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Don't worry....be happy: The Influence of Parental Anxiety on Adolescent Self-Esteem

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“Don’t worry....be happy”: The Influence of Parental Anxiety on
Adolescent Self-Esteem

Holly Coutts

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

“Don’t worry....be happy”: The Influence of Parental Anxiety on Adolescent Self-Esteem

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The purpose of the current study was to explore the direct and indirect influences of both paternal and maternal anxiety on adolescent self-esteem as mediated by parental criticism and autonomy allowance. Participants included 331 parent-child triads with a child between the ages of 12 and 15 from the Flourishing Families Project. Findings suggested that maternal anxiety had a significant negative influence on adolescent self-esteem while paternal anxiety did not. Also, the influence of maternal anxiety on adolescent self-esteem was carried directly rather than indirectly through autonomy allowance and parental criticism; however, this influence was only significant prior to adolescent gender comparisons. Furthermore, maternal autonomy allowance was positively associated with self-esteem for male adolescents with male self-esteem being more sensitive to maternal autonomy allowance than female self-esteem. In addition, maternal anxiety was associated with an increased use of parental criticism. For fathers, anxiety was associated with restricted autonomy allowance and increased use of parental criticism. Findings may be helpful to both parents and clinicians in identifying how parental anxiety influences parenting and adolescent self-esteem.

Keywords: parenting, anxiety, self-esteem, adolescents

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Introduction

One of the most important aspects of adolescent development is self-esteem. The way an adolescent feels about and views the self influences future relationships (Yanagisawa, Nishimura, & Ura, 2010), academic achievement, social competency (Kasuya & Kawamura, 2004), substance abuse risks (Donnelly, Young, Pearson, Penhollow, & Hernandez, 2008), antisocial behaviors (Rigby & Cox, 1996), and even suicide risks (Kuhlberg, Peña, & Zayas, 2010). In fact, self-esteem may be so essential to human development that it has been described as a "basic and fundamental human need" (Solomon, 2006). Given the pervasive impact of self-esteem on development, continued research is needed to explore the factors which contribute to adolescent self-esteem, with particular focus on the parental influence (Robinson, 1995).

Numerous aspects of parenting have been repeatedly shown to influence child self-esteem including parenting styles (DeHart, Pelham, & Tennen, 2006), parental psychological control (Bean, Bush, McKenry, & Wilson, 2003), parental involvement (Flouri, 2004), discipline methods (Grusec & Goodnow, 1994), and parental depression (Goodman, Adamson, Riniti, & Cole, 1994). However, one of the few facets of parental influence that has been somewhat neglected in conjunction with child self-esteem is parental anxiety. Furthermore, the scarce research that does connect parental anxiety with child self-esteem does not delineate the mechanisms through which this process occurs. In addition, most studies consider maternal anxiety while excluding the potential influence of paternal anxiety (van der Bruggen, Stams, & Bögels, 2008). Accordingly, the primary purpose of the current research is to further solidify the influence of both paternal and maternal anxiety on adolescent self-esteem and explore the potential parenting mechanisms by which this influence occurs. More specifically, this study will test both the direct and indirect influence of parental anxiety on adolescent self-esteem by

considering direct paths, as well as, indirect paths as mediated by parental criticism and autonomy allowance.

Literature Review

Theoretical Foundations

To explain the influence of parents on adolescent self-esteem, we find footing in self-esteem theory. Self-esteem has been defined as “The overall evaluation of one’s worth or value as a person.” (Harter, 1999, p. 5), as well as, “the extent to which the individual believes himself to be capable, successful, significant and worthy” (Coopersmith, 1967, p. 4). Traditional theory views self-esteem development as occurring in social contexts where relationships are used as reference points to gather information about the self (Cooley, 1902; Harter, 1999). In other words, the individual’s perception of significant others’ opinions are influential in determining an individual’s own views of the self. This theory has been termed the “looking glass self”, as it describes the onlooker as peering into relationship “mirrors”, and then compiling the reflections to create a concept of self.

Although self-concept is not the focus of this study, understanding self-concept is essential to understanding self-esteem because an individual’s self-esteem may be based in part on the domain specific self-evaluations that make up self-concept. However, self-esteem goes above and beyond self-concept in that it evaluates the individual’s worth and value as a whole and is not merely a sum of self-concept components. In sum, through cognitive processes, social experiences are interpreted and compiled to create a definition and illustration of the self which contributes to the development of self-esteem (Harter, 1999).

The information gathered from social interactions or “social mirrors” is analyzed by a part of the self which has been labeled the “I-self”. The “I-self” is the active component responsible for constructing the “Me-self”, which is the social or material self, and ultimately the embodiment of self-concept (James, 1890). According to William James (1890), the I-self is composed of several foundational components. The first component is self-awareness in which the individual is cognizant of one's own emotions, needs, and thoughts. The second component is self-agency which involves a sense of ownership of thoughts and actions. The third component is self-continuity in which the self is seen as the same overtime. The final component is self-coherence in which the self is perceived as a single distinctive entity. In contrast, the me-self is comprised of somewhat compartmentalized concepts of self including the "material me", the "social me," and the "spiritual me". The me-self is often referred to as “self-concept” and refers to the individual’s domain specific view of the self (i.e. cognitive ability, physical appearance, etc.) (Harter, 1999) and, according to the individual’s ability to make social comparisons, may include self-evaluations for each domain. In essence, “repeated interpersonal experiences ... form the basis for mental representations of the self in relation to others.” (DeHart, et al., 2006, p. 2)

Self-Esteem Development

Like many processes, both self-concept and self-esteem develop over time and evolve in accordance with other developmental attributes such as cognition and social awareness. For example, in early childhood self-concept is generally concrete, disjointed, and overly positive because the child lacks the ability to synthesize contrasting notions of the self and make accurate social comparisons (Harter, 1999). Therefore, for young children who do not yet have the cognitive ability to grasp abstract concepts, domain specific self-evaluations do not yet exist.

Similarly, young children are not yet able to grasp the abstract concept of global self-worth as measured by self-esteem.

As children mature, self-concept continues to evolve becoming more abstract, synthesized, and realistic and incorporates domain specific evaluations. Similarly, an overall sense of worth develops forming self-esteem (usually between the ages of 8-11) (Harter, 1999). However, even in adolescence, children tend to “compartmentalize” different abstract views of the self and demonstrate difficulty in fully reconciling varying strengths and weaknesses (Harter, 1999). In conjunction with their contrasting views about the self, some adolescents may find themselves exploring varying behaviors, values, and social roles, as well as multiple expressions of the self in fluctuating hairstyles, clothing choices, moodiness, and impulsivity (Cramer, 2010). Similarly, self-esteem may fluctuate somewhat during adolescence for some individuals while remaining more stable for others (Harter, 2006). Also, in comparison to school-aged children, self-esteem during adolescence has also been found to be more sensitive to peer influences (Harter, 1999). This may be due to the increase in the amount of time spent with peers during adolescence.

Interestingly, in considering gender differences during adolescence, females generally report lower self-esteem in comparison to males (Harter, 1999). Although it is unclear why this may be the case, some studies suggest that female self-esteem may be more sensitive to self-evaluations based on physical appearance in comparison to males. Given the high standards that society places on physical appearance for females, this may (in part) contribute to lower levels of self-esteem (Harter, 1999). Having established the relationship between self-concept and self-esteem, the remainder of this study will focus on self-esteem rather than self-concept.

In considering child self-esteem, parental influence has been repeatedly studied and found to be a key factor (Bean, et al., 2003; Brown, Mangelsdorf, Neff, Schoppe-Sullivan, & Frosch, 2009; Bush, 2000; Harter, Waters, & Whitesell, 1998; Harter & Whitesell, 1996; Robinson, 1995; Rubin et al., 2004; Tafarodi, Wild, & Ho, 2010). In fact, even during adolescence when peer influences increase, the parent-adolescent relationship maintains a prominent influence on self-esteem (Robinson, 1995) and continues even through late adolescence (Beyers & Goossens, 2008). Thus, parents may have a positive or negative influence on self-esteem by sending explicit or underlying messages to the child about the self concerning capability, worthiness, and intrinsic value (Harter, 1999). Thus, parents may influence their children's self-esteem through social interactions, which to the child represent a reflection of the child's own value and worth.

Parental Anxiety

Although many factors contribute to the use of particular parenting behaviors, the parent's anxiety levels have consistently been shown to be an influence on parenting (Laskey & Cartwright-Hatton, 2009). Adults with general anxiety are commonly described as experiencing "exaggerated worry and tensions", constantly anticipating disaster, and being irritable and "overly concerned about health issues, money, family problems, or difficulties at work" (National Institute of Mental Health, 2009), with women generally reporting more difficulty with anxiety issues than men (Rapee, Schniering, & Hudson, 2009). Although there appear to be both genetic and social components to anxiety, causation seems to involve complex and multifaceted processes (National Institute of Mental Health, 2009).

Given the constant worries and tensions experienced by individuals who suffer from anxiety, it is not surprising that a parent's anxiety levels would influence parenting and child

outcomes (Laskey & Cartwright-Hatton, 2009). Theoretically speaking, a reasonable explanation for the influence of parental anxiety on parenting behaviors and child outcomes can be found in spillover theory. In spillover theory, the negative psychological experiences in one domain can “spillover” and influence other aspects of the individual’s life (Voydanoff, 2007). In the instance of parenting, this could be interpreted to mean that the parent’s anxiety “spills over” to influence parenting behaviors, and subsequent child outcomes. In addition, reflective appraisal theory (Cooley, 1902; Harter, 1999) explains the direct influence of parental anxiety of adolescent self-esteem. More specifically, parental anxiety may directly influence the adolescent in that as the adolescent observes the parent behaving in anxious ways, the adolescent could interpret the parent’s anxious behaviors as a reaction to the adolescent’s own inadequacies, thereby influencing the adolescent’s self-esteem (Becker & Ginsburg, 2011). In essence, the adolescent observes the parent behaving in anxious ways and may wonder if he or she were somehow better or more worthy that the parent would not feel so anxious. However, the influence of parental anxiety on self-esteem could also be indirect in that the parent’s anxiety influences parenting behaviors, which then in turn influences self-esteem.

Interestingly, results differ somewhat pertaining to parental anxiety for fathers and mothers, with some studies indicating that it is only the mother’s anxiety that has a significant impact on child outcomes (McClure, Brennan, Hammen, & Le Brocque, 2001). The reasons behind these findings may be that mothers are often the primary caregiver and are thus more involved with the children on a day to day basis and may carry a greater influence on child outcomes (Rothbaum & Weisz, 1994). In contrast, other studies have found that only the father’s anxiety has a significant impact (Varni, 1993). However, the majority of studies only consider mother’s anxiety and exclude the potential influence of the father, which has resulted in

a recent meta-analysis calling for more studies which include paternal anxiety (van der Bruggen, Stams, & Bögels, 2008). Thus, one of the primary contributions of the current study is consider both the father's and mother's anxiety and identify potential differences.

Studies that have focused on anxiety and parenting have found that maternal anxiety may begin to influence parenting even while the child is in infancy with anxious mothers exhibiting less sensitivity and involvement with their infants (Kikkert, Middelburg, & Hadders-Algra, 2010). As this type of parenting continues into the childhood and adolescent years, anxious mothers have been found to allow for lower levels of autonomy, exhibit less warmth, and use more criticism and catastrophizing than normally functioning mothers (Whaley, Pinto, & Sigman, 1999). Furthermore, anxious parents may be less "productively engaged" while interacting with their children (Woodruff-Borden, Morrow, Bourland, & Cambron, 2002) and may also adversely affect the emotional climate of the home (Turner, Beidel, Roberson-Nay, & Tervo, 2003).

High anxiety levels may also influence a parent's ability to develop adaptive coping skills which may lead to overprotective parenting behaviors, allowing for low levels of autonomy. These parents may perceive new situations as a threat to their child and react by overprotecting and even over controlling the child (Ginsburg & Schlossberg, 2002) and thus allowing the child little autonomy. Moreover, coupled with low levels of warmth, anxious parenting may create an environment described by some as "affectionless control" (Harvison, Chapman, Ballash, & Woodruff-Borden, 2008) where the child is not allowed appropriate levels of autonomy. Although the current study does not focus on clinical samples, one clinical study may further illuminate the potential adverse effect of parental anxiety. Cobham, Dadds, and Spence (1998) found that for children who had undergone clinical treatment, the existence of an anxiety

disorder in one of the parents was negatively associated with successful clinical treatment. Taken together, research points to parental anxiety negatively influencing parenting.

Parental Anxiety and Adolescent Self-Esteem

Although there exists a plethora of research on parental anxiety in general, the child outcomes that have been considered in conjunction with parental anxiety have been quite narrow with most of the studies considering child anxiety as the primary focus (Colletti et al., 2010; Kertz, Smith, Chapman, & Woodruff-Borden, 2008; McClure, et al., 2001; Moore, Whaley, & Sigman, 2004; Rapee, 2009; van der Bruggen, Stams, & Bögels, 2008; Whaley, et al., 1999). For example, Colletti et al. (2010) found that parental anxiety and child anxiety were positively correlated, and Whaley et al. (1999) linked maternal anxiety with lower levels of autonomy allowance and child anxiety. However, in the case of self-esteem as the primary child outcome, research has been particularly sparse, which is surprising since there is reasonable speculation that parents who struggle with conditions such as anxiety may lead to the parents' inability to provide the kind of parenting that would promote the development of positive self-esteem in children (Harter, 1999).

One of the few studies addressing the association between parental anxiety and child self-esteem was conducted by Samuels and Griffore (1978), which considered maternal anxiety levels and child self-esteem in 72 mothers of preschool-aged children, and found significant correlations but only for daughters (Samuels & Griffore, 1978). Similarly, Varni and Setoguchi (1993) studied 54 children (ages 8-13) who were limb amputees and also found that parental anxiety influenced child self-esteem, but only in the case of fathers (Varni & Setoguchi, 1993). Also, Becker and Ginsburg (2011) found that the mother's anxiety as coded in an observational study was associated with child self-evaluations (N = 72) (Becker & Ginsburg, 2011). In

contrast to these studies, Turner, Beidel, and Costello (1987) considered multiple child outcomes in conjunction with parental anxiety, but found no significant difference in self-esteem between children with anxious parents and those children with non-anxious parents ($N = 59$) (Turner, Beidel, & Costello, 1987). Surprisingly, none of these studies have included explanations as to which parenting behaviors act as mediators and are involved in transmitting the influence of parental anxiety to child self-esteem. Given that internalizing behaviors which are similar to anxiety (such as depression) have been found to influence child outcomes by either the full or partial mediating influence of parenting behaviors (Mustillo, Dorsey, Conover, & Burns, 2011), it is possible that parental anxiety may take a similar path. Thus, the primary purpose of this study is to consider how parental anxiety may influence adolescent self-esteem both directly and indirectly by considering parenting behaviors as potential mediators.

As for the potential mediators between parental anxiety and adolescent self-esteem, the current literature may provide some clues as to which parenting behaviors may provide mediation. Spillover theory indicates that the parent's anxiety may "spillover" into other aspects of the parent's life including parenting behaviors (Voydanoff, 2007). Evidence of "spillover" can be found in the literature with specific parenting behaviors being influenced by parental anxiety. For instance, parental anxiety has been negatively linked to parental autonomy allowance (Ginsburg, Grover, & Ialongo 2004; Morre, Whaley, & Sigman, 2004) and positively linked to parental criticism (Hirshfeld, Biederman, Brody, & Faraone, 1997; Stern, 2002). In these instances, the parent's anxious and tense feeling spillover into parenting behaviors which include a restriction of the child autonomy and increased criticism. In addition, both autonomy allowance (Bush, 2000) and parental criticism (Bolton, Barrowclough, & Calam, 2009) have an impact on self-esteem development. Therefore, autonomy allowance and parental criticism are

both likely candidates for explaining the influence of parental anxiety on adolescent self-esteem and need to be tested as mediators. If autonomy allowance and parental criticism significantly mediate the influence of parental anxiety on adolescent self-esteem, then the influence of the parent's anxiety influences the adolescent indirectly through the parenting behaviors in addition to any significant direct influence.

Autonomy Allowance

Defined as the parental allowance for independent decision making and problem solving, and respect for the child's ideas, feelings, and opinions (Grolnick, Ryan, & Deci, 1991), autonomy allowance is particularly salient for adolescents because they are in a stage of life where the search for independence from parents and other family members is significant. This search is most successful when the adolescent is able to use the parent-child relationship as a secure home base which allows for safe exploration of the outside world (Erikson, 1980). In sum, adolescents require appropriate levels of autonomy from their parents to allow them to explore their individuality.

However, parents with anxiety issues may allow few opportunities for children to make their own choices and express personal thoughts and opinions. In fact, high levels of parental anxiety have been linked to low levels of parental autonomy allowance (Ginsburg, Grover, & Ialongo, 2004; Moore, et al., 2004; Whaley, et al., 1999); however, these studies only considered mothers. One of the adverse effects of restricting a child's autonomy is that the child may interpret such restrictive parenting as a reflection of his/her own abilities. The child may be led to believe that the parent views the child as incapable of successfully maneuvering through challenging situations and making intelligent and effective choices (Chorpita & Barlow, 1998; Hudson & Rapee, 2004). Moreover, restricting autonomy limits the child's opportunity to

actually acquire new skills and develop self-competence in coping with challenges (Rubin, Coplan, & Bowker, 2009). In other words, parents who do not allow appropriate levels of autonomy for their child may be sending negative messages to the child about the child's abilities and may also be limiting the child's opportunities to develop skills which may in turn influence self-esteem.

Moreover, an abundance of research supports the influence of autonomy allowance on self-esteem (Allen, Hauser, Bell, & O'Connor, 1994; Bush, 2000; Gecas & Schwalbe, 1986; Grolnick & Beiswenger, 2006; Kawash, Kerr, & Clewes, 1985), with adolescents who felt connected with parents, yet still allowed to maintain autonomy, being more likely to develop healthy self-esteem. Thus, parents who consistently seek the child's input, recognize the child's feelings, and collaborate with the child in making decisions, may have children with higher self-esteem in comparison to parents who discount the child's input and continually insist on the parents' own solutions (Grolnick & Beiswenger, 2006; Kernis, Brown, & Brody, 2000). In sum, by allowing children to make their own decisions and choices, they see their actions as emanating "from within" and thus feel responsible for any successes which subsequently build a "healthy sense of competence" (Grolnick & Beiswenger, 2006), which then influences self-esteem.

Interestingly, child's gender may influence the impact of parental autonomy allowance on self-esteem. Some studies suggest that although a sense of autonomy is important for both male and female children, parental autonomy allowance may be linked more strongly to male self-esteem (Gecas & Schwalbe, 1986; Josephs, Markus, & Tafarodi, 1992). This finding suggests that independence and individuation may be more important to male self-esteem than for female self-esteem. Although it is not entirely clear why this may be the case, some suggest that males

are socialized to value independence as part of the male role (Josephs, Markus, & Tafarodi). Furthermore, other studies which compared gender differences on child outcomes other than self-esteem suggested that males may be more affected by autonomy allowance (Deslandes, Bouchard, & St-Amant, 1998; National Institute of Child Health and Human Development, 2004). Taken together, research findings indicate that autonomy allowance may have a greater impact on male self-esteem; however, further research is needed to solidify these findings.

Also, parent gender may have an influence on autonomy allowance. For instance, Gecas and Schwalbe (1986) found that paternal autonomy allowance had a greater influence on self-esteem than maternal autonomy allowance. The explanation behind this result is supported by the notion that fathers make a distinct contribution in their parenting role. More specifically fathers act as mentors, play partners, and focus on encouraging children in their autonomy, while mothers are more focused on nurturing (National Institute of Child Health and Human Development, 2004). The implications of this notion are that fathers may be particularly important in socializing the child to face the outside world where social experiences would provide the “reflective appraisals” which contribute to self-esteem. Thus, paternal autonomy allowance may have a greater influence on adolescent self-esteem than maternal autonomy allowance.

Parental Criticism

In addition to autonomy allowance, parental criticism has been linked to both parental anxiety and child self-esteem. For instance, in observational studies, mothers with high levels of anxiety criticized their children more than mothers with normative anxiety levels (Hirshfeld, Biederman, Brody, & Faraone, 1997; Stern, 2002). Whaley and Pinto (1999) made similar findings in which maternal anxiety and maternal criticism were closely linked. Likewise,

Woodruff-Borden, et al. (2002), observed that anxious parents frequently directed “implicit rejections and putdowns toward their children” (p. 372). In contrast, Ginsburg, Grover, and Lalong (2004) observed both anxious and normative mothers interacting with their children and found no significant difference in the amount of criticism used by the two groups of parents. It is important to note that in the relatively few studies that have specifically targeted the association between paternal anxiety and paternal criticism, sample sizes have been fairly small, with the largest study listed here only containing 68 mothers. Additional studies with larger samples may help to clarify these discrepancies.

Also, parental criticism has been linked to self-esteem. For example, children whose parents were highly critical, withdrew love, and used guilt induction to influence them, demonstrated unstable self-esteem (Kernis et al., 2000). Furthermore, subjecting a child to constant criticism may pose a threat to a child’s well-being because once lower self-esteem is established, the child may continue on a trajectory of continuing negative and fragile feelings about the self (Kernis & Lakey, 2010) and may be particularly prone to overgeneralizing when faced with failure. In such a case, the child may assume any failure to be directly caused by his or her own intrinsic inadequacy. In support of this idea, one longitudinal study found that maternal criticism was associated with feelings of increased shame and decreased confidence in children (Kelley, Brownell, & Campbell, 2000). Another study linked low levels of parental criticism with high levels of child self-esteem (Felson & Zielinski, 1989). Moreover, some research found that not only was parental criticism associated with self-esteem, but that self-esteem mediated the influence of parental criticism on other psychosocial outcomes (Bolton, Barrowclough, & Calam, 2009). However, it is important to note that few studies that have

considered the influence of parental criticism on self-esteem have included both mothers and fathers.

In considering parental criticism and gender differences, no differences have been found across parent gender but some studies indicate differences across child gender. One study points to girls receiving more negative feedback from parents in comparison to boys (Lewis, Alessandri, & Sullivan, 1992). This finding is particularly interesting considering no gender differences were found in the actual task performance of the two genders. A second study considered gender differences in young musicians and found that females reported more parental criticism than males (Sinden, 1999). Furthermore, females are generally more concerned over relationships than males (Harter, 1999), which may increase their sensitivity to parental criticism (Felson & Zielinski, 1989) and potentially lower self-esteem. This point was illustrated by a study that considered the effect of parental behaviors on the self-esteem of boys and girls (Felson & Zielinski, 1989). More specifically, girls were more likely to have high self-esteem when they experienced positive parenting behaviors including low levels of criticism, whereas for boys some of the parenting behaviors (including parental criticism) did not influence self-esteem (Felson & Zielinski, 1989). These findings indicate that in addition to experiencing more parental criticism, females may also be more sensitive to criticism than boys which could potentially influence their self-esteem. However, it is important to note that some studies have not found child gender differences in reference to the influence of parental criticism on self-esteem (Bolton, Barrowclough, & Calam, 2009).

Research Goals

In summary, there is a clear need to better understand the influence of parental anxiety on adolescent self-esteem by identifying parental behaviors that mediate this relationship. This

study represents the first attempt to examine how both parental criticism and autonomy allowance may mediate this relationship. Identifying these parenting behaviors is essential because without understanding the specific behaviors, by which a parent's anxiety influences the child, little can be done to help parents redirect their parenting in productive ways that contribute to the healthy development of the child. In addition, the current study is one of the few studies that considers the influence of both the father's anxiety and the mother's anxiety.

Thus, the current study will first determine whether parental anxiety influences adolescent self-esteem for both fathers and mothers by considering the direct paths from maternal and paternal anxiety to adolescent self-esteem (Figure 1). Based on reflective appraisal theory (Cooley, 1902; Harter, 1999), it is predicted that maternal and paternal anxiety will negatively influence adolescent self-esteem. However, due to contradictory findings pertaining to differences between the influence of mothers and fathers (McClure, et al., 2001; Varni, 1993), the study will remain exploratory as to parent gender differences and parental anxiety.

Second, autonomy allowance will be tested as a potential mediator between parental anxiety and adolescent self-esteem. This will be done by considering the paths from maternal anxiety to maternal autonomy allowance and maternal autonomy allowance to adolescent self-esteem, as well as, the paths from paternal anxiety to paternal autonomy allowance and paternal autonomy allowance to adolescent self-esteem (Figure 2). Autonomy allowance is expected to mediate the influence of the parents' anxiety on adolescent self-esteem. More specifically, for both mothers and fathers, parental anxiety is predicted to be negatively associated with autonomy allowance (Moore, Whaley, & Sigman, 2004) which is predicted to be positively associated with self-esteem (Grolnick & Beiswenger, 2006). In addition, autonomy allowance is predicted to have a greater influence on male self-esteem than on female self-esteem (Gecas & Schwalbe,

1986; Josephs, Markus, & Tafarodi, 1992) (Figure 3). As for parent gender, paternal autonomy allowance is expected to have a greater influence on adolescent self-esteem (Gecas & Schwalbe, 1986).

Third, parental criticism will be tested as a potential mediator between parental anxiety and adolescent self-esteem by considering the paths from maternal anxiety to maternal criticism and maternal criticism to adolescent self-esteem, as well as, the paths from paternal anxiety to paternal criticism and from paternal criticism to adolescent self-esteem (Figure 2). Parental criticism is expected to mediate the influence of parental anxiety on adolescent self-esteem. More specifically, for both mothers and fathers, parental anxiety is predicted to be positively associated with parental criticism (Stern, 2002) which is predicted to be negatively associated with self-esteem (Felson & Zielinski, 1989). As for parental criticism in relation to adolescent gender, one study found that parental criticism had a greater influence on self-esteem for females than for males (Felson & Zielinski, 1989); however, few studies have made similar findings. Therefore, the current study will remain exploratory in regards to adolescent gender differences and the influence of parental anxiety on adolescent self-esteem (Figure 3). In addition, differences across parent gender will be considered; however, because few of the studies that have considered parental criticism and self-esteem have included both mothers and fathers, the current study will remain exploratory in this area.

Methods

Participants

The participants for this study were taken from wave 3 of the *Flourishing Families Project (FFP)*. Wave 3 was selected as the target group because the average age of the adolescents was 13.2 years of age which is a particularly sensitive time for self-esteem development because the child is transitioning into adolescence (Tevendale & DuBois, 2006).

Moreover, as children approach adolescence they are more fully able to conceptualize abstract concepts (Piaget, 2008) such as self-esteem. Furthermore, longitudinal options were not considered in this study because self-esteem is fairly stable overtime, with more than half of adolescents reporting little or no change in self-esteem levels over a four year period (Tevendale & DuBois, 2006). The sample consisted of 331 two-parent families with a child between the ages of 12 and 15 with a median age of 13. As for ethnicity, 76% were European American, 4% were African American, with smaller number of Hispanics (.3%) and Asian Americans (1.2%), and 19% were categorized as multi-ethnic. In terms of parental education, 72% of mothers and approximately 70% of fathers had a bachelor's degree or higher. As for yearly family income, 33% of families reported making less than \$59,000; 46% reported income in the \$60,000-99,000 range; 15% reported income in the \$100,000-149,000, with another 6% making \$150,000 or more per year.

Procedure

Participant families were selected from a large northwestern city and were interviewed during 2009. 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. 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; 15%). By broadening our approach, we were able to significantly increase the social-economic and ethnic diversity of the sample.

Measures

Adolescent Self-Esteem. Adolescents' self-esteem was assessed using the Rosenberg Self-Esteem Scale (Rosenberg, 1965). Adolescents responded to ten items on a five-point Likert-type scale ranging from one (strongly agree) to five (strongly disagree). Sample items included: "I feel useless at times"; and, "on the whole, I am satisfied with myself." Negative items were reverse coded with higher scores representing higher self-esteem. The Cronbach's Alpha coefficient was .87.

Parental Anxiety. Parental anxiety was assessed using an eight-item self-report measure, based on the Burns Anxiety Inventory (Burns, 1989). Mothers and fathers individually responded to items using a four-point Likert scale asking how often they experienced certain feelings, with response options ranging from zero (not at all) to three (a lot), with higher scores representing greater anxiety or anxiety symptoms. Sample items included: "anxiety, nervousness, or worry" and "feeling uptight or on edge". Cronbach's alpha coefficient was .74 for mothers and .73 for fathers.

Autonomy Allowance. Autonomy allowance was measured using the autonomy allowance sub factor (five questions) from the Parenting Styles and Dimensions Questionnaire-Short Version (PSDQ, Robinson, Mandleco, Olsen, & Hart, 2001). Both mothers and fathers were asked how often they enacted behaviors relating to the different parenting styles such as: "I take my child's desires into account before asking him or her to do something"; and, "I encourage my child to freely express himself or herself even when I disagree". Responses were given on a five point Likert-type scale ranging from one (never) to five (always). Higher scores

indicate higher levels of autonomy allowance. Cronbach's Alpha coefficient was .83 for mothers and .84 for fathers.

Parental Criticism. Parental criticism was measured using four questions from the verbal hostility sub factor from the Parenting Styles and Dimensions Questionnaire-Short Version (PSDQ, Robinson, Mandleco, Olsen, & Hart, 2001). Similar to previous parenting questions, parents were asked how often they enacted behaviors relating to the different parenting styles such as: "I scold my child to make him or her improve"; and, "I scold or criticize my child when his or her behavior doesn't meet expectations". Responses were given on a five point Likert-type scale ranging from one (never) to five (always). Higher scores indicate higher levels of autonomy. Cronbach's Alpha coefficient was .78 for mothers and .80 for fathers.

Analysis Strategy

Mean scores will be created for each set of questions used in the study and will be used to create seven observed variables in the structural equation models. Latent variables will not be used in the model due to sample size restrictions (Kline, 2011). A series of multivariate multiple regressions will be conducted using Analysis of Moments Structure (AMOS) software (Arbuckle, 2008). First, a direct model will be considered, in which direct paths between maternal anxiety and adolescent self-esteem and paternal anxiety and adolescent self-esteem will be measured (Figure 1). A second model will then be used to test for mediation. This model will not consider adolescent gender differences because the sample size reduction inherent in group comparisons may potentially result in a loss of significance. By considering the model prior to group comparisons, the effect of adding mediators to the model will not be diluted by the sample size reduction that would occur after splitting by gender. In this model, the direct influence of

parental anxiety on adolescent self-esteem will be tested, as well as, the indirect influences as potentially mediated by parental autonomy and parental criticism (Figure 2). To evaluate how well the models fit the data, the chi-square fit statistic, Tucker and Lewis Index (TLI), comparative fit index (CFI), and root mean square error of approximation (RMSEA) will be considered. Maximum likelihood bootstrapping with a 95% confidence interval using the bias-corrected percentile method will be conducted to test for mediation. The bootstrapping method will essentially take a large number of samples from the data and calculate the indirect affect in each sample (Preacher & Hayes, 2004).

To measure potential group differences in regards to parent gender and child gender, a series of paired-sample t-tests and ANOVAs will be conducted. Differences within the structural equation model will then be considered using nested model comparisons. In this method, parameters will be constrained allowing for individual pathways to be compared according to specified groups. This final model (Figure 3) will be used to evaluate differences across parent gender and child gender in relation to individual pathways. Pathways will be compared by constraining individual pathways and comparing the resulting chi-square to the unconstrained model.

Results

Bivariate correlations, means, and standard deviations of all study variables are listed according to adolescent gender in Table 1. Paired sample t-tests were conducted to determine whether there were differences in mothers and fathers for anxiety, autonomy, and verbal hostility. Mothers were no more anxious than fathers, $t(276) = .92, p = .36$, nor were mothers different than fathers in their reported parental criticism, $t(276) = .94, p = .35$. However, mothers did

report allowing their adolescent children more autonomy ($M = 3.71$, $SD = .61$) than did fathers, ($M = 3.56$, $SD = .65$), $t(276) = 3.39$, $p < .01$.

Next, an analysis of variance (ANOVA) was conducted to identify differences in parental anxiety, parenting behaviors, and adolescent self-esteem across adolescent gender. The independent variable was adolescent gender and the dependent variables were maternal anxiety, paternal anxiety, maternal autonomy allowance, paternal autonomy allowance, maternal criticism, paternal criticism, and adolescent self-esteem. Results revealed no significant main effect for adolescent gender, $F(7, 265) = 1.40$, $p = .21$.

Bivariate correlations, means and standard deviations were conducted on all variables of interest according to adolescent gender (see Table 1). For girls, maternal anxiety was positively correlated with maternal criticism and paternal anxiety was positively correlated with paternal criticism. In addition, paternal anxiety was negatively correlated with paternal autonomy allowance for girls. For boys, maternal autonomy allowance was positively correlated with adolescent self-esteem.

Analyses were conducted using Analysis of Moments Structure (AMOS) 18.0 software (Arbuckle, 2010) to perform structural equation models (SEM). First, a direct model was considered which contained the direct paths from maternal and paternal anxiety to adolescent self-esteem, and did not include any mediating variables. The model was fully saturated, with maternal (but not paternal) anxiety significantly associated with adolescent self-esteem ($\beta = -.14$, $p < .05$) (Figure 1).

A second model was created with two predictor variables (maternal anxiety and paternal anxiety), four mediating variables (maternal autonomy allowance, maternal criticism, paternal autonomy allowance and paternal criticism), and one outcome variable (adolescent self-esteem)

(Figure 2). The model fit for this second model was acceptable $\chi^2 = 5.09$, $df = 4$, $p = .28$; CFI = .99; RMSEA = .03, and the direct path between maternal anxiety and adolescent self-esteem remained significant ($\beta = -.13$, $p < .05$), even in the presence of potential mediators. For mothers, parental anxiety was positively associated with criticism ($\beta = .16$, $p < .05$), and autonomy allowance was positively associated with adolescent self-esteem ($\beta = .13$, $p < .05$). For fathers, parental anxiety was negatively associated with autonomy allowance ($\beta = -.16$, $p < .05$), and positively associated with parental criticism ($\beta = .19$, $p < .001$). However, none of the paternal variables were significantly associated with adolescent self-esteem. As for mediation, the bootstrapping method revealed no significant results at $p < .05$ with the indirect effect of each of the parent's anxiety on adolescent self-esteem being non-significant.

Finally, a third model was considered as a function of child gender. To test for variable invariance as a function of child gender, multi-group models were estimated and compared using chi-squared difference tests. Standard procedures were used to examine invariance across intercepts, means, covariances and residual variances (see Arbuckle, 2010). Invariance test revealed that only the means and intercepts should be allowed to vary across groups; therefore, the model was constrained across covariances and residuals and produced a model fit $\chi^2 = 21.82$, $df = 12$, $p = .04$; CFI = .93; RMSEA = .05. To test for path differences between males and females, all regression paths were constrained resulting in a significantly worse chi-squared statistic ($p < .05$). To further explore which paths differed across gender, each path was individually constrained across groups and chi-squared differences were calculated. Only two path constraints lead to a reduction in model fit, so the structural model was allowed to vary across groups on those two paths, while all other paths remained constrained. Thus, the paths from autonomy allowance to self-esteem (for both mothers and fathers) were left unconstrained

indicating a significant difference between the influence of autonomy allowance on male self-esteem in comparison to female self-esteem. This final model (Figure 3) yielded acceptable fit $\chi^2 = 30.21$, $df = 20$, $p = .07$; CFI = .93; RMSEA = .04.

For mothers, parental anxiety was positively associated with criticism for both boys ($\beta = .16$, $p < .05$) and girls ($\beta = .16$, $p < .05$), and autonomy allowance was positively associated with adolescent self-esteem, but only for boys ($\beta = .32$, $p < .001$). For fathers, parental anxiety was negatively associated with autonomy allowance for both boys ($\beta = -.15$, $p < .05$) and girls ($\beta = -.13$, $p < .05$), and positively associated with parental criticism for both boys ($\beta = .17$, $p < .05$) and girls ($\beta = .17$, $p < .05$). However, none of the paternal variables were significantly associated with adolescent self-esteem. Furthermore, the direct path between maternal anxiety and adolescent self-esteem was not significant in the nested model for either gender ($\beta = -.11$, $p = .05$).

To test for path differences between mothers and fathers, each path was constrained across parent gender and chi-squared differences were calculated. Results of the chi-squared difference analysis showed that for boys only one set of path constraints (maternal autonomy allowance to self-esteem and paternal autonomy allowance to self-esteem) led to a significant change in the chi-squared statistic. For girls, none of the constraints led to a significant change in the chi-squared statistic. Thus, there was a significant difference between the influence of maternal autonomy allowance on self-esteem and paternal autonomy allowance on self-esteem, but only in the case of boys.

To test for mediation across gender, the bootstrapping method revealed no significant results at $p < .05$ with the indirect effect of each of the parent's anxiety on adolescent self-esteem being non-significant for both male and female adolescents (Table 2). This finding was

surprising given that the direct path from the mother's anxiety to adolescent self-esteem had been significant prior to group comparisons. Because the mediation results were non-significant, the loss of significance pertaining to the influence of maternal anxiety on adolescent self-esteem may be a result of the sample size reduction inherent in group comparisons.

Discussion

Given that parents who experience anxiety may suffer from incessant worrying, an inability to relax, and pervasive irritability (National Institute of Mental Health, 2009), it is prudent to consider the influence of parental anxiety on parenting and subsequent child outcomes. Therefore, the aim of the current study was to identify how parental anxiety influences adolescent self-esteem. This study was unique in that direct paths were considered, as well as mediation possibilities, by way of autonomy allowance and parental criticism. This goal was accomplished by considering a direct model, as well as, a direct and indirect model prior to adolescent gender comparisons and a direct and indirect model that included adolescent gender comparisons.

Parental Anxiety and Adolescent Self-Esteem

In considering the direct model, parental anxiety (in the case of mothers) was negatively associated with adolescent self-esteem as was hypothesized. This finding emphasizes the relationship between parental internalizing behaviors, such as anxiety, on adolescent self-esteem. This finding supports self-esteem theory, in which the adolescent makes "reflective appraisals" based on interactions with the parent which contribute to the adolescent's self-esteem (Cooley, 1902; Harter, 1999). Thus, as the adolescent observes a parent's anxious behaviors, these behaviors may be interpreted by the adolescent as the parent's reaction to the child's own inadequacies. The adolescent may be led to believe that if he or she was more capable and

worthy that the parent would be less worried and overly concerned. This notion is supported by findings in which children tend to blame themselves when conditions in the family are less than ideal (Ablow, Measelle, Cowan, & Cowan, 2009).

Interestingly, the association between parental anxiety and adolescent self-esteem was only significant in the case of mothers. One explanation for this finding is that mothers are often the primary caregivers, and as such, have more frequent interactions with the children and may thereby have a greater impact on child outcomes (Rothbaum & Weisz, 1994). This finding is similar to research by Samuels and Giffore (1978) and Becker and Ginsburg (2011); however in contrast to the current study, neither of these studies considered fathers. Interestingly, other studies that included both mothers and fathers found that fathers carried the significant influence (Varni & Setoguchi, 1993), or that parental anxiety did not influence self-esteem for either parent (Turner et al., 1987). Furthermore, none of these studies considered parenting behaviors as potential mediators between parental anxiety and self-esteem. Therefore, the current study makes a unique contribution to the existing research in that it considered both mothers and fathers (even though there was not a significant effect for fathers).

In considering both direct and indirect influences, the mediation model was considered prior to adolescent gender comparisons and then again after adolescent gender comparisons. Prior to adolescent gender comparisons, the influence of parental anxiety on adolescent self-esteem was significant only for mothers, and this influence was carried directly, even in the presence of potentially mediating parenting variables. However, this influence became non-significant once the sample was split by child gender in the final model. Presumably, the loss of significance pertaining to this path was a result of the sample size reduction inherent in group comparisons. It is important to note that even prior to gender comparisons, the link between

parental anxiety and adolescent self-esteem was not robust. The reason for this weak association may be that during adolescence peers have an increased influence on self-esteem, which may lessen the influence of parents (Harter, 1999).

The significant direct path from maternal anxiety to adolescent self-esteem found in the model prior to gender comparisons indicates that the adolescent's self-esteem is influenced directly through the adolescent's exposure to the parent's constant worrying and anxious emotions rather than indirectly through the parent's restriction of autonomy or increased use of criticism. The reason for this outcome may be that the adolescent's exposure to the parent's anxiety is what influences feelings about the self rather than the parenting that results from that anxiety. This finding emphasizes the importance of parents (particularly mothers) finding ways to manage anxious behaviors in such a way that the child is not constantly exposed to the parent's worries.

The lack of indirect effects (via autonomy allowance and criticism) was surprising and did not confirm earlier hypotheses. Although it may be possible that even when considering parenting behaviors (such as autonomy allowance and criticism) there may remain some direct influence between parental anxiety and adolescent self-esteem, it seems unlikely that there would not be at least some significant indirect influence via the parenting. Given that variables similar to anxiety, such as depression, have been shown to influence child outcomes indirectly through mediating or partially mediating parenting behaviors (Mustillo, Dorsey, Conover, & Burns, 2011), parental anxiety would presumably take a similar path. One reason for the lack of indirect effects may be the use of parental reports of the parenting rather than child reports. Given that some research indicates that the child's perception of the parenting may be the most useful report in predicting children's psychological outcomes (Frye & Garber, 2005), perhaps the use of child

reports would have better explained the connection between parental anxiety and adolescent self-esteem. However, child reports could not be used in the current study because both the mother's and father's parenting needed to be considered in the same model and the child reports of mother's and father's parenting were collinear. Thus, as measured in this study, parental anxiety influenced adolescent self-esteem directly rather than indirectly.

Autonomy Allowance

Mediation. There were a number of significant findings for autonomy allowance, but this often depended on the gender of the parent or of the child. As hypothesized, parental anxiety was negatively associated with autonomy allowance; however, this association was significant only in the case of fathers. Also, autonomy allowance was positively associated with adolescent self-esteem, but only for mothers. However, contrary to expectations, autonomy allowance did not mediate the influence of parental anxiety on adolescent self-esteem for any group. Given that autonomy allowance has been associated with parental anxiety (Ginsburg, Grover, & Jalongo, 2004) and adolescent self-esteem (Allen, Hauser, Bell, & O'Connor, 1994; Bush, 2000) in other studies, the lack of mediation in this case could be due to sample size limitations and the use of parental reports of the parenting. For instance, the parenting behavior that is perceived by the parent as an allowance for autonomy (in the form of allowing the adolescent to make his or her own choices) may be perceived by some adolescents as simply a lack of parental involvement or support. Despite the lack of mediation, the influence of paternal anxiety on paternal autonomy allowance and the influence of maternal autonomy allowance on self-esteem provide useful insights.

Parental Anxiety and Autonomy Allowance. Despite the lack of mediation, the association between parental anxiety and autonomy allowance (in the case of fathers) is helpful

in understanding the effect of anxiety on parenting. Similar to other studies which have linked maternal anxiety to autonomy allowance (Ginsburg et al., 2004; Moore, et al., 2004), the current study indicates that as a father's anxiety levels increase, the amount of autonomy the father allows his child decreases. It is important to note that because previous studies that linked parental anxiety to autonomy allowance did not consider fathers, this finding represents a unique contribution to the existing research. In addition, the influence of paternal anxiety on autonomy allowance follows the theoretical premise of spillover theory in which psychological experiences in one domain are expected to influence other aspects of the individual's life. Thus, for fathers, general feelings of worry and concern spillover into his parenting by decreasing how much the child is allowed to make his or her own choices. Given that paternal autonomy allowance may be particularly important in helping children to gain confidence in navigating the outside world (National Institute of Child Health and Human Development, 2004), anxious fathers should be aware of any tendency to overly restrict autonomy levels. In sum, it is important for fathers to look for opportunities to openly value the thoughts and opinions of their children and allow them to make age appropriate decisions, particularly when the father may be dealing with anxiety issues.

The connection between paternal anxiety and autonomy allowance may also be useful to clinicians who work with fathers with anxiety issues. Clinicians can point out to these clients that anxious fathers have a tendency to not allow their adolescents enough freedom in making their own decisions and help the clients to see ways in which autonomy levels are being restricted. In essence, clinicians could potentially detour the tendency for anxious fathers to restrict autonomy allowance.

Surprisingly maternal anxiety did not influence maternal autonomy allowance. This finding was unexpected because previous studies have successfully linked these two variables in the case of mothers (Ginsburg et al., 2004; Moore, et al., 2004; Whaley, et al., 1999). Although it is unclear as to why paternal anxiety influenced autonomy allowance while maternal anxiety allowance did not, it may be that for some parents anxious feelings result in more of a withdrawn approach to parenting (Woodruff-Borden, et al., 2002) rather than a controlling approach (i.e. autonomy restriction).

Autonomy Allowance and Self-Esteem. In considering autonomy allowance as it relates to self-esteem, this association was only significant in the case of mothers and sons. The influence of maternal autonomy allowance on adolescent self-esteem illustrates the importance of autonomy as a contributing factor in self-esteem development. This finding adds support to similar studies in which maternal autonomy allowance has been linked to self-esteem (Grolnick & Beiswenger, 2006). Furthermore, the link between maternal autonomy allowance and adolescent self-esteem supports self-esteem theory in which parent-adolescent interactions are expected to influence self-esteem. Thus, as mothers allow children to make their own decisions and validate each child's opinions and perspectives, children in turn feel worthwhile and valued which contributes to self-esteem.

Interestingly, in the case of mothers, autonomy allowance had a greater influence on the self-esteem of male adolescents than on the self-esteem of female adolescents. This distinction between male and female self-esteem supports findings by Josephs, Markus, and Tafordi, (1992), in which male self-esteem was more closely linked to individuation and independence from others than for females. This implies that parents must be particularly mindful of allowing boys appropriate levels of autonomy because boys perceive their ability to make their own choices and

have appropriate separation from others as a reflection of their overall value and worth.

Clinicians can utilize this finding by helping anxious mothers recognize tendencies to restrict autonomy allowance and encourage them to look for opportunities to provide their sons with opportunities to make their own choices. Also, clinicians can help sons to recognize that their mother's lack of autonomy allowance may be (in part) as a result parental anxiety rather than a parental reaction to the son's inadequacies or worth.

Parental Criticism

Mediation. As hypothesized, parental anxiety positively influenced parental criticism for both fathers and mothers. However, contrary to expectations, parental criticism did not significantly influence adolescent self-esteem for any group. Thus, parental criticism did not mediate the influence of parental anxiety on self-esteem for either mothers or fathers. Given that parental criticism has been associated with self-esteem in other studies (Kernis et al, 2000), the lack of mediation in this case may be due to sample size limitations or the use of parental reports of parenting rather than child reports. However, it is also possible that some adolescents perceive the parent's criticism as a form of parental involvement which may reduce the negative impact of criticism on self-esteem. In addition, during adolescence peers have an increased influence on self-esteem, which may lessen the influence of parents (Harter, 1999). Despite the lack of mediation, the influence of parental anxiety on parental criticism provides some useful insights.

Parental Anxiety and Parental Criticism. Despite a lack of mediation, parental anxiety influenced the use of criticism for both mothers and fathers, which supports the theoretical premise of spillover theory in which psychological experiences in one domain are expected to influence other aspects of the individual's life. In addition, this finding supports other studies

which have found a positive association between parental anxiety and parental criticism (Whaley & Pinto, 1999; Woodruff-Borden, et al., 2002; Stern, 2002). This connection further explains how a parent's anxious feelings influences parenting in that as anxiety increases, so does the frequency of critical remarks that are directed toward the child. This finding is particularly concerning given that parental criticism has been linked to both internalizing and externalizing symptoms in children (Frye & Garber, 2005). In addition, parental criticism may influence a child even into adulthood, with one study suggesting that children who experience high levels of criticism demonstrate higher levels of self-criticism as adults (Brewin, Andrews, & Furnham, 1996). Thus, parents who suffer from anxiety issues need to be particularly aware of any tendency to allow their own anxiety to spillover in their parenting by means of increasing the use of criticism when interacting with their children.

Also, clinicians should be aware that anxious parents may have a tendency to be overly critical of their children and arm their patients with the necessary coping skills to keep this damaging parenting behavior to a minimum. More specifically, techniques for correcting or disciplining adolescents without being overly critical could be particularly valuable for anxious parents. Furthermore, clinicians should discuss with adolescents who have anxious parents that their parents' tendency to be overly critical may be a function of the parent's anxiety rather than a result of the adolescent's behavior or value as a person.

Parental Criticism and Self-Esteem. Parental criticism did not influence adolescent self-esteem for either parent. This finding conflicts with self-esteem theory in which parent-adolescent interactions are expected to influence self-esteem. Once again, this may be due to the use of parental reports of the parenting. In other words, the parenting behavior that the parent perceives as being the use of criticism may be perceived differently by the adolescent which

would subsequently effect how that specific parenting behavior influences self-esteem. Also, it may be that parental criticism represents such a small portion of the myriad of interactions that exist between the parent and adolescent, that taken alone it does not capture a meaningful influence on self-esteem. In addition, there were no significant differences across child gender in regards to the influence of parental criticism on self-esteem. This finding is in contrast to one study in which female self-esteem was more sensitive to criticism (Felson & Zielinski, 1989). Because few studies have focused on gender differences in relation to parental criticism and adolescent self-esteem, future studies may be able to clarify the discrepancy.

Summary

In summary, the current study uniquely contributes to the field by considering both direct and indirect ways that maternal anxiety may influence self-esteem. In addition, in contrast to many studies that consider parental anxiety, the current work considered both parents, rather than just mothers. Findings indicate that parental anxiety influences self-esteem directly rather than indirectly, but only in the case of mothers and only when child gender was not considered. Furthermore, the study contributed to the field in verifying that male self-esteem may be particularly sensitive to maternal autonomy allowance, which has only been found in a sparse number of studies. In addition, paternal anxiety was linked to paternal autonomy allowance, which had previously only been found in the case of mothers. Finally, findings add to the body of research that has linked parental anxiety to an increase in the use of parental criticism for both fathers and mothers.

Limitation and Future Research

The current study had some limitations. For instance, the study relied on self-reports and the sample was not representative of the general population on the basis of income, education,

and ethnicity. Although this study indicates that the influence of parental anxiety does not influence adolescent self-esteem through the mediating effects of autonomy allowance and parental criticism, the use of child reports or larger sample size may reveal different results. Also, the current study focused on adolescent self-esteem rather than child self-esteem. Given that peers carry an increased influence on self-esteem during adolescence which may reduce the influence of parents (Harter, 1999), perhaps the use of a younger sample would produce different results. Furthermore, future research may be able to identify other parenting behaviors through which the influence of parental anxiety is carried. For instance, some studies indicate that parents with anxiety are less warm in their interactions with their children (Whaley, Pinto, & Sigman, 1999). Furthermore, adverse parenting behaviors such as psychological control and the parental enactment of rejecting behaviors have also been associated with parental anxiety (Bögels & van Melick, 2004). These parenting behaviors could potentially be the mechanism through which parental anxiety (in part) influences self-esteem. Furthermore, parental anxiety has consistently been linked to child anxiety (Rapee, 2009; van der Bruggen, Stams, & Bögels, 2008) which could also potentially provide a mediation effect between parental anxiety and self-esteem. Given that variables similar to anxiety, such as depression, have been shown to (at least in part) influence child outcomes indirectly through mediating parenting behaviors (Mustillo, Dorsey, Conover, & Burns, 2011), parental anxiety may also take a similar path. Therefore, the study of parental anxiety and self-esteem requires further exploration.

Conclusion

The current study is the first of its kind in that we considered the influence of parental anxiety on self-esteem by way of both direct paths and mediation. Findings indicated that maternal anxiety had a significant influence on adolescent self-esteem while paternal anxiety did

not. Also, prior to gender comparisons, the influence of maternal anxiety on adolescent self-esteem was carried directly rather than indirectly through autonomy allowance and parental criticism. However, parenting was influenced by anxiety levels for both fathers and mothers. For fathers, obsessive worries and anxious concern spillover in such a way that fathers did not allow adolescents the opportunity to make their own decisions nor do they validate their adolescents' ideas and feelings as meaningful and important. Furthermore, for both mothers and fathers, anxiety issues encouraged harsher parenting by increasing the use of criticism.

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Appendices

Table 1

Descriptive Statistics and Correlations

Variable	1	2	3	4	5	6	7	M[SD] Males	M [SD] Females
Maternal Anxiety	-	.18*	-.15	-.22*	.19*	.07	-.12	.37[.33]	.35[.35]
Paternal Anxiety	.14	-	-.22*	-.30**	.19*	.33**	-.05	.34[.34]	.34[.36]
Maternal Autonomy	-.01	.12	-	.28*	-.27*	-.26*	.04	3.68[.61]	3.75[.60]
Paternal Autonomy	.11	-.03	.28*	-	-.20*	-.41**	.16	3.48[.59]	3.64[.70]
Maternal Criticism	.12	.10	-.35**	-.16	-	.28*	.02	2.13[.55]	2.10[.55]
Paternal Criticism	-.02	.13	-.10	-.22*	.30**	-	-.05	2.15[.56]	1.98[.58]
Adolescent Self-Esteem	-.12	-.10	.23*	-.09	-.15	-.09	-	4.09[.58]	4.10[.62]

Note. Correlations below the diagonal are for males, above the diagonal are for females.

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

Table 2

Decomposition Table: Direct and indirect effects of maternal anxiety, paternal anxiety, maternal autonomy, paternal autonomy, maternal criticism, and paternal criticism on adolescent self-esteem reported for males and [females]

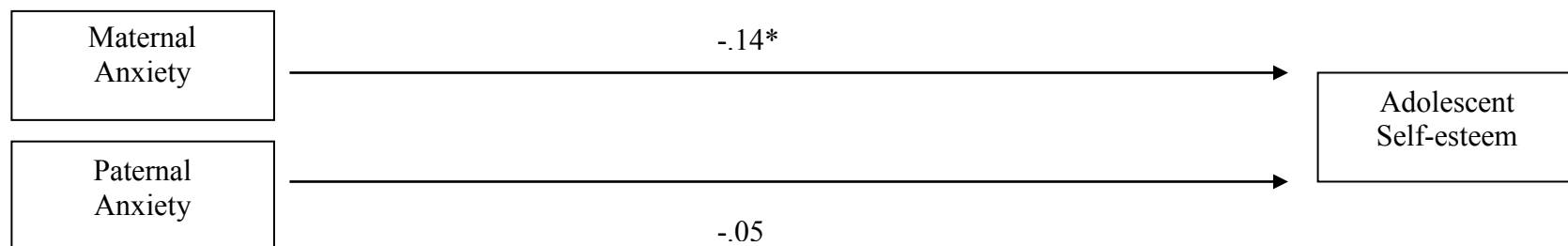
Source	Direct Effect	Indirect Effect	Total Effect
Maternal Anxiety	-.07 [-.10]	-.02 [.01]	-.09 [-.09]
Paternal Anxiety	-.13 [.00]	-.00 [-.04]	-.13 [-.04]
Maternal Autonomy	.29 [.00]	.00 [.00]	.29 [.00]
Paternal Autonomy	-.17 [.15]	.00 [.00]	-.17 [.15]
Maternal Criticism	-.02 [.07]	.00 [.00]	-.02 [.07]
Paternal Criticism	-.09 [.00]	.00 [.00]	-.09 [.00]

Dependent Variable: Adolescent Self-Esteem

Effect reported for males and [females]

Figure 1

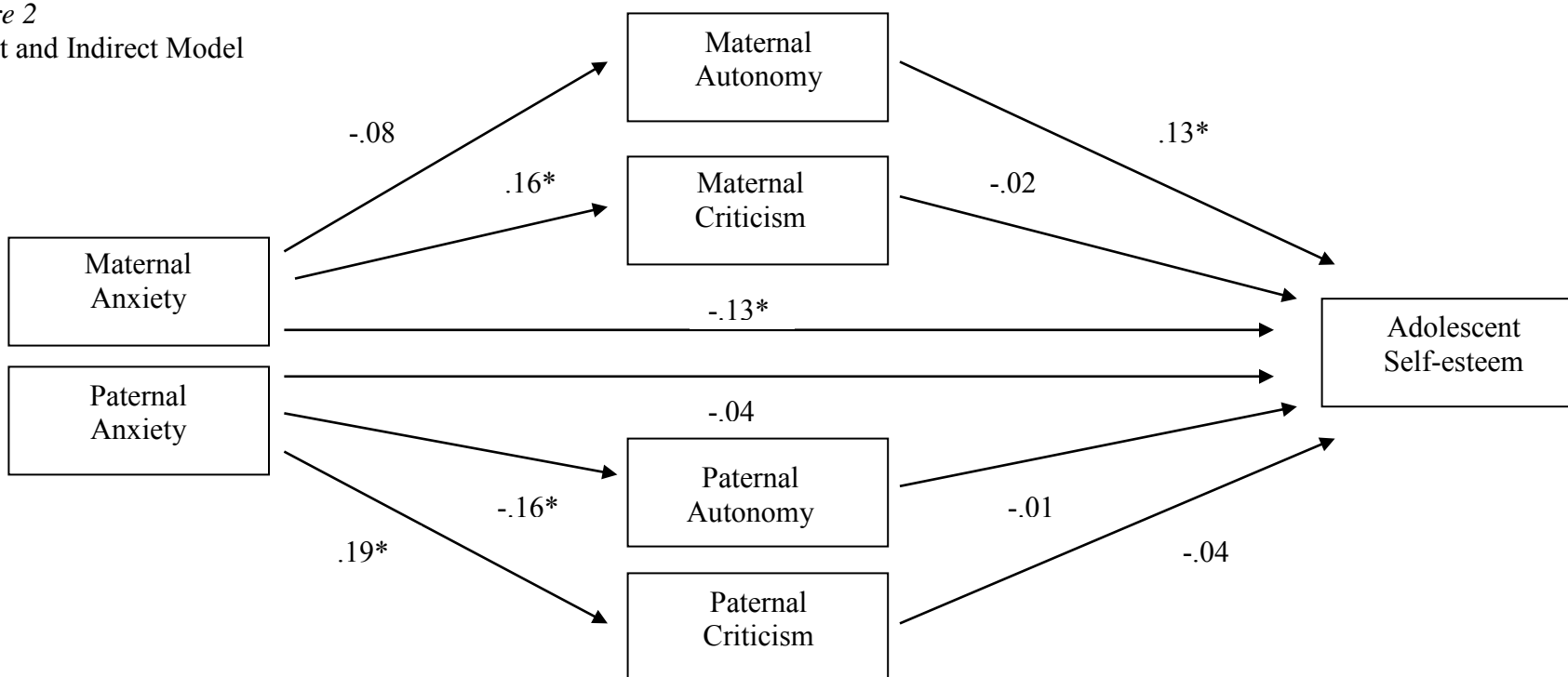
Direct Effects: The influence of Maternal and Paternal Anxiety on Adolescent Self-Esteem



Fully saturated model

*Coefficient significant $p < .05$.

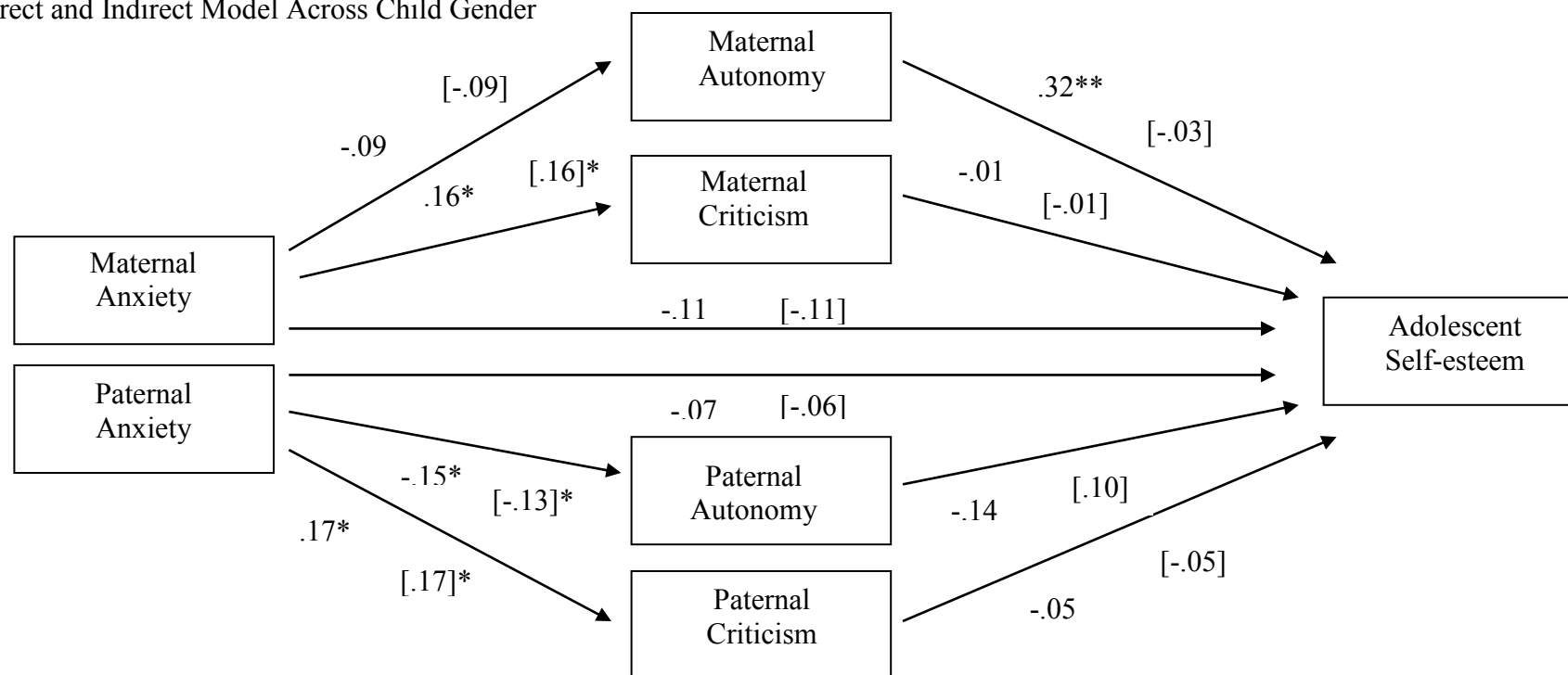
Figure 2
Direct and Indirect Model



$\chi^2 = 5.09, df = 4 (p < .28), CFI = .99, RMSEA = .03.$
 *Coefficient significant $p < .05.$

Figure 3

Direct and Indirect Model Across Child Gender



$\chi^2 = 30.21, df = 20 (p = .07); CFI = .93; RMSEA = .04$

Regression reported for males and [females]

*Coefficient significant $p < .05$.

**Coefficient significant $p < .001$.