INTERPLAY OF SOCIAL ANXIETY, SELF-ESTEEM CONTINGENCY,

AND PARENTAL PSYCHOLOGICAL CONTROL

IN EARLY ADOLESCNETS' FRIENDSHIP JEALOUSY

by

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ABSTRACT

Friendships provide children and adolescents with support and various developmental opportunities. Research suggests that some individuals have atypically high jealousy over friends. Unwarranted jealousy may decrease the quality of friendships, forfeiting positive developmental opportunities, as well as leading to internalizing and externalizing problems. Nevertheless, little is known about the etiology of vulnerability to friendship jealousy. The purpose of the present study was to examine potential predictors of high friendship jealousy in early adolescents. It was hypothesized that friendship contingent self-esteem and social anxiety would predict friendship jealousy. It was also hypothesized that maternal psychological control would predict friendship jealousy. Lastly, it was expected that contingent self-esteem and social anxiety would mediate the association between psychological control and jealousy. The results showed that young adolescents whose self-esteem highly depended on success in friendship and those who had high social anxiety tended to have higher jealousy, as expected. Interestingly, the association between social anxiety and jealousy was more salient in girls than in boys. The results also showed that early adolescents who perceived that their mothers relied heavily on psychologically controlling parental practices tended to report higher jealousy, supporting the hypothesis. Mediation tests revealed that although contingent self-esteem and social anxiety partially explained the link between maternal psychological control and jealousy, psychological control predicted jealousy directly as well. This is the first finding that demonstrates the effects of early experiences on friendship jealousy. Implications of the results and future research suggestions are discussed.

DEDICATION

This thesis is dedicated to my family and friends who supported me with unchanging belief in me. I could not have come this far without the prayers of my parents, Jung Min Kim and Sook Kang, and my grandmother, Won Young Kim. My sisters and friends were sources of my strength, too. Last but not least, this thesis is also dedicated to my dear God, who was always patient with me.

LIST OF ABBREVIATIONS AND SYMBOLS

a Cronbach's index of internal consistency

b   Unstandardized regression coefficient

β   Standardized regression coefficient

df Degrees of freedom: number of values free to vary after certain restrictions have been placed on the data

M Mean: the sum of a set of measurements divided by the number of measurements in the set

N Total sample size

n Subsample size

p Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value

R^2 Percentage of the variation accountable for by all variables in the regression analysis

ΔR^2 Increment in R^2 attributable to the addition of a set of predictable variables

Sig.   Probability of obtaining a test result that occurs by chance under the null hypothesis

t Computed value of t test

$<$ Less than

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CHAPTER 1

INTRODUCTION

Supportive and prosocial friendships promote positive development and wellbeing of children and adolescents and buffer the negative effects of peers, malfunctioning family, and the community. For example, close friends help children's social and emotional development by providing opportunities to learn about themselves and others and practice different social and emotional skills such as conflict-resolution and intimacy-related skills (Rubin, Bukowski, & Parker, 2006). Through supportive offering and companionship, friends may also help children and adolescents go through some of the difficulties and stresses in their life, whether the stress results from the malfunctioning family or rejecting peers (Gauze, Bukowski, Aquan-Assee, & Sippola, 1996; Lansford, Criss, Pettit, Dodge, & Bates, 2003; Wentzel, Barry, & Caldwell, 2004). Social anxiety is associated with higher loneliness and peer victimization, but close friendships moderate the association (Erath, Flanagan, Bierman, & Tu, 2010; Laursen, Bukowski, Aunola, & Nurmi, 2007). Having close friends can improve children's school involvement and achievement by positively influencing their attitudes toward school (Wentzel et al., 2004). Supportive and intimate friendships even reduce the chances that adolescents will engage in delinquent behavior (e.g., Poulin, Dishion, & Haas, 1999).

Given all these positive effects of having friends, it is completely natural that children care about their friendships and try to protect their friendships from internal or external threats to the quality or maintenance of the relationship. Many children become jealous when their close friends show interest in or have relationships with other peers. Experiencing jealousy in valued

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relationships is a universal phenomenon. Children may show negative emotional, cognitive, and/or behavioral reactions to their friends' spending time and sharing secrets with other peers. They may experience a mixture of different feelings. They may experience anger or sadness because they think that they are neglected or betrayed by their friends; they may fear losing the valued relationship; they may feel lonely. Some children may engage in possessive behavior (e.g., Parker, Low, Walker, & Gamm, 2005).

Level of jealousy may vary by age and sex. As children grow older, they learn how to regulate emotions, both affectively and behaviorally, therefore, reporting lower levels of sibling jealousy (Miller, Volling, & McElwain, 2000). Unlike sibling jealousy, children's jealousy over friends seems to start increasing as they enter adolescence (Parker, Kruse, & Aikins, 2010). Also, sex differences in the level of jealousy emerge in adolescence; girls report significantly higher levels of jealousy over friends than do boys as they move into adolescence, especially right after the transition to middle or junior high school, and the gap becomes wider over time (Parker et al., 2005; Parker et al., 2010). Although there might be some social factors in the school setting that cause such an abrupt change, the relatively more exclusive and intimate nature of adolescent girls' friendships may partly explain gender differences. Another plausible explanation is that the expression of jealousy is more stigmatized in boys' same-sex friendships than girls', so boys are less likely to report their experience of jealousy.

In addition to group differences in jealousy, some individuals are more prone to jealousy than others. Although many children experience jealousy in friendships, some children are atypically highly jealous (Parker et al., 2005). These children may experience strong negative emotions, be obsessed with thoughts about problems in their relationships, and display extremely possessive behavior or even retaliate against their friends or the interlopers when their friends

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show interest in other peers. Vulnerability to jealousy might be a stable individual characteristic. Recent findings on friendship jealousy suggest that individual differences in young adolescents' vulnerability to friendship jealousy are consistent across situations and time (Parker et al., 2005).

Vulnerability to jealousy can be a significant problem for children and adolescents because high jealousy is associated with various peer-adjustment and intrapersonal difficulties (Culotta & Goldstein, 2008; Lavallee & Parker, 2009; Parker & Gamm, 2003; Parker et al., 2005). For example, highly jealous adolescents tend to behave more aggressively toward peers and friends, be less accepted and more victimized by peers, be less satisfied with their relationships with peers and friends, and have greater conflict with friends (Culotta & Goldstein, 2008; Lavallee & Parker, 2009; Parker et al., 2005). These kids are also more likely to experience greater loneliness and depression (Lavallee & Parker, 2009; Parker et al., 2005), probably as direct result of their emotional and cognitive reactions of jealousy as well as indirect results of their behavioral reaction to jealousy. In other words, if some children experience extreme levels of jealousy, even if they do not react behaviorally, they may still ruminate over their relationships and are likely to develop internalizing problems. Also, aggressive and highly possessive behaviors towards peers and friends may lead to peer rejection and conflicts with friends, which, in turn, could lead to loneliness (Parker et al., 2005). Thus, although having close friends promotes positive adjustment in children and adolescents typically, individuals who are highly vulnerable to jealousy may find their relationships with friends are distressing and difficult to maintain. These children may experience adjustment difficulties in the broader peer group as well.

Why are some children more vulnerable to jealousy than others? Where do these individual differences come from? These questions have received little research attention, and

particularly nothing is known about the early sources of vulnerability to jealousy in the context of peer relationships. Understanding factors that underlie vulnerability to friendship jealousy may further the understanding of the dynamics of adolescent peer relationships given that feeling jealous is common experience that affects many adolescents' friendships and broader peer relationships. Feelings of jealousy always revolve around at least three people, and the tension and conflict that jealousy brings affects the jealous person, the partner, and the interloper, but often the broader peer group to which they belong as well. Understanding what factors make individuals vulnerable to friendship jealousy will also help identify potential targets of interventions. In addition, given that girls tend to have higher jealousy than boys (Parker et al., 2005), studying friendship jealousy may help better understand peer relationships of girls in particular.

The Present Study

The purpose of the present proposed study is to investigate the origins of individual differences in vulnerability to friendship jealousy. Self-esteem and social anxiety are theoretically associated with jealousy, but empirical support is weak. Furthermore, early sources of vulnerability to friendship jealousy have been rarely examined. I propose parenting that heavily depends on psychological control as one type of parenting that makes children more vulnerable to jealousy. I propose that parental psychological control causes high friendship jealousy by making children develop fragile self-esteem and become anxious. This study examines how parenting contributes to their adolescent's jealousy over friends through affecting the formation of children's self-system and social anxiety.

In the following section, I will first discuss the link between fragile self-esteem and jealousy. Specifically, I will review research on self-esteem and jealousy, discuss self-esteem as

a multidimensional construct, and propose fragility of self-esteem as a link between parental psychological control and friendship jealousy. Second, I will discuss social anxiety as another potential mediator of the association between parental psychological control and jealousy in friendships. Third, I will briefly review how parenting may affect children's social and emotional development and relationships and then discuss how parental psychological control in particular may lead children to become prone to jealousy through contingent self-esteem and social anxiety.

<div align="center">**Literature Review**</div>

Self-Esteem and Jealousy

Self-esteem is theoretically associated with jealousy. Jealousy is evoked when the partner's actual or anticipated interest in another person is perceived as a threat to self-esteem or the quality or the existence of a valued relationship (Parker et al., 2005; White, 1981b), and the evocation of jealousy is at least partially mediated by threatened self-esteem (DeSteno, Valdesolo, & Bartlett, 2006). Because individuals with low self-esteem see themselves negatively, of only low attraction as a relationship partner, when their partner shows interest in someone else, these people may perceive a relatively greater threat to their relationship than do individuals with higher self-esteem. They are likely to think that their partner has chosen or will choose the rival over them because he or she is more desirable than they are. Accordingly, individuals with low self-esteem could become more easily jealous.

Based on this premise, some studies of adult romantic relationships have examined the link between level of self-esteem and jealousy. Although some of their findings have been consistent with the premise that level of self-esteem may affect jealousy (e.g. Bringle, 1981; Jaremko & Lindsey, 1979), most of the findings have been weak and sometimes mixed. For

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example, significant relations between level of self-esteem and romantic jealousy measures were found only for women in some studies (Buunk, 1997; Hansen, 1985), and only for men in others (Buunk, 1986; White, 1981d). One study found that the association between self-esteem and jealousy depends on type of jealousy (Rydell & Bringle, 2007). Rydell and Bringle discriminated jealousy into two types: one is called reactive or provoked jealousy and the other is called suspicious, unprovoked, or preventive jealousy by different researchers (see Buunk, 1997). Reactive jealousy is a negative response to the partner's actual, emotionally or sexually intimate behavior with a third person. This type of jealousy is often characterized by emotions of anger, fear, and sadness. Suspicious jealousy is an overly reactive response to ambiguous cues of transgression, which is characterized by high levels of anxiety and insecurity in the self and in the relationship toward. Rydell & Bringle (2007) found that only suspicious jealousy was associated with self-esteem. Also, those who showed greater suspicious jealousy had greater chronic jealousy. Other studies failed to find any relation between level of self-esteem and romantic jealousy (e.g. Buunk, 1982, Study 1; Hansen, 1982; Mathes & Severa, 1981; White, 1981a). Only a few studies have investigated the link between self-esteem and friendship jealousy in children and adolescents, but these studies, too, find only a moderate negative association between self-esteem and jealousy (Lavallee & Parker, 2009: $r = -.32$, $p < .01$; Parker et al., 2005: $\beta = -.19$, $p < .05$). One reason past research has yielded only weak findings might be because the research has primarily focused on level of self-esteem, whether people typically have high or low self-regard. Recent research indicates that not only level but fragility or insecurity of self-esteem needs to be considered (Baumeister, 1998).

Some researchers try to distinguish fragile from secure forms of self-esteem by measuring how contingent one's self-esteem is. Individuals with unusually contingent self-

esteem change their feelings about themselves depending on meeting standards or attaining certain outcomes (Crocker & Wolfe, 2001). Those with highly contingent self-esteem need near-constant validation to avoid feeling negatively about themselves (Kernis, Lakey, & Heppner, 2008). Different individuals base their appraisal of self-worth on different domains, and one's self-esteem may be contingent in multiple domains, such as academics, career, athletic skills, physical appearance, and social relationships (Crocker & Wolfe, 2001). Contingent self-esteem, particularly self-esteem that relies on meeting external standards, has been associated with depressive symptoms, various types of stress, and alcohol use in adults and adolescents (Burwell & Shirk, 2006; Crocker & Luhtanen, 2003; Crocker, Luhtanen, Cooper, & Bouvrette, 2003; Luhtanen & Crocker, 2005; Kernis, 2003; Sargent, Crocker, & Luhtanen, 2006).

According to sociometer theory, humans have a fundamental need for belongingness, and self-esteem serves as a subjective sociometer that monitors the extent to which they are valued as a relationship partner or a group member (Leary & Baumeister, 2000; Leary, Tambor, Terdal, & Downs, 1995). Thus, when people perceive that they are not valued as a relationship partner or a group member, their self-esteem will decrease. Whereas it is normal that individuals evaluate their self-worth largely based on their social inclusion, those whose self-esteem is particularly heavily based on relationships may need others' approval even more to keep their self-esteem high, and they may react strongly to potential relationship threats (Zeigler-Hill, Besser, & King, 2011). Accordingly, their partner's interest in someone else may make these individuals perceive themselves as less desirable, thereby, evoking high jealousy. Anticipating or actually losing a valued relationship may evoke even greater jealousy because losing a valued relationship means their important source of self-worth is gone. Adolescence is the phase of life when individuals spend the greatest amount of time with friends (Larson, Richards, Moneta, Holmbeck, & Duckett,

1996; Richards, Crowe, Larson, & Swarr, 1998) and peers and having high-quality friendships is very important (see Bagwell & Schmidt, 2011). Thus, adolescents whose self-esteem is highly contingent on social approval can be highly sensitive to threats to their friendships and become highly jealous.

In sum, the field of self-esteem research has undergone a revolution during the past years, and now researchers have started to explore self-esteem as a multifaceted construct. The field has failed to find a consistent and strong association between self-esteem and jealousy despite their close theoretical link. Recent research suggests that the discrepancy might exist because the research has primarily focused on level of self-esteem, ignoring another important dimension, contingency. Contingency of self-esteem may explain why some children are atypically high in jealousy over friends. In the present study, I propose to examine whether friendship contingent self-esteem predicts friendship jealousy in preadolescents and adolescents. I expect that children who have self-esteem that is highly contingent on friendships will be more jealous over friends.

Social Anxiety and Jealousy

Anxiety is one emotional reaction that may accompany jealousy, along with anger and sadness. When their friends show interest in someone else, children may become anxious due to fear of losing self-esteem and/or relationship rewards (Mathes, Adams, & Davies, 1985; White, 1981c). Friend's interest in someone else can pose a threat to self-esteem because it implies a negative social comparison (Parker et al., 2005). Children may think that their friends have compared them with the interloper. They may also compare themselves with the rival. If their friends have actually chosen the rival over them, children may perceive it as their failure to measure up to their rival. When they perceive threats to their friendships, children may also fear

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losing social and emotional support, companionship, and all the fun their friendships have provided.

Children who are socially anxious can be more vulnerable to jealousy relative to their non-anxious peers for several reasons. First, socially anxious individuals tend to be highly concerned about how others evaluate them and intensely fear negative social evaluations (Beidel & Turner, 1997). Although those who do not have a high level of trait social anxiety may also become temporarily anxious when they perceive their relationship with a friend as being in a danger due to an interloper, socially anxious children in the same situation may experience more intense degrees of anxiety than others. According to sociometer theory, most people automatically scan the environment for cues of low relational appreciation or relational devaluation (Baumeister & Leary, 1995), and when detecting negative cues, they seek reassurance that they are valued. Socially anxious individuals scan the environment more frequently and are overly sensitive to signs of social disapproval (e.g., Ohman, 1996). Thus, these children may interpret situations that others may not perceive as threat to their friendships as threats and become jealous. Culotta and Goldstein (2008) compared social anxiety to a hostile attributional bias, the tendency to interpret others' intentions in ambiguous social situations as hostile. Socially anxious children might be prone to interpret ambiguous social situations in peer relationships in negative ways. Therefore, they may engage in possessive behavior toward a friend who shows interest in another peer to reassure that they are still valued as a friend (Clark & Wells, 1995).

Furthermore, research shows that socially anxious children are less likely to be accepted by peers (Greco & Morris, 2005), have more difficulty forming new friendships (Vernberg, Abwender, Ewell, & Beery,1992; Vernberg, Greenhoot, & Biggs, 2006), have fewer friendships

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(La Greca & Lopez, 1998), and report less intimacy and support in their friendships (La Greca & Lopez, 1998). Thus, it may take longer and more effort for socially anxious children to build a friendship, and it might be more difficult for them to maintain the quality of their friendships. Because their existing friendships have been built and maintained through high investment and they have fewer friendships, socially anxious children could be more vigilant to threats to their friendships and feel more distress when their friendships are threatened.

There is some evidence that socially anxious people tend to be more jealous in romantic relationships (Buunk, 1997; De Mojà, 1986; Xiaojun, 2002). For example, Buunk (1997) examined the association between anxiety and three types of jealousy in romantic relationships: reactive, preventive or suspicious jealousy, and anxious jealousy, the first two of which have been discussed earlier. Anxious jealousy is characterized by obsessive anxiety and upset about the possibility of the partner's engaging in intimate behavior with a third person, which involves an active cognitive process. He found that social anxiety was associated with all three types of jealousy. However, the link between anxiety and jealousy has not been founded firmly due to the small number of studies. Also, the association has not been examined in peer relationships. The present study will investigate whether social anxiety predicts jealousy in friendships.

In sum, children may feel anxious when their friends show interest in someone else, and children who are socially anxious may feel even greater distress in a jealousy-evoking situation. Socially anxious children are also more likely to perceive ambiguous situations as a threat to their friendships and feel jealous. Accordingly, I hypothesized that socially anxious children would be more jealous in their friendships.

Parenting and Jealousy

Research suggests that parenting may affect children's jealousy in different contexts, but particular parenting mechanisms that affect friendship jealousy have not been explored yet. Research shows that parents affect children's social and emotional development and relationships in diverse ways. For example, children of parents who were prone to use inductive disciplinary strategies engaged in more prosocial behaviors and fewer disruptive playground behaviors, and were more preferred by their peers, compared to children of more power-assertive parents (Hart, DeWolf, Wozniak, & Burts, 1992). Also, children of nurturing and involved parents, who displayed behaviors toward their children that are high in warmth and low in hostility, highly and consistently monitored their children's behavior, and spent time with their children in pleasurable activities, were more likely to have high quality romantic relationships later as adults than were children of distant and cold parents (Black & Schutte, 2006; Conger, Cui, Bryant, & Elder, 2000; Donnellan, Larsen-Rife, & Conger, 2005). Also, parents influence children's emotion regulation (e.g., Denham, Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997; Hart et al., 1992). For example, how parents respond to children's emotional reactions affect the development of children's emotion regulation (Miller et al., 2000), which may, in turn, influence children's future relationships outside the family.

Sibling interactions provide one socialization context in which young children learn how to regulate emotions. The first form of jealousy is observed in children as early as at one year of age, when mother's attention is directed to a rival (Hart, Field, DelValle, & Letourneau, 1998; Hart, Field, Letourneau, & DelValle, 1998; Masciuch & Kienapple, 1993), and the rivals are often siblings. One group of researchers found that parental relationship characteristics, such as parents' positive marital relationship quality, was a strong predictor of preschoolers' abilities to regulate jealousy reactions in a triad of a mother, a preschooler child, and his/her younger sibling

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(Volling, McElwain, & Miller, 2002). Others have emphasized the role of within-family differences in sibling jealousy. For example, differential parental treatment of siblings (e.g., differential attention to siblings, favoritism in conflict, and sharing differential amounts of time) predicted jealousy among siblings (e.g, Rauer & Volling, 2007; Thompson & Halberstadt, 2007). Also, parenting may affect sibling jealousy through interacting with child characteristics. For example, an experimental study found that child temperament and maternal interaction style interacted to predict the severity of distress infants showed in a jealousy-evoking situation. Specifically, when mother directed differential attention exclusively toward a rival, a lifelike baby doll, infants showed greater distress if they had lower positive emotionality and their mother displayed less sensitivity and engagement (Hart & Behrens, 2013).

As children get older, they experience jealousy in relationships they form outside the family as well. Although some studies have examined how familial experiences affect general quality of relationships outside the family, little research has focused specifically on experiences of jealousy in those relationships. Particularly, predictors of jealousy in friendships have been rarely studied. Some researchers suggest parental differential affection as a factor that increases sibling jealousy and possibly affects later relationships through internalization of early family experiences (Rauer & Volling, 2007; Thompson & Halberstadt, 2007). However, parental differential treatment as an explanation of high jealousy is only applicable to children with siblings and fails to explain jealousy of only children. There should be other parenting factors that make children prone to jealousy in nonsibling relationships. I propose parental psychological control as one such factor.

Parental psychological control. Parental psychological control refers to parenting behaviors that try to control their children by taking advantage of their emotional and

psychological needs such as expressions of disappointment and shame, invalidating or dismissing children's feelings or ideas, guilt induction, criticism, and threatening to withdraw love. Psychological control was once considered at one end of the same scale that has autonomy granting at the other end (e.g., Schaefer, 1965), but now researchers view psychological control and autonomy granting as related but distinct constructs (e.g., Silk, Morris, Kanaya, & Steinberg, 2003). According to self-determination theory, individuals with introjected regulation control their behaviors out of internal pressure to behave in specific ways to be worthy (Deci & Ryan, 1985; Deci & Ryan, 2000). Children who experience high level of parental psychological control learn that they should behave in certain ways or accomplish particular outcomes to be loved. Thus, they are likely to develop introjected regulation, rather than more autonomous forms of regulation. Although the behavioral outcome of introjected regulation may look the same as that of autonomous regulation, behaviors controlled by internal compulsion are associated with negative affective outcomes such as insecure self-esteem and social anxiety (Assor, Roth, & Deci, 2004; Grolnick & Ryan, 1989; Kernis, Brown, & Brody, 2000). There is ample evidence that parental psychological control is associated with internalizing as well as externalizing problems in children and adolescents (Nelson, Yang, Coyne, Olsen, & Hart, 2013; see Olsen et al., 2002).

Psychological control and self-esteem. Parents who practice psychological control express their love and affection based on their child's compliance with their wishes, and such parenting could give children a message that they are accepted and loved depending on what they do rather than who they are. In consequence, these children may become highly sensitive to what their parents think of themselves, eventually forming self-esteem that depends heavily on social approval both inside and outside the family. As moving toward late childhood and

adolescence, children increasingly spend more time with peers and they value and invest in friendships highly. Thus, in preadolescence and adolescence those whose self-esteem depends on social approval may increasingly seek approval from peers. Because how they feel about themselves highly relies on approval by others, individuals with introjected regulation are likely to experience fluctuations in self-esteem depending on successes and failures in receiving social approval.

Although contingent self-esteem has rarely been studied in relation to parental psychological control, self-esteem research shows a link between psychological control and self-esteem. For example, one study showed that although both parental psychological control and parental attachment predicted the level of global self-esteem, maternal psychological control had a stronger influence than attachment (Leondari & Kiosseoglou, 2002). There is also some evidence that parental psychological control predicts fragile self-view. One study indicated that parental psychological control might affect both the level and stability of self-esteem. Specifically, children who perceived their fathers to use psychological control techniques heavily had more unstable as well as lower self-esteem than did those who did not perceive their fathers as psychologically controlling (Kernis et al., 2000). Although the focus of the current study is contingency of self-esteem, this is a relevant finding as stability is closely related with contingency as highly contingent self-esteem may make self-esteem fluctuate. Finally, a recent study found a link between psychological control and contingent self-esteem (Wouters, Doumen, Germeijs, Colpin, & Verschueren, 2013). Specifically, the researchers examined parental responsiveness and psychological control, reported by children, as predictors of contingent self-esteem in early adolescents and found that only psychological control predicted contingent self-esteem. Based on these findings, the present study examines the association between

psychological control and friendship contingent self-esteem to explore the origin of friendship jealousy.

Psychological control and social anxiety. Children with psychologically controlling parents can also become socially anxious. Theoretically, children who have highly controlling parents may become anxious because they are not given opportunities to develop independence and they, in turn, develop perceptions of themselves as inefficacious and not having much control over their lives (Chorpita & Barlow 1998; Vasey & Dadds, 2001; Wood 2006). Consistent with this assumption, research findings support the association between high levels of anxiety and parental control as a broad construct that includes behavioral control, overinvolvement, autonomy granting, and psychological control (De Man, 1986; Morris et al., 2002; Hudson & Rapee, 2001; Petit, Laird, Dodge, Bates, & Criss, 2001).

Some studies have found that parental psychological control is associated with adolescents' internalizing problems uniquely or more strongly than are other dimensions of parental control such as autonomy granting or behavioral control (Barber & Harmon, 2002; Barber, Olsen, & Shagle, 1994; Baumrind, Larzelere, & Owens, 2010; Gray & Steinberg, 1999; Silk et al., 2003). A recent study found that hopeless attributional style mediated the link between perceived parental psychological control and generalized anxiety in early adolescents. That is, adolescents who reported their mother's high reliance on psychological control were more likely to view negative events as having stable causes that broadly affect their lives and, as a result, became more anxious (Schleider, Vélez, Krause, & Gillham, 2014). Another study reported that parental psychological control predicted children's global anxiety symptoms and that the association was fully mediated by children's perception of how much control they have over events in their lives (Nanda, Kotchick, & Grover, 2012). According to these findings, it was

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expected that psychological control would be associated with anxiety. This study specifically focuses on social anxiety because social anxiety might be particularly relevant to friendship jealousy, which is evoked in social situations.

In sum, it is well understood that parenting contributes to children's socio-emotional development and adjustment in various ways, but how parenting affects children's friendship jealousy is yet to be explored. Accordingly, the present study attempts to fill this gap. Specifically, I examined parental psychological control as a predictor of friendship jealousy. Based on conceptual foundations and some empirical evidence discussed above, I hypothesized that psychological control would positively predict friendship contingent self-esteem and social anxiety, which might then predict friendship jealousy.

As previously mentioned, there are many ways parents may influence their children's development. Thus, even if an association between psychological control and jealousy is found, there is a possibility that psychological control does not make children jealous but other parental factors that are correlated with psychological control do. For example, Wouters et al. (2013) found that, although responsiveness did not predict contingent self-esteem, it strengthened the association between psychological control and contingent self-esteem in an interesting direction. Specifically, among those who experienced high levels of parental psychological control, adolescents who perceived their parents as warm and supportive tended to have higher contingent self-esteem than those who perceived low parental warmth and supportiveness. In order to capture other parental influences and see if psychological control predicts jealousy over and above those other influences, I examine the effect of psychological control on jealousy after controlling for authoritative parenting. One way researchers have organized different types of parenting is to categorize parental behavioral patterns based on three basic dimensions: warmth,

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behavioral control, and psychological control (Baumrind, 1967). Authoritative parenting is characterized by high warmth and high behavioral control and is associated with positive child outcomes. It was hypothesized that psychological control would positively predict jealousy even after controlling for parental authoritativeness.

Gender

Lastly, gender differences are examined in this study. A previous study found that ninth-grade girls tended to be more jealous over friends than were their male peers (Parker et al., 2005). To strengthen this finding, this study tests whether there is gender difference in friendship jealousy among early adolescents of a broader age range (10 to 15 years). Based on the prior finding, gender difference favoring girls in level of jealousy is expected.

Past research also suggests that adolescent and adult females show higher rates of social anxiety and anxiety disorders relative to their male counterparts (La Greca & Lopez, 1998; Lewinsohn, Gotlib, Lewinsohn, Seeley, & Allen, 1998; McLean & Anderson, 2009). However, gender difference in social anxiety does not emerge until late adolescence (see Doey, Coplan, & Kingsbury, 2014). Thus, it was predicted that the early adolescents in this study would not show significant difference in level of social anxiety between girls and boys.

This study also examines differential effects of maternal psychological control on early adolescent girls and boys. Previous research shows that parental psychological control is associated with various negative child outcomes and that the association tends to be particularly salient in same-gender parent–child dyads or for girls (Nelson, Yang, Coyne, Olsen, & Hart, 2013; see Olsen et al., 2002; see Nelson & Crick, 2002). For example, a study on relational aggression found the effect of maternal and paternal psychological control on aggression was stronger for girls than for boys (Nelson & Crick, 2002). Similarly, another study found that

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parental psychological control was related to relational bullying only for girls. Interestingly, only father's use of love-withdrawal was linked to boys' relational bullying (Casas et al., 2006). However, the effect of parental and child sex has yet to be tested in relation to friendship jealousy. Thus, a gender moderation effect on the link between parental psychological control and jealousy is examined in this study, with the expectation to find this link to be stronger for girls than for boys given that only maternal behavior is examined in this study.

Summary

In summary, my study is designed to explore the links among a parenting process, parental psychological control, two child variables, contingent self-esteem and social anxiety, and friendship jealousy in young adolescents. In particular, my study tests the following hypotheses:

1. Friendship contingent self-esteem would positively predict friendship jealousy controlling for global self-esteem.

2. Social anxiety would positively predict friendship jealousy.

3. Parental psychological control would positively predict friendship jealousy, controlling for authoritative parenting.

4. Psychological control would positively predict friendship contingent self-esteem, controlling for authoritative parenting.

5. Psychological control would positively predict social anxiety, controlling for authoritative parenting.

6. Friendship contingent self-esteem and social anxiety would mediate the association between psychological control and friendship jealousy.

Potential main and interactive effects of child sex are also explored.

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CHAPTER 2

METHODOLOGY

Participants

The data used in the current proposed study were collected as part of a larger

observational study of parent-child interaction and adolescent friendship adjustment. Participants

consisted of 72 mother-child dyads (39 mother-daughter; 33 mother-son). Adolescents ranged in

age from 10 years to 15 years ($M = 12.3$ years; $SD = 1.30$) and mothers ranged in age from 29 to

55 years ($M = 42.5$, $SD = 5.40$). Specifically, commercially available census data for a largely

rural county in the southern United States was used to identify and make initial telephone contact

with 282 families with at least one child in the target age range. Ninety of these families agreed

to participate and 72 were able to be scheduled and tested in a timely manner.

Consistent with the larger county, 78% of the participating children were Caucasian, 17%

African-American, 3% Hispanic-American, and 2% Asian-American, other, or mixed race. One

Caucasian child's mother was Native American and one mixed-race child's mother was African-

American. Otherwise, all mothers were the same race as their child. Twenty-nine (40%) of the

children were first-born, 24 (33%) were second-born, 13 (18%) were third-born, and 6 (8%) had

three to five older siblings. Virtually all mothers were the biological parents. Eighty-nine percent

of mothers were currently married; the remaining were either never married (6%), were divorced

and not remarried (4%), or widowed and not remarried (1%). All participating mothers reported

being the primary caretakers of the child, and, in instances of divorce (whether remarried or not),

were the child's legal custodian. Participants' households ranged in size from 3 to 9 individuals,

including parents, and varied widely in socioeconomic status from lower class to upper-middle class, according to mother's reports. One mother did not finish high school, 32 (44%) were high school graduates with no or only limited community college experience, 21 (29%) graduated from a four-year college or a university, and 18 (25%) had either graduate or advanced professional schooling.

Measures

Friendship jealousy. Jealousy in friendship was assessed through children's self-report of the degree of their current concern about their best friend's perceived interest in or relationship with others. Children responded to six items created for the larger observational study, including "I think my best friend may like other friends better than me," "I am worried that someone else is trying to become his or her best friend," "I think my best friend may like other friends better than me," "I think that my best friend hangs out with other kids behind my back," "I'm worried that my best friend hangs out with other people and doesn't tell me or invite me," "I'm worried that people call or IM my best friend and invite him or her to go places without me." Children rated each question using a 5-point Likert-type scale ranging from "Never" to "All the time." A total friendship jealousy score was obtained by averaging the scores of all six items. A higher score was to represent higher friendship jealousy. Internal consistency for items was $\alpha = .84$.

Friendship contingent self-esteem. Children's friendship contingent self-esteem was assessed using the 8-item *Friendship Contingent Self-Esteem Scale* (Cambron, Acitelli, & Steinberg, 2010). Respondents are to indicate the degree to which the quality of their friendships affect their feeling of self-worth using a 5-point scale ["Very little like me" (1) to "Very much like me" (5)]. An example item of the scale is "I only feel good about myself when things are

going well in my friendships." Scores across the eight items were averaged to yield a total friendship contingent self-esteem score. A higher total score was interpreted as self-esteem more highly contingent on friendship. This scale showed high internal consistency and good validity in a previous study. Cambron et al. used this scale for undergraduate students and obtained an alpha coefficient of .93 for females and .92 for males. Also, all inter-item correlations were moderate to high. The *Friendship Contingent Self-Esteem Scale* correlated with other self-esteem measures they tested, including the *Contingent Self-Esteem Scale*; the academic, approval from others, appearance, and competition subscales of the *Contingencies of Self-Worth Scale*; and the *Relationship Contingent Self-Esteem Scale* moderately except for academic contingent self-esteem. There was only a low correlation between self-esteem contingent on academics and friendship. For this study, internal consistency of the scale was α = .87.

Global self-esteem. The level of global self-esteem was assessed using the *Self-Perception Profile for Adolescents* (Harter, 1988). The scale consists of five items that taps respondents' overall view of their self-worth. Respondents were instructed to rate how much each item is true for them on a 4-point scale ranging from "Not at all like me" (1) to "Really like me" (4). An example item of the scale is "I like the way I am leading my life." Scores across the five items were averaged to create a total global self-esteem score. A higher total score was interpreted as higher self-esteem. Internal consistency of across items was α = .85.

Social anxiety. Children's social anxiety was measured using 18 items from The *Social Anxiety Scale for Adolescents* (SAS-A; La Greca & Lopez, 1998), which is widely used. The scale consists of 18 items assessing fear of negative social evaluation (e.g., "I worry about what others think of me"), social avoidance and distress with new social situations or unfamiliar people (e.g., "I get nervous when I meet new people"), and more generalized social distress and

inhibition (e.g., "I feel shy even with peers I know very well"), and four filler items about activity preferences (e.g., "I like to read") or social preferences (e.g., "I like to do things with others"). Respondents were instructed to rate how much each item is true for them on a 5-point scale ranging from "Not at all" (1) to "All the time" (5). For this study, the filler items were dropped, and scores across the 18 social anxiety items were averaged to make a total social anxiety score. A higher score indicate higher social anxiety. Studies have consistently indicated high internal consistency for the SAS-A score (e.g., La Greca & Harrison, 2005; Siegel, La Greca, & Harrison, 2009). The scale has been recently shown to be reliable and valid even cross-culturally (e.g, Zhou, Xu, Inglés, Hidalgo, & La Greca, 2008). Reliability of the social anxiety measure in this study was high ($\alpha = .92$).

Maternal psychological control. Maternal psychological control was rated by both the child and the mother using 15 items adapted from parenting and psychological control measures from several researchers (Barber, 1996; Olsen et al., 2002; Nelson, Yang, Coyne, Olsen, & Hart, 2013). The same measure was given to children and mothers with slight modifications in the wording. For example, an item "My mother is a person who tells me I embarrass her when I make mistakes" for children changed to "I am a person who tells my child he/she embarrasses me when he/she make mistakes" for mothers. Each item was rated on a 3-point scale ranging from "Not at all true" (1) to "Really true" (3). For child-reports and mother-reports, scores across the 15 items were averaged to make a separate total maternal psychological control score. A higher score indicates higher psychological control.

Analyses of internal consistency of maternal psychological control measures yielded an alpha of .78 for child reports and .70 for mother reports. Mother reports and child reports of maternal psychological control were not significantly correlated ($r = .16$, *ns*). Previous research

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suggests that parent reports of parental psychological control and child outcome scores are associated, but children's perception of parental behavior mediates the link (Nanda, Kotchick, & Grover, 2012; Schleider, Vélez, Krause, & Gillham, 2014). Thus, only child-reports of maternal psychological control were used in this study because the child measure was slightly more reliable than the maternal measure and previous research also suggests that children's perception matters more than actual parental behavior.

      Maternal authoritative parenting. Maternal authoritative parenting was assessed using 17 items from parenting scale of Robinson, Mandleco, Olsen, and Hart (1995). An example item of the scale is, "I encourage my child to talk about his/her troubles". Mothers were instructed to rate how often they engaged in the behavior described in each item on a 5-point scale ranging from "Never" (1) to "Always" (5). Internal consistency across items was .87. A total authoritativeness score was computed as the average of all 17 items, after reverse-scoring items, where necessary.

Procedures

      As part of the larger project, mother-child dyads were scheduled for a 3-hour assessment session at their convenience in an on-campus lab. Upon arrival, the young adolescent and his or her mother were introduced to the facilities, staff, and procedures and given an informed consent briefing. They were then escorted to separate rooms for individual testing. During this testing, young adolescents and their mothers completed a battery of paper-and-pencil questionnaires that included all the measures used in the present study. Individual testing lasted approximately one hour. Following this, the pair was reunited for a lengthy sequence of videotaped interactive activities that were not used in this report. Mother participants were compensated $75 for their participation in the larger study and young adolescents were compensated $25.

CHAPTER 3

RESULTS

Descriptives

Table 1 shows means, standard deviations, and t-test results for all study variables for girls and boys separately. A series of independent t-tests were conducted to examine sex differences. There were no significant sex differences. Unlike some of the previous findings, girls did not score significantly higher in friendship jealousy than did boys although their mean was slightly higher than boys' (See Table 1).

Bivariate correlations among psychological control, authoritative parenting, global self-esteem, friendship contingent self-esteem, social anxiety, and friendship jealousy also appear in Table 1. Friendship contingent self-esteem and social anxiety were positively correlated. The two parenting variables, psychological control and authoritativeness were not significantly correlated. Maternal psychological control was positively correlated with friendship jealousy. Authoritative parenting was not significantly correlated with jealousy. Maternal psychological control was positively correlated with friendship contingent self-esteem and social anxiety. Global self-esteem and friendship contingent self-esteem were negatively correlated. Global self-esteem and jealousy were negatively correlated.

Table 1

Summary of Intercorrelations, Means, and T-test Results Comparing Females and Males

Variables	1	2	3	4	5	6
1. Self-Esteem	-					
2. Friendship Contingent Self-Esteem	-.34**	-				
3. Social Anxiety	-.60**	.49**	-			
4. Authoritativeness	.17	-.03	-.08	-		
5. Psychological Control	-.30**	.26*	.31**	-.04	-	
6. Friendship Jealousy	-.52**	.39**	.51**	-.03	.34**	-
M	3.29	2.46	2.18	3.84	1.44	1.91
Females (*n* = 39)	3.30	2.57	2.18	3.90	1.45	2.05
Males (*n* = 33)	3.29	2.33	2.19	3.77	1.42	1.74
t(1, 70)	.09	1.20	-.09	1.15	.51	1.64

Note. **$p < .01$; *$p < .05$; +$p < .10$; $N = 72$

Jealousy and Early Adolescents' Friendship Contingent Self-Esteem

To test the hypotheses that friendship contingent self-esteem positively predicts friendship jealousy, over and above global self-esteem (H1), a hierarchical regression was run with sex in Step 1 as a control variable. Global self-esteem was also included as a control in Step 2 to test whether contingent self-esteem predicts jealousy over and above global self-esteem and contingency is not a part of level of self-esteem. Friendship contingent self-esteem was entered in Step 3. Lastly, sex by contingency was included in Step 4. Results appear in Table 2.

As expected, friendship contingent self-esteem was a significant predictor of early adolescents' friendship jealousy (see Table 2). As in the past, global self-esteem was negatively related to jealousy, and the effect was large. In spite of this large effect of global self-esteem, contingency predicted jealousy over and above global self-esteem as well as child's sex.

Table 2

Results of Hierarchical Multiple Regression Analyses Predicting Friendship Jealousy from Children's Sex and Self-Esteem Variables

Step/Variable	b	β	df	t	sig.	ΔR^2
1. Control Variables						
Child Sex	-.31	-.20	1, 70	-1.64	.106	.04
2. Control Variable						
Global Self-Esteem	-.65	-.52	1, 69	-5.19	.000	.27**
3. Main Effect						
Friendship Contingent Self-Esteem	.20	.21	1, 68	2.00	.049	.04*
4. Two-Way Interaction						
Sex x Friendship Contingent Self-Esteem	.15	.24	1, 67	1.61	.112	.01

Note. **$p < .01$; *$p < .05$; +$p < .10$; $N = 72$

Jealousy and Early Adolescents' Social Anxiety

To test the hypotheses that social anxiety positively predicts jealousy (H2), I ran another hierarchical regression. Sex was entered in Step 1 as a control variable. Social anxiety was put in Step 2. Sex by social anxiety was entered in Step 3. Results are shown in Table 3.

As hypothesized, social anxiety was a significant predictor of reported friendship jealousy, controlling for sex. However, there was a moderating effect of child's sex (see Table 3). This interaction is shown in Figure 1. As shown in Figure 1, for girls and boys there was a significant positive association between social anxiety and vulnerability to jealousy. However, the effect was particularly strong for girls.

Table 3

Results of Hierarchical Multiple Regression Analyses Predicting Friendship Jealousy from Children's Sex and Social Anxiety

Step/Variables	b	β	$d.f.$	t	sig.	ΔR^2
1. Control Variable						
Child Sex	-.31	-.20	1, 70	-1.64	.106	.04
2. Main Effect						
Social Anxiety	.57	.52	1, 69	5.14	.000	.27**
3. Two-Way Interaction						
Sex x Social Anxiety	-.45	-.29	1, 68	-2.08	.041	.04*

Note. **p < .01; *p < .05; +*p* < .10; *N* = 72
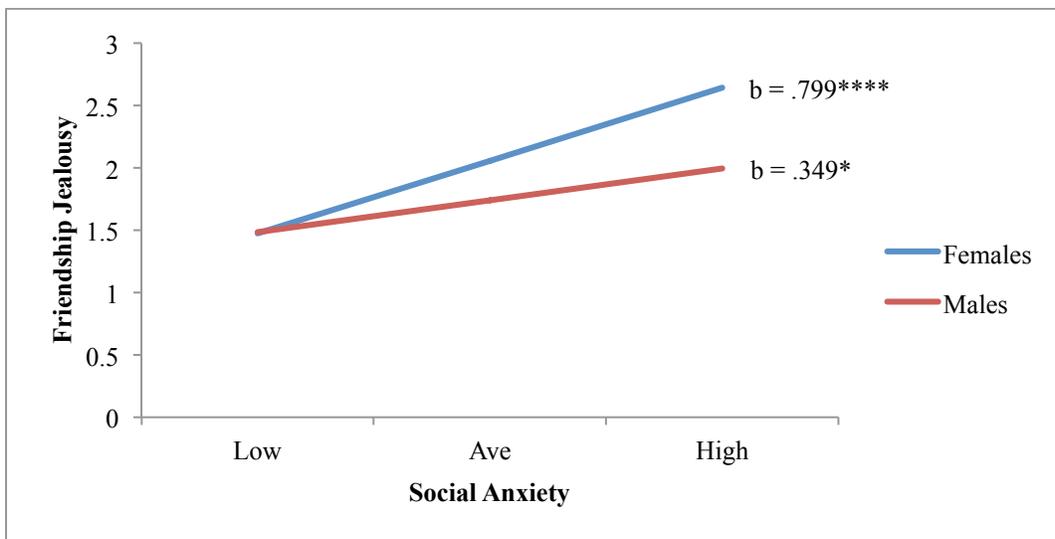
Figure 1. Relationship between social anxiety and friendship jealousy for girls versus boys.

Note. ****p < .0001; ***p < .001; **p < .01; *p < .05; *N* = 72

Parental Psychological Control and Friendship Jealousy

To test the hypothesis that parental psychological control positively predicts friendship jealousy, controlling for authoritative parenting (H3), I conducted a hierarchical regression with sex in Step 1 as a control variable. I also put authoritativeness as a control in Step 2 to test

whether psychological control predicts jealousy regardless of overall positive parenting practices. Then, I entered maternal psychological control in Step 3 and sex by psychological control in Step 4. Results are shown in Table 4. As hypothesized, maternal reliance on psychological control was associated with increased friendship jealousy in early adolescent children, even after controlling for authoritative childrearing practices. There was no significant sex moderation.

Table 4

Results of Hierarchical Multiple Regression Analyses Predicting Friendship Jealousy from Children's Sex and Parental Psychological Control

Step/Variables	b	β	df	t	sig.	ΔR^2
1. Control Variable						
Child Sex	-.31	-.20	1, 70	-1.64	.106	.04
2. Control Variable						
Authoritativeness	-.09	-.05	1, 69	-.44	.660	.00
3. Main Effect						
Psychological Control	.89	.32	1, 68	2.87	.005	.10**
4. Sex Interaction						
Sex x Psychological Control	-.38	-.08	1, 67	-.55	.582	.00

Note. **p < .01; *p < .05; +*p* < .10; *N* = 72

Mediation of the Relation Between Psychological Control and Friendship Jealousy by Self Variables

Given that maternal psychological control was significantly correlated with contingent self-esteem and with social anxiety and that both friendship contingent self-esteem and social anxiety predicted friendship jealousy (see Table 1), a series of regression-based mediation models was tested following the procedure suggested by Kenny and colleagues (Baron & Kenny, 1986; Judd & Kenny, 1981). Specifically, as a first step, maternal psychological control was

regressed on contingency and social anxiety, respectively, to establish the links between psychological control and these potential mediators. In addition, in a third regression model, psychological control was also regressed on global self-esteem. This regression was included because global self-esteem was included in the later models to explore whether it could offer an alternative explanation for any meditational effects that emerged from analyses of the other self variables. The structure of these preliminary analyses was as follows: in Step 1 sex was entered as a control variable; in Step 2 authoritative parenting was entered as another control variable; in Step 3 psychological control was entered; in Step 4 sex by psychological control was entered.

Results from these analyses are shown in Table 5. Of interest, psychological control was a significant predictor of all three mediation variables even after controlling for authoritativeness (H4, H5). There were also no interactions with sex.

Table 5

Results of Hierarchical Multiple Regression Analyses Predicting Contingency, Social Anxiety, and Global Self-Esteem from Children's Sex and Parental Psychological Control

Step/Variables	b	β	$d.f.$	t	sig.	ΔR^2
Friendship Contingent Self-Esteem						
1. Control Variable						
Child Sex	-.24	-.14	1, 70	-1.20	.234	.02
2. Control Variable						
Authoritativeness	-.08	-.05	1, 69	-.40	.697	.00
3. Main Effect						
Psychological Control	.73	.25	1, 68	2.15	.035	.06*
4. Sex Interaction						
Sex x Psychological Control	.37	.07	1, 67	.49	.629	.00
Social Anxiety						
1. Control Variable						

Child Sex	.02	.01	1, 70	.09	.927	.00
2. Control Variable						
Authoritativeness	-.13	-.08	1, 69	-.68	.498	.01
3. Main Effect						
Psychological Control	.76	.31	1, 68	2.64	.010	.09*
4. Sex Interaction						
Sex x Psychological Control	.34	.08	1, 67	.53	.597	.00
Global Self-Esteem						
1. Control Variable						
Child Sex	-.01	-.01	1, 70	-.09	.927	.00
2. Control Variable						
Authoritativeness	.23	.17	1, 69	1.41	.164	.03
3. Main Effect						
Psychological Control	-.65	-.30	1, 68	-2.60	.011	.09*
4. Sex Interaction						
Sex x Psychological Control	-.17	-.04	1, 67	-.30	.766	.00

Note. **$p < .01$; *$p < .05$; +$p < .10$; $N = 72$

Following this, six parallel regressions were run. Two initial models tested the potential mediation of anxiety and contingent self-esteem alone, respectively. The third tested global self-esteem alone. The fourth tested potential mediation of contingency after controlling for global self-esteem. The fifth tested mediation of social anxiety and contingent self-esteem together. The sixth involved mediation with all self variables included at once. In each of these regressions, sex, the focal mediator(s), authoritative parenting, and psychological control were entered in that order.

Results for social anxiety are shown in Table 6. As shown, after controlling for social anxiety as a mediator, psychological control was only marginally predictive of jealousy, consistent with the meditational hypothesis.

Table 6

Results of Hierarchical Regression Testing Social Anxiety as a Mediator of Psychological Control and Friendship Jealousy Relationship

Step/Variables	b	β	d.f.	t	sig.	ΔR^2
1. Child Sex	-.31	-.19	1, 70	-1.64	.106	.04
2. Social Anxiety	.57	.52	1, 69	5.14	.000	.27**
3. Authoritativeness	-.02	-.01	1, 68	-.10	.921	.00
4. Psychological Control	.50	.18	1, 67	1.75	.085	.03+

Note. **$p < .01$; *$p < .05$; +$p < .10$; $N = 72$

As shown in Table 7, after controlling for contingency as a mediator, contrary to the hypothesis, psychological control still remained significantly predictive of jealousy.

Table 7

Results of Hierarchical Regression Testing Friendship Contingent Self-Esteem as a Mediator of Psychological Control and Friendship Jealousy Relationship

Step/Variables	b	β	d.f.	t	sig.	ΔR^2
1. Child Sex	-.31	-.19	1, 70	-1.64	.106	.04
2. Friendship Contingency	.34	.37	1, 69	3.29	.002	.13**
3. Authoritativeness	-.06	-.04	1, 68	-.32	.751	.00
4. Psychological Control	.68	.25	1, 67	2.23	.029	.06*

Note. **$p < .01$; *$p < .05$; +$p < .10$; $N = 72$

After controlling for global self-esteem as a mediator, psychological control was a marginally significant predictor of jealousy (see Table 8).

Table 8

Results of Hierarchical Regression Testing Global Self-Esteem as a Mediator of Psychological Control and Friendship Jealousy Relationship

Step/Variables	b	β	$d.f.$	t	sig.	ΔR^2
1. Child Sex	-.31	-.19	1, 70	-1.64	.106	.04
2. Global Self-Esteem	-.65	-.52	1, 69	-5.19	.000	.27**
3. Authoritativeness	.06	.04	1, 68	.35	.729	.00
4. Psychological Control	.50	.18	1, 67	1.76	.083	.03+

Note. **$p < .01$; *$p < .05$; +$p < .10$; $N = 72$

Table 9 shows the results for both global self-esteem and contingency. When controlling for both global self-esteem and contingency, psychological control was no longer predictive of jealousy, consistent with the mediation hypothesis.

Table 9

Results of Hierarchical Regression Testing Global Self-Esteem and Friendship Contingency as Mediators of Psychological Control and Friendship Jealousy Relationship

Step/Variables	b	β	$d.f.$	t	sig.	ΔR^2
1. Child Sex	-.31	-.19	1, 70	-1.64	.106	.04
2. Global Self-Esteem	-.65	-.52	1, 69	-5.19	.000	.27**
3. Friendship Contingency	.20	.21	1, 68	2.00	.049	.040*
4. Authoritativeness	.06	.03	1, 67	.33	.739	.00
5. Psychological Control	.42	.15	1, 66	1.47	.147	.02

Note. **$p < .01$; *$p < .05$; +$p < .10$; $N = 72$

Table 10 shows the results when both social anxiety and contingency were added as a set of mediators. As shown in Table 10, although previous analyses showed that both social anxiety and contingency predicted friendship jealousy (see Tables 2 & 3), when social anxiety and contingency controlled for each other, contingency was not significant whereas social anxiety was, indicating that only social anxiety is a unique predictor of jealousy. More importantly, when controlling for social anxiety and friendship contingent self-esteem, psychological control no longer significantly predicted jealousy.

Table 10

Results of Hierarchical Regression Testing Contingent Self-Esteem and Social Anxiety as Mediators of Psychological Control and Friendship Jealousy Relationship

Step/Variables	b	β	$d.f.$	t	sig.	ΔR^2
1. Child Sex	-.31	-.19	1, 70	-1.64	.106	.04
2. Friendship Contingent Self-Esteem	.13	.14	1, 68	1.22	.228	
Social Anxiety	.49	.45	1, 68	3.89	.000	.28**
3. Authoritativeness	-.02	-.01	1, 67	-.09	.928	.00
5. Psychological Control	.47	.17	1, 66	1.61	.112	.03

Note. **$p < .01$; *$p < .05$; +$p < .10$; $N = 72$

Finally, as shown in Table 11, when all three self variables, global self-esteem, social anxiety, and friendship contingent self-esteem were controlled for as mediators, psychological control was again no longer a significant predictor of children's friendship jealousy, consistent with the expectation that psychological control is mediated by self-system influences (H6).

Table 11

Results of Hierarchical Regression Testing Global Self-Esteem, Friendship Contingent Self-Esteem, and Social Anxiety as Mediators of Psychological Control and Friendship Jealousy Relationship

Step/Variables	*b*	β	*d.f.*	*t*	sig.	ΔR^2
1. Child Sex	-.31	-.19	1, 70	-1.64	.106	.04
2. Global Self-Esteem	-.65	-.52	1, 69	-5.19	.000	.27**
3. Friendship Contingency	.12	.12	1, 67	1.10	.275	
Social Anxiety	.29	.26	1, 67	2.04	.045	.08*
4. Authoritativeness	.05	.03	1, 66	.30	.765	.00
5. Psychological Control	.36	.13	1, 65	1.28	.205	.02

Note. **$p < .01$; *$p < .05$; +$p < .10$; $N = 72$

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CHAPTER 4

DISCUSSION

Experience of jealousy in friendship is a universal phenomenon, but atypically high jealousy is problematic because it is closely linked to various adjustment problems in children and adolescents. Nonetheless, few researchers investigated why some children are more jealous than others. The primary goal of the present study was to examine contributors to friendship jealousy in early adolescents among individual as well as family characteristics from a developmental perspective. This is the first study to investigate and demonstrate familial influences on friendship jealousy. This study focused on fragile self-view and high social anxiety as individual factors that affect friendship jealousy in early adolescents. The present study also explored the assumption that early experiences in family may contribute to the development of proneness to friendship jealousy. Developmental paths of friendship jealousy were explored through these self and family variables.

As hypothesized, the fragility of self-esteem in terms of contingency on success in friendship significantly predicted friendship jealousy. Young adolescents who staked self-esteem on success in friendship were more jealous than others. Highly contingent individuals are likely to become easily jealous in a friendship because they fear that threats to the quality of their friendship will undermine their self-worth and, thus, are vigilant to threats to their relationship. Given that many researchers in the past have suggested a link between low self-esteem and jealousy, I examined whether contingency affects jealousy over and above level of self-esteem. The result showed that level of self-esteem was a significant, negative predictor of friendship

jealousy. Unlike most of the previous studies that found small to moderate or mixed effects of level of global self-esteem (e.g., Buunk, 1997; Hansen, 1982; Mathes & Severa, 1981), the effect of global self-esteem found in this study was large across sexes. Importantly, despite such a large contribution of level of global self-esteem, contingency predicted jealousy over and above level of self-esteem. Although the effect of level of self-esteem was large in this study, many researchers in the past who focused on level of self-esteem failed to find a strong effect of self-esteem on jealousy. The findings of this study suggest that a reason that previous research provides only weak empirical support for the link between self-esteem and jealousy might be because researchers have oversimplified the construct of self-esteem as being low versus high, ignoring individual differences in fragility of self-esteem.

Likewise, consistent with the expectation, early adolescents with higher social anxiety tended to report higher jealousy over friends. Individuals with high social anxiety constantly and irrationally worry that they will be or are being judged negatively by others in social situations. Anxious early adolescents may readily interpret a friend's interest in another peer as a negative evaluation of them, thereby, responding with strong emotions and jealous behaviors. Another reason adolescents with enhanced social anxiety are vulnerable to jealousy might be that they tend to have a relatively small number of friends, so they may perceive losing one friend as a greater loss than would individuals who easily make many friends do. As socially anxious early adolescents tend to avoid social situations that make them uncomfortable, they have relatively fewer opportunities to practice and develop social skills for developing and maintaining friendships. In addition, frequently avoiding social situations will make it more and more difficult for these individuals to build a new friendship, which, in turn, may develop into a vicious cycle.

Interestingly, even though there was no mean difference in social anxiety between the sexes, the association between social anxiety and friendship jealousy was significantly more salient for girls than for boys. Because girls are more dependent on social relationships than are boys (Cross & Madson, 1997), girls may take threats to their social relationships more seriously. In addition, because girls overall have fewer friends than do boys (Lansford & Parker, 1999) and thus likely to invest more into each friend, losing one friend or some of the benefits that come from the relationship with one friend may loom larger for girls than for boys. Despite this gender difference, however, social anxiety was still a significant predictor of jealousy in boys as well.

As predicted, children of parents who took advantage of their children's emotional and psychological needs to control their behavior showed relatively high jealousy. This association remained valid even after authoritative parenting was statistically controlled for. Yet, inconsistent with the prediction that maternal psychological control would affect girls more, there was no significant sex moderation effect on the association between psychological control and jealousy. As this study was the first to test the link between parental psychological control and jealousy in adolescents and the sample size was relatively small, there is a possibility that a gender effect will be found in future studies. Paternal and maternal psychological control may differ from each other in their impact on child outcomes (e.g., Casas et al., 2006). Also, when one parent relies on psychological control and the other does not, a simple assumption might be that the non-controlling parent may buffer the negative influence of the other parent on their children. However, it is also possible that the combined effect of differential parenting may depend on sex of the parent who uses psychological control and sex of the child. Thus, in future research it will be interesting to study paternal along with maternal psychological control and the interaction effect of maternal and paternal parenting on girls and boys.

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Lastly, I explored whether self-variables mediated the pathway between parental psychological control and jealousy. Consistent with the hypothesis, social anxiety mediated the link between psychologically controlling parental practices and early adolescents' friendship jealousy but the mediation was partial, suggesting that children whose parents psychologically control them become jealous over friends partly because psychological control makes children socially anxious, which in turn causes high jealousy. With regard to self-esteem, global self-esteem partially mediated the link whereas contingent self-esteem did not mediate even marginally, seemingly inconsistent with the hypothesis.

Although none of the three mediators tested in this study fully explained the link between parental psychological control and young adolescents' friendship jealousy, social anxiety, global self-esteem, and contingency together fully explained the link. For example, contingency, when tested alone, seemed to have no contribution to the effect of psychological control on jealousy. However, following analyses suggested that psychological control affected jealousy partially through contingency. Global self-esteem and social anxiety, which only marginally mediated the effect of psychological control on jealousy, fully mediated the link when combined with contingent self-esteem. Theses results suggest that children whose parents try to control them by taking advantage of their psychological and emotional needs are more jealous in friendship because parental psychological control increases social anxiety, increases fragility in self-view, and/or decreases self-esteem, which in turn makes children vulnerable to jealousy.

This study yielded the first findings to demonstrate a relation between friendship jealousy and family influences. Yet, the findings of this study do not address the question of specifically how the mediation works. Future research needs to investigate precisely how parental psychological control changes the attributions children make when reacting to their friends'

interests in other peers. As both friendship contingent self-esteem and social anxiety originate in parental psychological control and also the effects of contingency and social anxiety on jealousy overlaps, comprehending how contingent self-esteem and social anxiety are related may help understand the whole mediation process more thoroughly. Although contingent self-esteem significantly predicted friendship jealousy, when contingent self-esteem and social anxiety controlled for each other, the effect of contingency disappeared and only anxiety uniquely contributed to jealousy. The relation between contingent self-esteem and social anxiety has rarely been studied. To my knowledge, friendship contingent self-esteem has not been studied in relation to social anxiety, but there is some evidence that social anxiety predicts fragile self-esteem. One study (Reijntjes et al., 2011) examined the link between social anxiety and changes in state self-esteem. Reijntjes et al. studied fifth and sixth graders in an experiment involving social evaluations by strangers and found that social anxiety predicted changes in state self-esteem.

The relevant global self-esteem literature also suggests that self-esteem and generalized anxiety are associated but does not clearly explain how they are related (Roberts, 2006). Some theories postulate that self-esteem may serve as a buffer against generalized anxiety (see Crocker & Park, 2004). It is also possible that early experiences of anxiety influence the formation of the self-concept, thereby, decreasing self-esteem. A recent meta-analytic review suggests that self-esteem and anxiety may influence each other, rather than one unilaterally influencing the other (Sowislo & Orth, 2013). As with level of global self-esteem, there could be a causal relation between contingent self-esteem and social anxiety or they could mutually influence each other. However, it is also possible that the theories and findings about global self-esteem and generalized anxiety are not applicable to contingent self-esteem and social anxiety at all.

Contingent self-esteem and social anxiety may have unique correlates and developmental paths that are different from those of global self-esteem and generalized anxiety, respectively. Thus, future study efforts should address possible mechanisms that relate friendship contingent self-esteem, or a little more broadly, relation contingent self-esteem, with social anxiety. The design of the present study does not allow directly testing causal relationships between the study variables. A future longitudinal study will provide further support for the hypotheses of this study.

Although maternal psychological control, authoritative parenting, friendship contingent self-esteem, global self-esteem, social anxiety, and child sex together explained a considerable amount of the variance in friendship jealousy, there might be more to the story of jealousy. For example, although social anxiety and contingent self-esteem were linked to friendship jealousy in this study, individuals with social anxiety or contingent self-esteem might not be always susceptible to jealousy in friendship. Future research should be directed to examining other individual characteristics that interact with social anxiety or fragile self-view, making only some of the early adolescents with social anxiety or fragile self-view become easily jealous and not others. Also, there might be contextual factors that make anxious individuals with fragile self-view more or less sensitive to jealousy evoking situations. Observation research in the future would be helpful to understanding how anxious individuals with fragile self-views behave in different peer relationships contexts. Although this study focused on self-esteem and social anxiety, there can be individual characteristics that predict jealousy regardless of self-view or social anxiety.

Likewise, given that maternal psychological control explained only a small part of the variance in friendship jealousy, future research needs to examine other roles that parents may

play in friendship jealousy in their children across developmental ages. Some of the ways mothers can influence how their children deal with jealous emotions may include social coaching, directly intervening in children's conflicts with friends, and modeling how they manage emotions in their own relationships with friends and others, which their children may copy. By investigating parenting behaviors and patterns and children's individual characteristics as well as contextual factors that might contribute to early adolescents' friendship jealousy, studies may inform efforts to treat and prevent atypically high jealousy in adolescents and its negative consequences in intrapersonal problems as well as peer adjustment.

Unlike the expectation, there was no significant gender difference in the level of friendship jealousy; however, the mean jealousy score for girls was slightly higher than that for boys, consistent with the previous research (Culotta & Goldstein, 2008; Parker et al., 2005). When self-report measures are used, there is a possibility that respondents give socially or culturally desirable responses about themselves. Many boys growing up in the American culture are socialized to inhibit their emotions (e.g., Gaia, 2013). Therefore, boys in this study as well as previous studies that found a gender difference in jealousy might have underreported their level of jealousy due to a stigma that is attached to boys' expression of emotions. It would be difficult to rule out this possibility as long as a self-report measure is used. Self-reports of jealousy are still useful in that they allow researchers to examine subjective emotional experience of jealousy, which observational methods or peer ratings cannot assess. Psychophysiological measures might be able to complement self-reports in assessing subjective experience of jealousy in future research.

Although it is possible that the gender difference in jealousy in the previous study may reflect boys' reluctance to report their feeling of jealousy, it is also possible that girls are indeed

more jealous. Research shows that boys and girls have different types of friendships. Whereas boys tend to spend most of their social time in larger groups including friends and acquaintances, girls tend to spend time with a smaller circle of friends (Rose & Rudolph, 2006). Girls are socialized to expect more exclusivity in their relationships. As a result, girls may react more negatively when their friends show interest in other peers. On the other hand, boys might be more open to their friends' relationship with other peers.

As for social anxiety, consistent with past research (e.g., La Greca & Lopez, 1998), young adolescent girls and boys did not significantly differ in levels of social anxiety. Past work shows that although there is no gender differences in shyness in early to middle childhood, girls start to show higher rates of social anxiety disorder than boys as they move to adolescence and adulthood (Doey, Coplan, & Kingsbury, 2014). As children get older, girls and boys are socialized to view being socially anxious as less acceptable for boys than for girls.

In terms of the measures used in this study, one limitation is that the present study only assessed cognitive and emotional jealousy, and not behavioral expressions of jealousy. Future research needs to pay attention to predictors of different behavioral expressions of jealousy as well. Among individuals who experience feelings of jealousy, some of them function adequately in social settings, whereas others enact those emotions in destructive ways. For example, this study found that young adolescents who had enhanced social anxiety had higher friendship jealousy. However, findings of one study (Culotta & Goldstein, 2008) suggest that socially anxious individuals may only partially represent those who are vulnerable to jealousy. Previous research suggests that adolescents who are highly jealous over friends are likely to show relational aggression (e.g., Culotta & Goldstein, 2008; Parker & Gamm, 2003). There is some evidence that some jealous individuals may also engage in more frequent proactive prosocial

behavior, a type of prosocial behavior that is motivated by a desired goal (Boxer, Tisak, & Goldstein, 2004; Culotta & Goldstein, 2008). However, a study (Culotta & Goldstein, 2008) found that social anxiety in adolescents predicted only proactive prosocial behavior in peer relationships and not relational aggression, indicating that socially anxious individuals may choose proactive prosocial behavior over relational aggression as a way to gain a friend's attention back from the interloper. This is a finding from only one study with a relatively small sample, so more research is called for, but it is possible that adolescents with high jealousy who were reported to engage in relational aggression in previous studies might not have been socially anxious. Although it might be still true that one source of high jealousy in adolescents is social anxiety, there may exist a separate group of adolescents with excessive jealousy who engage in relational aggression but are not socially anxious. It is also possible that a subgroup of socially anxious individuals who share some characteristic other than social anxiety use relational aggression when they feel jealous. As a next step, it will be interesting to explore different subgroups of adolescents who are vulnerable to jealousy in friendship and individual characteristics or contextual factors that influence expression of jealousy. Assessing behavioral expressions of jealousy may require utilizing multiple informants such as friends, peers, and teachers.

Despite the limitation discussed above, this study adds to jealousy literature by introducing and testing a new measure that assesses on-going experience of jealousy. Self-report measures of jealousy in previous research have mostly relied on hypothetical scenarios (see Bringle & Buunk, 1985; Bringle, Renner, Terry, & Davis; 1983; Buunk, 1997; Culotta & Goldstein, 2008; Parker et al., 2005). Active research on friendship jealousy in adolescents has been relative recently started, so there are only a few measures available. Recent friendship

jealousy research has been using peer nominations and a self-report measure that uses hypothetical scenarios, the Friendship Jealousy Questionnaire (Parker et al., 2005). This study is the first to measure respondents' current experience of jealousy in their real friendship and present relevant findings. Although more studies would need to be conducted to test validity of this new measure, it is expected that this current jealousy measure will complement the previously existing jealousy measures, thereby, helping researchers assess friendship jealousy more accurately.

Concerning self-esteem and social anxiety measures, self-esteem and social anxiety are, by definition, subjective constructs, so it is justifiable to assess them with subjective criteria only, although using multiple measures may help obtain more accurate data. As for maternal psychological control, data were initially collected from both mothers and their children. However, mother reports and child reports were not related, and the child measure had a higher reliability than did the mother measure. Based on a previous finding that children's perception of parenting is more important (e.g., Nanda et al., 2012) than actual parental behavior on child outcomes, the main analyses of this study only used child ratings.

Having the same informant for major variables, as in this study, inevitably raises an issue of shared method variance. That is, it is possible that children who are socially anxious or evaluate their self-worth heavily based on social acceptance and approval tend to perceive their parents' behavior as more controlling regardless of the actual level of control. Their parents may rely on psychological control no more than other parents do. Thus, a possibility that should not be ignored is that social anxiety and contingent self-esteem or some unknown underlying factors may make children easily perceive their parents as psychologically controlling.

To avoid the problem of the shared method variance, maternal ratings of psychological control were also collected at first only to find that mother reports of maternal psychological control was not correlated with and less reliable than child reports. Although child reports of maternal behavior may reflect children's perception rather than the actual behavior, mothers' self-reports of psychological control could have been biased as well due to reasons such as social desirability concerns or memory defection. Thus, collecting data on maternal behavior from fathers in addition to mothers and children in future research may help obtain a clearer picture of the effects of maternal psychological control. It will be also interesting to examine whether there are particular groups of mother-child pairs that show relatively large or small differences in their perceptions of maternal behavior compared to other pairs and whether such discrepancy or similarity is related to child outcomes.

In sum, this study found that high social anxiety, low self-esteem, and contingent self-esteem predicted friendship jealousy and maternal psychological control predicted jealousy through social anxiety and both level and contingency of self-esteem. Based on the results of this study, intervention efforts should target children and adolescents with high social anxiety, low self-esteem, and fragile self-view. Although social anxious girls overall tend to show higher jealousy, socially anxious boys are also at risk of developing vulnerability to friendship jealousy. The results of this study also show that parenting heavily relying on psychological control strategies may harm children not only through their self-system but also in other ways yet to be explored. Parents should be informed of negative effects of psychological control on children, such as increasing children's vulnerability to jealousy over friends, which may cause internal and external conflicts in their relationships with friends and other peers.

REFERENCES

Assor, A., Roth, G., & Deci, E. L. (2004). The emotional costs of parents' conditional regard: A self-determination theory analysis. *Journal of Personality*, *72*, 47–88.

Bagwell, C. L., & Schmidt, M. E. (2011). *Friendships in childhood and adolescence*. New York, NY, US: Guilford Press.

Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development*, *67*(6), 3296-3319. doi:10.2307/1131780

Barber, B. K., & Harmon, E. L. (2002). Violating the self: Parental psychological control of children and adolescents. In B. K. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 15–52). Washington, DC: APA.

Barber, B. K., Olsen, J. E., & Shagle, S. C. (1994). Associations between parental psychological and behavioral-control and youth internalized and externalized behaviors. *Child Development*, *65*, 1120–1136.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.

Baumeister, R. F. (1998). The self. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed., Vol. 1, pp. 680–740). New York: McGraw-Hill.

Baumrind, D., Larzelere, R. E., & Owens, E. B. (2010). Effects of preschool parents' power assertive patterns and practices on adolescent development. *Parenting: Science And Practice*, *10*(3), 157-201. doi:10.1080/15295190903290790

Baumeister, R.F., & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497–529.

Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs, 75*(1), 43-88.

Beidel, D., & Turner, S. (1997). At risk for anxiety: Psychopathology in the offspring of anxious parents. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*, 918–924.

Black, K. A., & Schutte, E. D. (2006). Recollections of being loved: Implications of childhood experiences with parents for young adults' romantic relationships. *Journal of Family Issues, 27*, 1459–1480.

Boxer, P., Tisak, M. S., & Goldstein, S. E. (2004). Is it bad to be good? An exploration of aggressive and prosocial behavior subtypes in adolescence. *Journal of Youth and Adolescence, 33,* 91–100.

Bringle, R. G. (1981). Conceptualizing jealousy as a disposition. *Alternative Lifestyles, 4*(3), 274–290.

Bringle, R. G., & Buunk, B. (1985). Jealousy and social behavior: A review of person, relationship and situational determinants. In P. Shaver (Ed.), *Review of personality and social psychology* (Vol. 6, pp. 241–264). Beverly Hills, CA: Sage.

Bringle, R. G., Renner, P., Terry, R. L., & Davis, S. (1983). An analysis of situation and person components of jealousy. *Journal of Research in Personality, 17*, 354-368.

Burwell, R. A., & Shirk, S. R. (2006). Self processes in adolescent depression: The role of self-worth contingencies. *Journal of Research on Adolescence*, *16*, 479–490.

Buunk, B. (1982). Strategies of jealousy: Styles of coping with extramarital involvement of the spouse. *Family Relations, 31*, 13–18.

Buunk, B. P. (1986). Husband's jealousy. In R. A. Lewis & R. Salt (Eds.), *Men in families* (pp. 97-l 14). Beverly Hills: Sage.

Buunk, B. P. (1997). Personality, birth order and attachment styles as related to various types of jealousy. *Personality and Individual Differences, 23*(6), 997-1006.

Cambron, M. J., Acitelli, L. K., & Steinberg, L. (2010). When friends make you blue: The role of friendship contingent self-esteem in predicting self-esteem and depressive symptoms. *Personality And Social Psychology Bulletin*, *36*(3), 384-397. doi:10.1177/0146167209351593

Casas, J. F., Weigel, S. M., Crick, N. R., Ostrov, J. M., Woods, K. E., Jansen Yeh, E. A., & Huddleston-Casas, C. A. (2006). Early parenting and children's relational and physical aggression in the preschool and home contexts. *Applied Developmental Psychology, 27,* 209-227.

Chorpita, B. F., & Barlow, D. (1998). The development of anxiety: The role of control in the early environment. *Psychological Bulletin, 124*, 3–21.

Clark, D.M., & Wells, A. (1995). A cognitive model of social anxiety. In M.R. Liebowitz (Ed.), *Social phobia*: *Diagnosis, assessment, and treatment* (pp. 69–93). New York: Guilford Press.

Conger, R. D., Cui, M., Bryant, C. M., & Elder, G. H. (2000). Competence in early adult romantic relation- ships: A developmental perspective on family influences. *Journal of Personality and Social Psychology, 79*, 224–237.

Crocker, J., & Luhtanen, R. K. (2003). Level of self-esteem and contingencies of self-worth: Unique effects on academic, social, and financial problems in college students. *Personality and Social Psychology Bulletin*, *29*, 701–712.

Crocker, J., Luhtanen, R. K., Cooper, M. L., & Bouvrette, A. (2003). Contingencies of self-worth in college students: Theory and measurement. *Journal of Personality and Social Psychology*, *85*, 894–908.

Crocker, J., & Park, L. E. (2004). The costly pursuit of self-esteem. *Psychological Bulletin, 130,* 392– 414.

Crocker, J., & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review, 108,* 593–623.

Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin*, *122*(1), 5-37. doi:10.1037/0033-2909.122.1.5

Culotta, C. M., & Goldstein, S. E. (2008). Adolescent's aggressive and prosocial behavior: Associations with jealousy and social anxiety. *The Journal of Genetic Psychology*, *169*(1), 21-33.

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, *19*(2), 109-134. doi:10.1016/0092-6566(85)90023-6

Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*, 227–268.

De Man, A. (1986). Parental control in child rearing and trait anxiety in young adults. *Psychological Reports, 59*, 477–478.

Denham, S. A., Mitchell-Copeland, J., Strandberg, K., Auerbach, S., & Blair, K. (1997). Parental contributions to preschoolers' emotional competence: Direct and indirect effects. *Motivation and Emotion, 21*(1). 65-86.

de Mojà, C. A. (1986). Anxiety, self-confidence, jealousy, romantic attitudes toward love in Italian undergraduates. *Psychological Reports*, *58*(1), 138. Abstract retrieved from http://www.ebscohost.com

DeSteno, D., Valdesolo, P., & Bartlett, M. Y. (2006). Jealousy and the threatened self: Getting to the heart of the green-eyed monster. *Journal of Personality and Social Psychology*, *91*(4), 626-641.

Donnellan, M. B., Larsen-Rife, D., & Conger, R. D. (2005). Personality, family history, and competence in early adult romantic relationships. Journal of Personality and Social Psychology, 88, 562–576.

Doey, L., Coplan, R. J., & Kingsbury, M. (2014). Bashful boys and coy girls: A review of gender differences in childhood shyness. *Sex Roles*, *70*(7-8), 255-266. doi:10.1007/s11199-013-0317-9

Erath, S. A., Flanagan, K. S., Bierman, K. L., & Tu, K. M. (2010). Friendships moderate psychosocial maladjustment in socially anxious early adolescents. *Journal Of Applied Developmental Psychology*, *31*(1), 15-26. doi:10.1016/j.appdev.2009.05.005

Gaia, A. (2013). The role of gender stereotypes in the social acceptability of the expression of intimacy. *The Social Science Journal*, *50*(4), 591-602. doi:10.1016/j.soscij.2013.08.006

Gauze, C., Bukowski, W. M., Aquan-Assee, J., & Sippola, L. K. (1996). Interactions between family environment and friendship and associations with self-perceived well-being during adolescence. *Child Development, 67*, 2201–2216.

Gray, M., & Steinberg, L. (1999). Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Marriage and the Family*, *61*(3), 574-587. doi:10.2307/353561

Greco, L. A., & Morris, T. L. (2005). Factors including the link between social anxiety and peer acceptance: Contributions of social skills and close friendships during middle childhood. *Behavior Therapy, 36*, 197–205.

Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology*, 81, 143–154.

Guerrero, L. K. (1998). Attachment-style differences in the experience and expression of romantic jealousy. *Personal Relationships, 5*(3), 273–291.

Hansen, G.L. (1985). Perceived threats and marital jealousy. *Social Psychology Quarterly, 48*, 262-268.

Hart, S. L., & Behrens, K. Y. (2013). Affective and behavioral features of jealousy protest: Associations with child temperament, maternal interaction style, and attachment. *Infancy*, *18*(3), 369-399. doi:10.1111/j.1532-7078.2012.00123.x

Hart, C. H., DeWolf, D., Wozniak, P., & Burts, D. C. (1992). Maternal and paternal disciplinary styles: Relations with preschoolers' playground behavioral orientations and peer status. *Child Development*, *63*(4), 879-892. doi:10.2307/1131240

Hart, S. Field, T., DelValle, C., & Letourneau, M. (1998). Infants protest their mothers attending to an infant-size doll. *Social Development, 7*, 54-61.

Hart, S., Field, T., Letourneau, M., & DelValle, C. (1998). Jealousy protests in infants of depressed mothers. *Infant Behavior and Development, 21*, 137-148.

Hansen, G. L. (1982). Reactions to hypothetical, jealousy producing events. *Family Relations, 31*(4), 513-518.

Harter, S. (1988). *The Self-Perception Profile for Adolescents*. Unpublished manual, University of Denver.

Hudson, J. L., & Rapee, R. M. (2001). Parent-child interactions and the anxiety disorders: An observational analysis. *Behaviour Research and Therapy, 39*, 1411–1427.

Jaremko, M. E., & Lindsey, R. (1979). Stress coping abilities of individuals high and low in jealousy. *Psychological Reports, 44*, 547-553.

Judd, C. M. & Kenny, D. A. (1981). Process analysis: Estimating mediation in treatment evaluations. *Evaluation Review*, 5, 602-619.

Kernis, M. H. (2003). Toward a conceptualization of optimal self-esteem. *Psychological Inquiry*, *14*, 1–26.

Kernis, M. H., Brown, A. C., & Brody, G. H. (2000). Fragile self-esteem in children and its associations with perceived patterns of parent-child communication. *Journal of Personality*, *68*(2), 225-252. doi:10.1111/1467-6494.00096

Kernis, M. H., Lakey, C. E., & Heppner, W. L. (2008). Secure versus fragile high self-esteem as a predictor of verbal defensiveness: Converging findings across three different markers. *Journal of Personality, 76*(3), 477–512.

La Greca, A. M., & Harrison, H. M. (2005). Adolescent Peer Relations, Friendships, and Romantic Relationships: Do They Predict Social Anxiety and Depression?. *Journal Of Clinical Child And Adolescent Psychology*, *34*(1), 49-61. doi:10.1207/s15374424jccp3401_5

La Greca, A. M., & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. Journal of Abnormal Child Psychology, 26, 83–94.

Lansford, J. E., Criss, M. M., Pettit, G. S., Dodge, K. A., & Bates, J. E. (2003). Friendship quality, peer group affiliation, and peer antisocial behavior as moderators of the link between negative parenting and adolescent externalizing behavior. *Journal of Research on Adolescence, 13*, 161–184.

Lansford, J., & Parker, J. G. (1999). Children's interactions in friendship triads: Effects of gender and relationship intransitivity. *Developmental Psychology, 35,* 80–93.

Larson, R. W., Richards, M. H., Moneta, G., Holmbeck, G., & Duckett, E. (1996). Changes in adolescents' daily interactions with their families from ages 10 to 18: Disengagement and transformation. *Developmental Psychology*, *32*(4), 744-754. doi:10.1037/0012-1649.32.4.744

Laursen, B., Bukowski, W. M., Aunola, K., & Nurmi, J. (2007). Friendship moderates prospective associations between social isolation and adjustment problems in young children. *Child Development*, *78*(4), 1395-1404. doi:10.1111/j.1467-8624.2007.01072.x

Lavallee, K. L., & Parker, J. G. (2009). The role of inflexible friendship beliefs, rumination, and low self-worth in early adolescents' friendship jealousy and adjustment. *Journal of Abnormal Child Psychology*, *37*(6), 873-885.

Leary, M. R. & Baumeister, R. F. (2000). The nature and function of self-esteem: Sociometer theory. *Advances in Experimental Social Psychology, 32*, 1-62.

Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality And Social Psychology*, *68*(3), 518-530. doi:10.1037/0022-3514.68.3.518

Leondari, A., & Kiosseoglou, G. (2002). Parental, psychological control and attachment in late adolescents and young adults. *Psychological Reports, 90*(3), 1015-1030. doi:10.2466/PR0.90.3.1015-1030

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.

Luhtanen, R. K., & Crocker, J. (2005). Alcohol use in college students: Effects of level of self-esteem, narcissism, and contingencies of self-worth. *Psychology of Addictive Behaviors*, *19*, 99–103.

Masciuch, S. & Kienapple, K. (1993). The emergence of jealousy in children 4 months to 7 years of age. *Journal of Social and Personal Relationships, 10*, 421-435.

Mathes, E. W. Adams, H. E., & Davies, R. M. (1985). Jealousy: Loss of relationship rewards, loss of self-esteem, depression, anxiety, and anger. *Journal of Personality and Social Psychology, 48*(6), 1552-1561.

Mathes, E. W. & Severa, N. (1981). Jealousy, romantic love and liking: Theoretical considerations and preliminary scale development. *Psychological Reports, 49*(l), 23-31.

McLean, C. P., & Anderson, E. R. (2009). Brave men and timid women? A review of the gender differences in fear and anxiety. *Clinical Psychology Review, 29*(6), 496–505.

Miller, A. L., Volling, B. L., & McElwain, N. L. (2000). Sibling jealousy in a triadic context with mothers and fathers. *Social Development*, *9*(4), 433-457.

Morris, A. S., Silk, J. S., Steinberg, L., Sessa, F. M., Avenevoli, S., & Essex, M. J. (2002). Temperamental vulnerability and negative parenting as interacting predictors of child adjustment. *Journal of Marriage and the Family, 64*(2), 461-471.

Nanda, M. M., Kotchick, B. A., & Grover, R. L. (2012). Parental psychological control and childhood anxiety: The mediating role of perceived lack of control. *Journal of Child and Family Studies*, *21*(4), 637-645.

Nelson, D. A., & Crick, N. R. (2002). Parental psychological control: Implications for childhood physical and relational aggression. In B. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 161-189). Washington, DC: American Psychological Association (APA) Books.

Nelson, D. A., Yang, C., Coyne, S. M., Olsen, J. A., & Hart, C. H. (2013). Parental psychological control dimensions: Connections with Russian preschoolers' physical and relational aggression. *Journal of Applied Developmental Psychology, 34*(1), 1-8. doi:10.1016/j.appdev.2012.07.003

Ohman, A. (1996). Preferential preattentive processing of threat in anxiety: Preparedness and attentional biases. In R.M. Rapee (Ed.), *Current controversies in the anxiety disorders* (pp. 253–290). New York: Guilford Press.

Olsen, S., Yang, C., Hart, C. H., Robinson, C. C., Wu, P., Nelson, D. A., & ... Wo, J. (2002). Maternal psychological control and preschool children's behavioral outcomes in China, Russia, and the United States. In B. K. Barber (Ed.) , *Intrusive parenting: How psychological control affects children and adolescents* (pp. 235-262). Washington, DC, US: American Psychological Association. doi:10.1037/10422-008

Parker, J. G., & Gamm, B. K. B. (2003). Describing the dark side of preadolescents' peer experiences: Four questions (and data) on preadolescents' enemies. *New Directions For Child & Adolescent Development, 2003*(102), 55-72.

Parker, J. G., Kruse, S. A., & Aikins, J. W. (2010). When Friends Have Other Friends: Friendship Jealousy in Childhood and Early Adolescence. In S. L. Hart & M. Legerstee (Eds.), Handbook of Jealousy: Theory, Research, and Multidisciplinary Approaches (pp. 516-546): Blackwell Publishing Ltd.

Parker, J. G., Low, C., Walker, A. W., & Gamm, B. K. (2005). Children's friendship jealousy: Assessment of individual differences and links to gender, self-esteem, aggression, and social adjustment. *Developmental Psychology, 41*(1), 235–250.

Petit, G., Laird, R., Dodge, K., Bates, J., & Criss, M. (2001). Antecedents and behavior-problem outcomes of parental mon- itoring and psychological control in early adolescence. *Child Development, 72*, 583–598.

Poulin, F., Dishion, T. J., & Haas, E. (1999). The peer influence paradox: Friendship quality and deviancy training within male adolescent friendships. *Merrill-Palmer Quarterly, 45*(1), 42-61.

Rapee, R. M. (1997). Potential role of childrearing practices in the development of anxiety and depression. *Clinical Psychology Review, 17*, 47–67.

Rauer, A. J., & Volling, B. L. (2007). Differential parenting and sibling jealousy: Developmental correlates of young adults' romantic relationships. *Personal Relationships, 14*(4), 495-511.

Reijntjes, A., Thomaes, S., Boelen, P., van der Schoot, M., de Castro, B., & Telch, M. J. (2011). Delighted when approved by others, to pieces when rejected: Children's social anxiety magnifies the linkage between self- and other-evaluations. *Journal Of Child Psychology And Psychiatry*, *52*(7), 774-781. doi:10.1111/j.1469-7610.2010.02325.x

Richards, M. H., Crowe, P. A., Larson, R., & Swarr, A. (1998). Developmental patterns and gender differences in the experience of peer companionship during adolescence. *Child Development*, *69*(1), 154-163. doi:10.2307/1132077

Roberts, J. E. (2006). Self-esteem from a clinical perspective. In M. H. Kernis (Ed.), *Self-esteem issues and answers: A sourcebook of current perspectives* (pp. 298–305). New York, NY: Psychology Press.

Robinson, C. C., Mandleco, B., Olsen, S. F., & Hart, C. H. (1995). Authoritative, authoritarian, and permissive parenting practices: Development of a new measure. *Psychological Reports*, *77*(3, Pt 1), 819-830. doi:10.2466/pr0.1995.77.3.819

Rose, A. J., & Rudolph, K. D. (2006). A review of sex differences in peer relationship processes: Potential trade-offs for the emotional and behavioral development of girls and boys. *Psychological Bulletin*, *132*(1), 98-131. doi:10.1037/0033-2909.132.1.98

Rubin, K. H., Bukowski, W. M., & Parker, J. G. (2006). Peer Interactions, Relationships, and Groups. In N. Eisenberg, W. Damon, R. M. Lerner, N. Eisenberg, W. Damon, R. M. Lerner (Eds.) , *Handbook of child psychology: Vol. 3, Social, emotional, and personality development (6th ed.)* (pp. 571-645). Hoboken, NJ, US: John Wiley & Sons Inc.

Rydell, R. J., & Bringle, R. G. (2007). Differentiating reactive and suspicious jealousy. *Social Behavior and Personality: An International Journal*, *35*(8), 1099-1114.

Sargent, J. T., Crocker, J., & Luthanen, R. K. (2006). Contingencies of self-worth and depressive symptoms in college students. *Journal of Social and Clinical Psychology, 25*, 628–646.

Schaefer, E. S. (1965). Children's reports of parental behavior—An inventory. *Child Development*, *36*, 413–424.

Schleider, J. L., Vélez, C. E., Krause, E. D., & Gillham, J. (2014). Perceived psychological control and anxiety in early adolescents: The mediating role of attributional style. *Cognitive Therapy And Research*, *38*(1), 71-81. doi:10.1007/s10608-013-9573-9

Siegel, R. S., La Greca, A. M., & Harrison, H. M. (2009). Peer victimization and social anxiety in adolescents: Prospective and reciprocal relationships. *Journal Of Youth And Adolescence*, *38*(8), 1096-1109. doi:10.1007/s10964-009-9392-1

Silk, J. S., Morris, A. S., Kanaya, T., & Steinberg, L. (2003). Psychological control and autonomy granting: Opposite ends of a continuum or distinct constructs? *Journal of Research on Adolescence, 13*, 113–128.

Sowislo, J., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin*, *139*(1), 213-240. doi:10.1037/a0028931

Thompson, J. A. & Halberstadt, A. G. (2007). Children's accounts of sibling jealousy and their implicit theories about relationships. *Social Development*, *17*(3), 488-511. doi:10.1111/j.1467-9507.2007.00435.x

Vasey, M. W., & Dadds, M. R. (2001). An introduction to the developmental psychopathology of anxiety. In M. W. Vasey & M. R. Dadds (Eds.), The developmental psychopathology of anxiety (pp. 3–26). New York: Oxford University Press.

Vernberg, E. M., Abwender, D. A., Ewell, K. K., & Beery, S. H. (1992). Social anxiety and peer relationships in early adolescence: A prospective analysis. *Journal of Clinical Child Psychology, 21*, 189–196.

Vernberg, E. M., Greenhoot, A. F., & Biggs, B. K. (2006). Intercommunity relocation and adolescent friendships: Who struggles and why?. *Journal of Consulting and Clinical Psychology*, *74*(3), 511-523. doi:10.1037/0022-006X.74.3.511

Volling, B. L., McElwain, N. L., & Miller, A. L. (2002). Emotion regulation in context: The jealousy complex between young siblings about its relations with child and family characteristics. *Child Development, 73*(2), 581-600.

Wentzel, K. R., McNamara Barry, C., & Caldwell, K. A. (2004). Friendships in middle school: Influences on motivation and school adjustment. *Journal of Educational Psychology, 96*(2), 195–203.

White, G.L. (1981a). A model of romantic jealousy. *Motivation and Emotion, 5*, 295-310.

White, G. L. (1981b). Jealousy and a partner's perceived motives for attraction to a rival. *Social Psychology Quarterly, 44,* 24–30.

White, G. L. (1981c). Relative involvement, inadequacy, and jealousy: A test of a causal model. *Alternative Lifestyles, 4*, 291-309

White, G. L. (1981d). Some correlates of romantic jealousy. *Journal of Personality*, *49*(2), 129-147.

Wood, J. J. (2006). Parental intrusiveness and children's separation anxiety in a clinical sample. *Child Psychiatry and Human Development, 37*, 73–87.

Wouters, S., Doumen, S., Germeijs, V., Colpin, H., & Verschueren, K. (2013). Contingencies of self-worth in early adolescence: The antecedent role of perceived parenting. *Social Development, 22*(2), 242-258. doi:10.1111/sode.12010

Xiaojun, W. (2002). Relationship between jealousy and personality. *Acta Psychologica Sinica*, *34*(2), 175-182. Abstract retrieved from http://www.ebscohost.com

Zeigler-Hill, V., Besser, A., & King, K. (2011). Contingent self-esteem and anticipated reactions to interpersonal rejection and achievement failure. *Journal of Social and Clinical Psychology*, *30*(10), 1069-1096.

Zhou, X., Xu, Q., Inglés, C. J., Hidalgo, M. D., & La Greca, A. M. (2008). Reliability and validity of the Chinese version of the Social Anxiety Scale for Adolescents. *Child Psychiatry And Human Development*, *39*(2), 185-200. doi:10.1007/s10578-007-0079-0

APPENDIX

Institutional Review Board Certification

October 14, 2009

Office for Research

Institutional Review Board for the
Protection of Human Subjects

THE UNIVERSITY OF

ALABAMA

R E S E A R C H

Jeffrey Parker, Ph.D.
Department of Psychology
College of Arts and Sciences
The University of Alabama

Re: IRB # 09-OR-291 "Parent-adolescent Communication: Links with
Adolescent Jealousy and Social Behavior"

Dear Dr. Parker:

The University of Alabama Institutional Review Board has granted
approval for your proposed research

Your application has been given expedited approval according to 45 CFR
part 46. Approval has been given under expedited review category 7 as
outlined below:

*(7) Research on individual or group characteristics or behavior
(including, but not limited to, research on perception, cognition,
motivation, identity, language, communication, cultural beliefs or
practices, and social behavior) or research employing survey, interview,
oral history, focus group, program evaluation, human factors evaluation,
or quality assurance methodologies.*

Your application will expire on October 13, 2010. If your research will
continue beyond this date, complete the relevant portions of Continuing
Review and Closure From. If you wish to modify the application,
complete the Modification of an Approved Protocol Form. When the
study closes, complete the appropriate portions of FORM: Continuing
Review and Closure.

Please use reproductions of the IRB approved informed consent form to
obtain consent from your participants.

Should you need to submit any further correspondence regarding this
proposal, please include the above application number.

Good luck with your research.

Sincerely,