. (2007). Intentional self-regulation and positive youth development in early adolescence: Findings from the 4-H study of positive youth development. *Developmental Psychology, 43*(2), 508-521.
- Ginsburg, G.S., La Greca, A.M., & Silverman, W.K. (1998). Social anxiety in children with anxiety disorders: Relation with social and emotional functioning. *Journal of Abnormal Child Psychology, 26*, 175–185.
- Gottman, J. (1997). *Raising an emotionally intelligent child: The heart of parenting*. New York, NY: Simon and Schuster.
- Gottman, J., Katz, L., & Hooven, C. (1997). *Meta-emotion: How families communicate emotionally*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Grolnick, W. S., & Farkas, M. (2002). Parenting and the development of children's self-regulation. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 5, practical issues in parenting* (2nd ed., pp. 89–110). Mahwah, NJ: Lawrence Erlbaum Associates.
- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology, 81*(2), 143-154.
- Gumora, G., & Arsenio, W. F. (2002). Emotionality, emotion regulation, and school performance in middle school children. *Journal of School Psychology, 40*, 395-413.
- Hannesdottir, D., & Ollendick, T. H. (2007). The role of emotion regulation in the treatment of child anxiety disorders. *Clinical Child and Family Psychology Review, 10*(3), 275-293.
- Hochschild, A., with Machung, A. (1989). *The second shift: Working parents and the revolution at home*. New York, NY: Viking.

- Jekielek, S. M. (1998). Parental conflict, marital disruption and children's emotional well-being. *Social Forces*, 76, 905–936.
- Johnson, S. M. (2008). *Hold me tight: Seven conversations for a lifetime of love*. New York, NY: Little, Brown
- Johnson, S. M. S., Makinen, J. A. J., & Millikin, J. W. J. (2001). Attachment injuries in couple relationships: A new perspective on impasses in couples therapy. *Journal of Marital and Family Therapy*, 27(2), 145-155.
- Johnson, S. M., & Talitman, E. (1997). Predictors of success in emotionally focused marital therapy. *Journal of Marital and Family Therapy*, 23(2), 135-152.
- Johnson, S. M., & Whiffen, V. E. (1999). Made to measure: Adapting emotionally focused couples therapy to partners' attachment styles. *Clinical Psychology: Science and Practice*, 6, 366-381.
- Last, C. G., Hansen, C., & Franco, N. (1997). Anxious children in adulthood: A prospective study of adjustment. *Journal of American Academy of Child and Adolescent Psychiatry*, 36, 645–652.
- Lewinsohn, P. M., Gotlib I. H., Lewinsohn M., Seeley J. R., Allen N.B. (1998). Gender differences in anxiety disorders and anxiety symptoms in adolescents. *Journal of abnormal Psychology*, 107, 109–117.
- Makinen, J. A., & Johnson, S. M. (2006). Resolving attachment injuries in couples using emotionally focused therapy: Steps toward forgiveness and reconciliation. *Journal of Consulting and Clinical Psychology*, 74(6), 1055-1064.

- Manian, N., Strauman, T. J., & Denney, N. (1998). Temperament, recalled parenting styles, and self-regulation: Testing the developmental postulates of self-discrepancy theory. *Journal of Personality and Social Psychology, 75*(5), 1321-1332.
- Mennin, S. D., Heimberg, R. G., Turk, C. L., & Fresco, D. M. (2005). Preliminary evidence for an emotion dysregulation model of generalized anxiety disorder. *Behaviour Research and Therapy, 43*, 1281–1310.
- Nauta, M. H., Scholing, A., Rapee, R. M., Abbott, M., Spence, S. H., & Waters, A. (2004). A parent-report measure of children's anxiety: Psychometric properties and comparison with child-report in a clinic and normal sample. *Behaviour Research and Therapy, 41*, 813-839.
- Novak, S. P., & Clayton, R. R. (2001). The influence of school environment and self-regulation on transitions between stages of cigarette smoking: A multilevel analysis. *Health Psychology, 20*, 196- 207.
- Ollendick, T. H., King, N. J., & Muris, P. (2002). Fears and phobias in children: Phenomenology, epidemiology, and etiology. *Child and Adolescent Mental Health, 7*, 98–106.
- Ostrov, E., Offer, D., & Howard, K. I. (1989). Gender differences in adolescent symptomatology: A normative study. *Journal of the American Academy of Child and Adolescent Psychiatry, 28*(3), 394-398,
- Padilla-Walker, L. M., Harper, J. M., & Jensen, A. C. (2010). Self-regulation as a mediator between sibling relationship quality and early adolescents' positive and negative outcomes. *Journal of Family Psychology, 24*(4), 419-428.

- Purdie, N., Carroll, A., & Roche, L. (2004). Parenting and adolescent self-regulation. *Journal of Adolescence, 27*(6), 663-676.
- Schneider, B. H., Atkinson, L., & Tardif, C. (2001). Child–parent attachment and children's peer relations: A quantitative review. *Developmental Psychology, 37*(1), 86-100.
- Sibley, C. G., Fischer, R., & Liu, J. H. (2005). Reliability and validity of the Revised Experiences in Close Relationships (ECR-R) self-report measure of adult romantic attachment. *Personality and Social Psychology Bulletin, 31*, 1524–1536.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological methodology* (pp. 290-312). Washington, DC: American Sociological Association.
- Spence, S. J. (1998). A measure of anxiety symptoms among children. *Behavior Research and Therapy, 36*, 545-566.
- Spence, S. J., Barrett, P. M., & Turner, C. M. (2003). Psychometric properties of the Spence Children's Anxiety Scale with young adolescents. *Journal of Anxiety Disorders, 17*, 605-625.
- U.S. Census Bureau. (2010). Income, poverty, and health insurance coverage in the United States: 2009.
- van der Horst, F. P. (2011). John Bowlby—From psychoanalysis to ethology: Unraveling the roots of attachment theory. *Journal of Marital & Family Therapy, 37*(4), 509.
- von Bertalanffy, L. (1968). *General system theory*. New York, NY: Braziller.
- Weisz, J.R., Weiss, B., Han, S.S., Granger, D.A., & Morton, T. (1995). Effects of psychotherapy with children and adolescents revisited: A meta-analysis of treatment outcome studies. *Psychological Bulletin, 117*, 450–68.

Whiteside, S. H., Gryczkowski, M. R., Biggs, B. K., Fagen, R., & Owusu, D. (2012). Validation of the Spence Children's Anxiety Scale's obsessive compulsive subscale in a clinical and community sample. *Journal of Anxiety Disorders*, 26(1), 111-116.

Figure 1.

Hypothesized Structural Equation Model with Mother and Father Insecure Attachment to Each Other Predicting Child Anxiety with Child Self-Regulation as Possible Mediating Variable, Controlling for Child Anxiety One Year Earlier, Child Age, Household Income, and Father and Mother Education

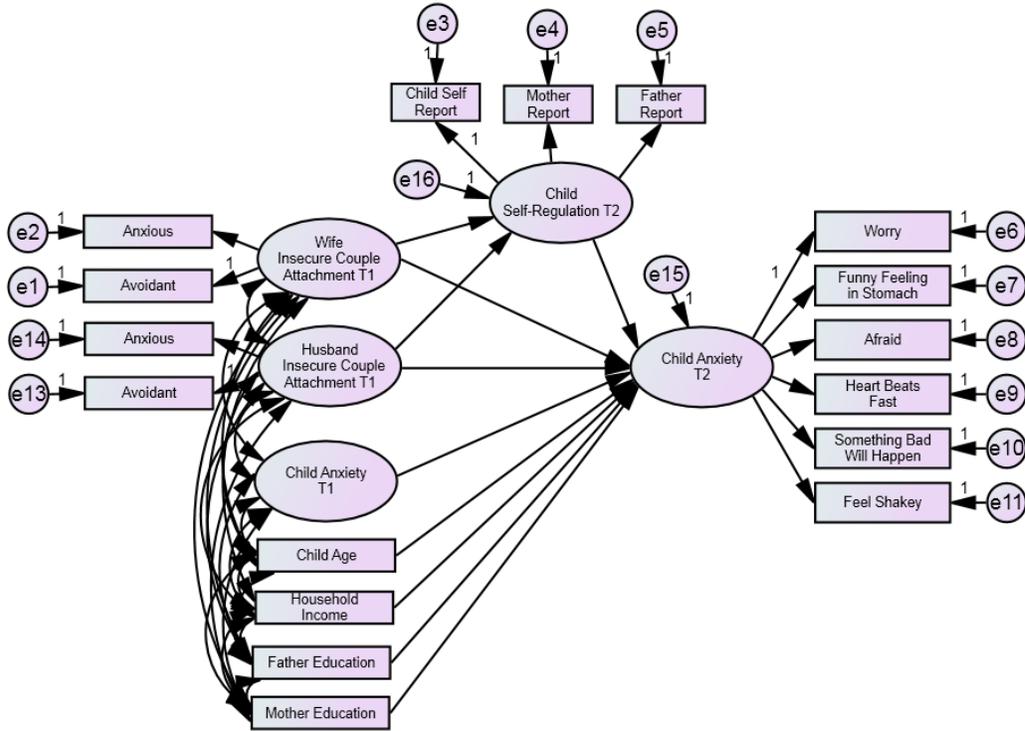
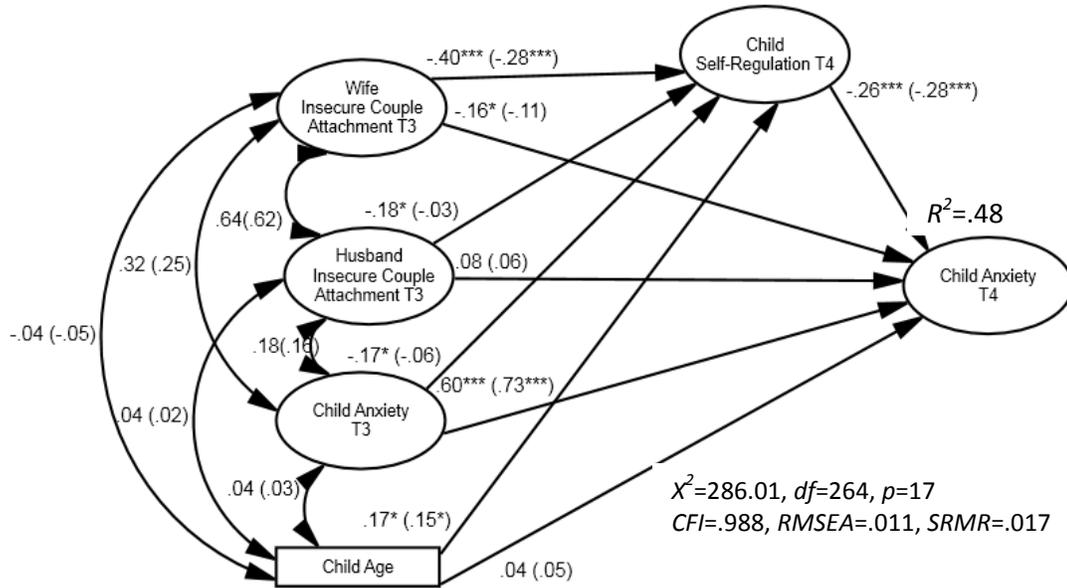


Figure 2.

SEM Results for APIM with Husband and Wife Insecure Couple Attachment Predicting Child Anxiety with Child Self-Regulation as a Mediating Variable.



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

NOTE: Standardized Beta Coefficients for male children appear first with coefficients for female children following in parentheses. Race, Household income, and parents' education were included as control variables in the analysis, but they are not reported in this figure because none of them were statistically related to self regulationT4 or Child AnxietyT4.

Table. 1.

Demographic Characteristics of Sample (N=335 families; 167 sons, 168 daughters)

	Fathers	Mothers	Girls	Boys
Age at Time 3	47.38(6.10)	45.49(5.32)	13.18(.95)	13.26(.97)
Age at Time 4	48.45(6.03)	46.56(5.70)	14.28(.94)	14.24(.98)
	Percentages			
Race				
Caucasian	86.4%	82.8.0%	81.3%	79.5%
African Am	5.1%	4.1%	4.2%	2.7%
Hispanic	1.0%	3.0%	2.1%	1.4%
Asian American	2.0%	4.4%	4.2%	4.1%
Other	2.4%	2.0%	0.0%	1.4%
Multiethnic	3.0%	3.7%	8.2%	11.0%
Parents' Education				
Less than H.S.	0%	1.4%	--	--
High School Diploma	6.1%	4.4%	--	--
Some College	25.9%	23.7%	--	--
Bachelors Degree	38.6%	41.4%	--	--
Grad/Professional Degree	29.4%	29.1%	--	--
Household Income	Time 3	Time 4		
Under \$20,000	2.1%	0.9%		
At least \$50,000	13.0%	9.2%		
At least \$70,000	16.9%	13.3%		
At least \$90,000	18.6%	16.2%		
At least \$100,000	16.2%	16.9%		
At least \$120,000	16.6%	20.6%		
At least \$150,000 +	16.6%	24.9%		
Family Size	4.37 (1.03) 3-9 range		4.42 (1.00) 3-9 range	
Marital Status				
Married	96.3%		96.9%	
Cohabiting	3.7%		3.1%	

Table 2.

Correlations, Means, and Standard Deviations for Child Anxiety as a Function of Parental Couple Insecure Attachment and Child Self-Regulation (335 families; N=167 sons, 168 daughters).

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Insecure Couple Attachment														
1. Female Avoidant	1.0	.40***	.39***	.38***	-.13*	-.14*	-.19**	.08	.12	.05	-.10	-.11	-.05	.04
2. Female Anxious	.62***	1.0	.32***	.39***	-.15*	-.18**	-.21**	.12	.13*	.09	.05	.01	-.02	.03
3. Male Avoidant	.41***	.43***	1.0	.55***	-.06	-.10	-.19**	.14*	.09	-.06	.08	-.09	-.09	.06
4. Male Anxious	.57***	.48***	.58***	1.0	-.09	-.13*	-.13*	.10	.04	.11	-.03	-.05	.01	.02
Child Self-Regulation														
5. Child Report	-.33***	-.27***	-.17*	-.23**	1.0	.49***	.39***	.31***	-.39***	.13*	-.11	.03	.02	.03
6. Mother Report	-.22**	-.39***	-.15*	-.24**	.43***	1.0	.60***	.28***	-.17*	.17*	-.05	.02	.04	.01
7. Father Report	-.19**	-.24***	-.14*	-.15*	.40***	.68***	1.0	.26***	-.14*	.15*	-.09	.07	.03	.04
Child Anxiety														
8. Anxiety Time 3	.16*	.15*	.03	.14*	-.27***	-.23**	-.19**	1.0	.64***	.13*	-.01	-.03	-.02	.01
9. Anxiety Time 4	.18*	.14*	-.15*	.07	-.39***	-.25**	-.26***	.53	1.0	.07	-.07	.04	-.04	.02
10. Child Age	.01	-.08	-.06	-.01	.17*	.15*	.17*	.02	.05	1.0	-.10	.08	.01	.07
11. Child Race	-.08	-.11	-.06	-.4	-.10	-.11	-.09	.07	.11	-.01	1.0	-.07	.02	.03
12. Income	-.03	-.06	-.04	-.12	-.04	.08	.10	-.08	-.02	.03	-.05	1.0	.37***	.31***
13. Father Education	-.06	-.10	.10	.05	.04	.02	-.02	-.04	-.08	.02	-.11	.32***	1.0	.62***
14. Mother Education	-.04	-.08	-.01	.04	.05	.04	-.01	-.02	-.06	.03	-.06	.29***	.32***	1.0
M for sons	9.94	8.25	9.88	8.62	36.32	35.03	34.01	4.67	4.45	14.28	N/A	\$82,788	N/A	N/A
SD for sons	5.30	4.90	4.61	5.28	5.26	5.82	5.92	3.60	2.90	.94	N/A	\$721	N/A	N/A
M for daughters	9.40	7.38	9.97	8.28	36.18	36.37	35.77	5.79	6.02	14.24	N/A	\$82,788	N/A	N/A
SD for daughters	4.86	4.52	4.38	4.36	6.26	5.79	5.63	3.19	3.98	.98	N/A	\$721	N/A	N/A

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