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# The Impact of Parental Psychological Control on College Students' Relational Aggression and Friendship Quality

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**The Impact of Parental Psychological Control on College Students'  
Relational Aggression and Friendship Quality**

by

**Megan F. Snider**

A Thesis

Presented to the faculty of  
Bucknell University

In partial fulfillment of the requirements for the degree of  
Bachelor of Arts with Honors in Psychology

November 25, 2013

Approved by:

A handwritten signature in blue ink, reading "Chris J. Boyatzis", written over a horizontal line.

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A handwritten signature in blue ink, reading "T. Joel Wade", written over a horizontal line.

Department Chair Person: T. Joel Wade

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## Table of Contents

|   | <b>Page</b> |
|---|-------------|
| <b>List of Tables</b> .....   | vii         |
| <b>List of Figures</b> .....  | viii        |
| <b>Abstract</b> .....   | 1-2         |
| <b>Introduction</b> .....   | 3-13        |
| <i>Psychological Control and Relational Aggression</i>  | 4           |
| <i>Psychological Control and Friendship Quality</i>   | 5           |
| <i>How is Relational Aggression Related to Friendship Quality?</i>  | 6           |
| <i>The Role of Other Parenting Behaviors</i>  | 9           |
| <i>Hypotheses</i>   | 12          |
| <b>Method</b> .....   | 13-20       |
| <i>Participants</i>   | 13          |
| <i>Procedure</i>  | 16          |
| <i>Measures</i>   | 16          |
| <b>Results</b> .....  | 20-46       |
| <i>Does Psychological Control Predict Relational Aggression?</i>  | 21          |
| <i>Does Psychological Control Predict Friendship Quality?</i>   | 25          |
| <i>Does Psychological Control Predict Other Peer Relationship Variables?</i>  | 27          |
| <i>Does Relational Aggression Predict Friendship Quality?</i>   | 31          |
| <i>Mediation Analyses: Relational Aggression as a Link between<br/>Psychological Control and Friendship Quality</i> | 33          |

|   |       |
|---|-------|
| <i>Mediation Analyses: Friendship Quality as a Link between Psychological Control and Relational Aggression</i> | 36    |
| <i>Moderation Analyses: Effects of Parenting Behavior Combinations</i>  | 40    |
| <b>Discussion</b> .....   | 47-61 |
| <i>Psychological Control and Relational Aggression</i>  | 47    |
| <i>Psychological Control and Friendship Quality</i>   | 49    |
| <i>The Relationship between Relational Aggression and Friendship Quality</i>                                    | 51    |
| <i>The Influence of Other Parenting Behaviors</i>   | 55    |
| <i>The Importance of Social Desirability</i>  | 58    |
| <i>Limitations and Future Directions</i>  | 58    |
| <b>References</b> .....   | 62-74 |
| <b>Appendix A</b> .....   | 75-88 |

## List of Tables

|  |       |
|--|-------|
| Table 1. Individual and Parental Characteristics as a Percentage of the Sample.....                      | 14-15 |
| Table 2. Descriptive Statistics for Scores on All Study Measures.....                                    | 22    |
| Table 3. Correlations among Study Variables.....   | 23    |
| Table 4. Hierarchical Regression Analysis Predicting Relational Aggression.....                          | 25    |
| Table 5. Hierarchical Regression Analysis Predicting Friendship Quality.....                             | 27    |
| Table 6. Hierarchical Regression Analyses Predicting Other Peer Relationship<br>Variables.....           | 30    |
| Table 7. Hierarchical Regression Analysis: Does Relational Aggression<br>Predict Friendship Quality..... | 32    |

## List of Figures

|  |    |
|--|----|
| Figure 1. Relational Aggression as Mediator between Maternal Psychological Control and Friendship Quality..... | 35 |
| Figure 2. Relational Aggression as Mediator between Paternal Psychological Control and Friendship Quality..... | 36 |
| Figure 3. Friendship Quality as Mediator between Maternal Psychological Control and Relational Aggression..... | 39 |
| Figure 4. Friendship Quality as Mediator between Paternal Psychological Control and Relational Aggression..... | 39 |
| Figure 5. Maternal Psychological Control and Warmth/Acceptance on Relational Aggression.....                   | 41 |
| Figure 6. Paternal Psychological Control and Warmth/Acceptance on Relational Aggression.....                   | 43 |
| Figure 7. Maternal Psychological Control and Warmth/Acceptance on Friendship Quality.....                      | 44 |



## Abstract

The present study investigated the relationships between parental psychological control and college students' relational aggression and friendship quality. Based on previous research, it was expected that parents' use of psychological control would be associated with students' increased use of relational aggression with peers and lower friendship quality. Students completed a series of survey measures assessing their mothers' and fathers' use of psychological control, behavioral control, and warmth/acceptance. Students also completed a series of survey measures assessing their friendship quality, social skills, relational aggression, self-esteem, and social desirability.

The study's findings revealed that parental psychological control was associated with and predicted students' increased use of relational aggression with peers. Parental psychological control was also associated with students' lower friendship quality. However, parents' use of psychological control did not predict students' friendship quality after accounting for the influence of students' personal and peer relationship variables. This finding suggests that characteristics of peer relationships may play a larger role than parenting behaviors in shaping college students' friendships. The study also found that students who displayed higher levels of relational aggression had lower quality friendships. Other findings revealed that the relationship between parental psychological control and students' friendship quality can be partially explained by students' use of relational aggression with peers. Students' friendship quality can also help to explain the influence of parental psychological control on students' relational aggression.

In addition, the study found that combinations of parenting behaviors were more informative predictors of students' relational aggression and friendship quality than psychological control alone. Finally, this study revealed the importance of assessing participants' social desirability when measuring sensitive personal qualities such as relational aggression, friendship quality, and self-esteem. Overall, this study contributes to the field of research on parental psychological control by revealing its effects on college students' relational aggression and friendship quality.

## Introduction

Psychological control, a concept first described by Becker (1964) and Schaefer (1965a, 1965b), is a fundamental dimension of parenting that affects children throughout their development (Barber & Harmon, 2002). Psychological control refers to parents' use of behaviors, such as love withdrawal, guilt induction, shaming, emotion invalidation, and possessiveness, that interfere with their children's psychological and emotional development (Barber, 1996). Parental psychological control has been associated with negative internalizing developmental outcomes, including depression, anxiety, loneliness, low self-confidence, low self-esteem, and low self-reliance (Albrecht & Galambos, 2007; see Barber & Harmon, 2002, for a review; Baron & MacGillivray, 1989; Rogers, Buchanan, & Winchell, 2003; Soenens, Vansteenkiste, Luyten, Duriez, & Goosens, 2005; Wolfradt, Hempel, & Miles, 2003). Parental psychological control has also been associated with negative externalizing developmental outcomes, such as delinquency, social withdrawal, physical and relational aggression, antisocial behaviors, sexual precocity, and drug and alcohol use (Albrecht et al., 2007; see Barber & Harmon, 2002, for a review; Baumrind, 1967; Baumrind & Black, 1967; Rogers et al., 2003; Yang, Hart, Nelson, Porter, Olsen, & Robinson, 2004). Most of the research examining the developmental effects of parental psychological control has focused on children and adolescents (Aunola & Nurmi, 2005; Barber & Harmon, 2002) and has connected the construct with negative internalizing developmental outcomes (Barber, Stolz, & Olsen, 2005). Thus, the effects of parental psychological control on the externalizing outcomes of older age groups have been largely unexplored. The present study addresses this gap

in the research by investigating the effects of parental psychological control on college students' relational aggression and friendship quality.

### **Psychological Control and Relational Aggression**

Relational aggression refers to behaviors that intend to harm others by manipulating or damaging their social relationships through methods such as gossiping, spreading rumors, threatening to end friendships, or excluding others from social groups (Crick, 1996; Crick, Bigbee, & Howes, 1996; Crick & Grotpeter, 1995). Unlike physical aggression, relational aggression is as common in girls as it is in boys (Crick et al., 1998; Crick & Grotpeter, 1995). In fact, girls may be more likely than boys to display relational aggression (Crick & Grotpeter, 1995).

Previous research has found links between parental psychological control and relational aggression in children and adolescents (see Kuppens, Laurent, Heyvaert, & Onghena, 2013, for a review). Kuppens et al. (2013), for example, examined the relationship between parental psychological control and relational aggression in children and adolescents by conducting a meta-analysis of recent research. Their results indicated an overall positive correlation between parental psychological control and youth relational aggression, with parental psychological control accounting for approximately 3% of the variance in youth relational aggression. Although this relationship is relatively weak, Kuppens et al.'s results provide evidence that increased levels of parental psychological control are associated with increased levels of youth relational aggression.

Research suggests that the relationship between parental psychological control and relational aggression is stronger in adolescents than in younger children (Kuppens et al., 2013). Because adolescents have a greater need to establish autonomy and develop a sense of identity, they may be more sensitive than younger children to the effects of parental psychological control (Barber & Harmon, 2002; Nelson & Crick, 2002). The need for autonomy and a stable sense of identity continues to increase throughout emerging adulthood, which suggests that parental psychological control may have significant effects on emerging adults' use of relational aggression as well (Dalton, Frick-Horbury, & Kitzmann, 2006; Kerig, Shulz, & Hauser, 2012). Kerig & Swanson (2010), for example, found that parents' intrusiveness, or use of psychological control, was associated with increased use of relational aggression in emerging adults' romantic relationships. Although the effects of parental psychological control on emerging adults' use of relational aggression with friends has not yet, to my knowledge, been examined, it is likely that parents' use of psychological control will be associated with emerging adults' increased use of relational aggression with friends as well.

### **Psychological Control and Friendship Quality**

As individuals transition into emerging adulthood and begin to establish independence from their families, the importance of maintaining healthy relationships with close friends increases (Dalton et al., 2006; Roisman, Masten, Coatsworth, & Tellegen, 2004). According to the developmental contextual approach, early family relationships influence individuals' later relationship quality with friends (Conger, Cui, Elder, & Bryant, 2000). Previous research suggests that parenting behaviors influence

children's peer relationships and social competence (see Ladd & Pettit, 2002; Parke & Buriel, 1998, for reviews). Parental psychological control, in particular, has been linked to children's and adolescents' impairments in social functioning and friendship competence, higher levels of loneliness, lower levels of peer social support, and lower quality peer relationships (Cook, Buehler, & Fletcher, 2012; Dekovic & Meeus, 1997; Karavasilis, Doyle, & Markiewicz, 2003; Soenens, Vansteenkiste, Duriez, & Goossens, 2006; Soenens, Vansteenkiste, Duriez, Goossens, & Niemiec, 2008). Similarly, Dalton et al. (2006) found that young adults who viewed their childhood relationships with their parents as positive were more likely to have meaningful, secure relationships with others and to view themselves as able to form healthy relationships.

According to attachment theory, negative relationships with parents may make it more difficult for individuals to develop supportive friendships, as the secure base needed to ensure success in this task is absent (Ainsworth, 1989; Call & Mortimer, 2001). Because psychological control has been conceptualized as a negative parenting behavior, it may play a significant role in inhibiting the development of high quality friendships (i.e., trusting, supportive, positive relationships) during young adulthood.

### **How is Relational Aggression Related to Friendship Quality?**

Along with their significant individual associations with parental psychological control, I chose to examine the developmental outcomes of relational aggression and friendship quality in the present study due to their relationship with each other. As Coie and Dodge (1998) explain, aggressive behaviors are a significant predictor of peer rejection. Previous research suggests that relational aggression, in particular, is related to

social exclusion, loneliness, decreased social preference, and peer rejection (Crick, 1996; Crick, 1997; Crick & Grotpeter, 1995; Crick et al., 1998; Soenens et al., 2008; Tomada & Schneider, 1997; Werner & Crick, 1999; Werner & Crick, 2004; Zimmer-Gembeck, Geiger, & Crick, 2005). Grotpeter and Crick (1996) suggest that relational aggression is more influential on relationships with close friends than on relationships with other peers, as people are more likely to demonstrate relationally aggressive behaviors in intimate friendships. Friendships in which relational aggression is used are based on a conditional and manipulative relationship, which may lead to a lower quality friendship involving feelings of distrust, resentment, and alienation (Grotpeter & Crick, 1996).

A study conducted by Soenens et al. (2008), which helped to inspire the present study, highlights a significant relationship between relational aggression and friendship quality. Soenens et al. examined the relationships between parental psychological control and relational aggression, friendship quality (i.e., companionship, help/support, closeness, security in friendships), and loneliness in adolescents. While they found that parental psychological control was positively correlated with adolescents' levels of relational aggression and loneliness, there was no significant correlation between parental psychological control and adolescents' friendship quality. Adolescents' relational aggression, however, was negatively correlated with their friendship quality and positively correlated with their loneliness. Using structural equation modeling, Soenens et al. found an indirect effect of parental psychological control on adolescents' friendship quality through their levels of relational aggression. In other words, adolescents whose parents were more psychologically controlling had poorer quality friendships and felt

lonelier as a result of their increased relational aggression with peers. Thus, relational aggression functioned as a link between parental psychological control and adolescents' friendship quality. Based on these results, it is likely that the present study will find a relationship between college students' relational aggression and friendship quality.

As Soenens et al. (2008) have demonstrated, the relationship between parental psychological control and children's friendship quality may be better understood in consideration of their relational aggression. Psychological control behaviors (e.g., love withdrawal, guilt induction) are similar in nature to relationally aggressive behaviors, as both types of behaviors involve social and emotional manipulation (Nelson & Crick, 2002; Reed, Goldstein, Morris, & Keyes, 2008). According to social learning theory, individuals with psychologically controlling parents may learn to behave in relationally aggressive ways with their peers by observing and imitating their parents' psychologically controlling, manipulative behaviors (Bandura, 1973; Casas et al., 2006; Coie & Dodge, 1998). If, for example, a child's parents are less responsive when the child fails to meet certain requirements, the child may use relational aggression with peers by adopting the parents' strategy of being conditionally responsive (Soenens et al., 2008). Thus, individuals with psychologically controlling parents may be more likely to adopt manipulative strategies in their behaviors with peers and may view relational aggression as a successful method of peer interaction (Hart, Ladd, & Burlison, 1990; Nelson & Crick, 2002; Nelson, Hart, Yang, Olsen, & Jin, 2006).

The relationship between parental psychological control, relational aggression, and friendship quality can also be explained by attachment theory. Bowlby (1973)



suggested that children's interactions with their parents influence their functioning in peer relationships. An insecure parent-child attachment, for example, which is based on unresponsive, insensitive, and rejecting parenting behaviors, may cause children to develop negative working models of relationships that lead them to have insecure relationships with peers. To compensate for feeling rejected or conditionally accepted by peers and friends, children may engage in relationally aggressive behaviors with them, which may decrease their quality of friendships (Bowlby, 1973; Deci & Ryan, 2000; Michiels, Grietens, Onghena, & Kuppens, 2008; Simons, Paternite, & Shore, 2001; Soenens et al., 2008; Troy & Sroufe, 1987).

### **The Role of Other Parenting Behaviors**

Research on parent-child relationships has identified three major dimensions of parenting: psychological control, behavioral control, and support (e.g., responsiveness, warmth, acceptance) (Barber, Olsen, & Shagle, 1994; Maccoby & Martin, 1983; Schwarz, Barton-Henry, & Pruzinsky, 1985). Although psychological control is the primary parenting behavior of interest in the present study, it is helpful to consider the influence of parental behavioral control and support on college students' relational aggression and friendship quality as well.

Behavioral control refers to parents' management of their children's behavior through the use of firm and consistent monitoring, discipline, and limit setting (Barber, 1996; Galambos, Barker, & Almeida, 2003). Research suggests that higher levels of parental behavioral control are optimal for helping children to achieve positive developmental outcomes. Previous research has found, for example, that low levels of

parental behavioral control are associated with externalizing problems such as delinquency, drug and alcohol use, antisocial behavior, and school misconduct, and internalizing problems such as anxiety, loneliness, and depression (Barber, 1996; Barber et al., 1994; Barnes & Farrell, 1992; Galambos et al., 2003; Gray & Steinberg, 1999; Herman, Dornbusch, Herron, & Herting, 1997; Pettit, Laird, Dodge, Bates, & Criss, 2001). Thus, it is likely that low levels of parental behavioral control will be associated with increased relational aggression and lower quality friendships in college students.

Parental support, which the present study refers to as “warmth/acceptance,” describes parents’ connectedness and responsiveness to their children and their use of warmth and acceptance in parent-child interactions (Galambos et al., 2003; Wood, McLeod, Sigman, Hwang, & Chu, 2003). Research suggests that high levels of parental warmth/acceptance are related to more positive developmental outcomes, while low levels of parental warmth/acceptance may have detrimental effects on individuals’ internalizing and externalizing behaviors (Dodge, Pettit, & Bates, 1994; Miller, Cowan, Cowan, Hetherington, & Clingempeel, 1993). Previous research has found, for example, that lower levels of parental warmth/acceptance are related to increased depression and anxiety, antisocial behavior, drug and alcohol use, and school misconduct in adolescents (Gray & Steinberg, 1999). Thus, it is likely that lower levels of parental warmth/acceptance will be related to increased relational aggression and lower quality friendships in college students.

It is useful to measure all three major dimensions of parenting (i.e., psychological control, behavioral control, and warmth/acceptance) because some developmental

outcomes can best be explained by a combination of these dimensions rather than by one dimension alone (Aunola & Nurmi, 2005; Baumrind, 1991; Darling & Steinberg, 1993). Aunola and Nurmi (2005), for example, found that high levels of maternal psychological control combined with high levels of maternal warmth/acceptance predicted increases in children's internalizing (i.e., depressive symptoms) and externalizing (i.e., antisocial behaviors, problematic peer relations) problems, whereas high levels of maternal psychological control combined with low levels of maternal warmth/acceptance predicted a decrease in children's externalizing problems. Pettit and Laird (2002), on the other hand, found that high levels of parental psychological control combined with low levels of parental warmth/acceptance were associated with increased delinquent behaviors in adolescents, whereas high levels of parental psychological control combined with high levels of parental warmth/acceptance were not. Similarly, Gray and Steinberg (1999) found that high levels of parental psychological control combined with high levels of parental warmth/acceptance prevented internalizing problems in adolescents more so than when low levels of parental psychological control were combined with high levels of parental warmth/acceptance. Additionally, Aunola and Nurmi (2005) found that low levels of maternal psychological control combined with high levels of maternal behavioral control predicted decreases in children's externalizing problems. When combined with high levels of maternal psychological control, however, maternal behavioral control had no impact on children's internalizing or externalizing problems. Galambos et al. (2003), however, found that high levels of parental psychological control were related to adolescents' increased externalizing problems (e.g., substance abuse,

antisocial behavior, school misconduct) but only when combined with high levels of parental behavioral control. Examining combinations of parenting dimensions, therefore, may offer a better understanding of college students' relational aggression and friendship quality than individual dimensions alone.

### **Hypotheses**

The present study investigated the relationships between parental psychological control and college students' relational aggression and friendship quality. Based on previous research, I hypothesized that higher levels of parental psychological control would be associated with students' increased use of relational aggression with peers and with their lower friendship quality. I also expected that parental psychological control would predict students' increased relational aggression and lower friendship quality after controlling for the influence of other related personal, peer relationship, and parenting behavior variables. Additionally, I hypothesized that students' increased relational aggression would be associated with and predict a decrease in their friendship quality. Based on Soenens et al.'s (2008) findings, I also predicted that students' relational aggression would function as a mediating link between parental psychological control and their friendship quality. Finally, I predicted that combinations of parenting behaviors (i.e., psychological control, behavioral control, warmth/acceptance) would have a unique effect on students' relational aggression and friendship quality. In particular, I hypothesized that high levels of parental psychological control combined with high levels of parental warmth/acceptance would increase students' relational aggression and decrease their friendship quality to a greater extent than other combinations of these

parenting behaviors. I also hypothesized that high levels of parental psychological control combined with high levels of parental behavioral control would increase students' relational aggression and decrease their friendship quality to a greater extent than other combinations of these parenting behaviors.

## **Method**

### **Participants**

Participants were 237 undergraduate students at a small, private university in the Northeast who ranged from 18 to 23 years of age ( $M = 19.42$ , 54 males, 183 females). The participating students consisted of 73 freshman, 59 sophomores, 46 juniors, and 59 seniors. The students were primarily Caucasian (85%). Ninety-five percent of participants identified their biological mother as their primary mother figure, 93% identified their biological father as their primary father figure, and 83% of participants indicated that their parents were currently married. Over 75% of participants' primary mother and father figures completed at least four years of college. Table 1 displays descriptive statistics for the sample.

Participants were recruited through advertisements to the general student population through the university's online message center, to students in introductory psychology courses, and to students in other psychology courses. Participants who were recruited from the general student population received compensation for their participation by entering a raffle to win one of four \$50.00 gift cards. Participants enrolled in an introductory psychology course received research credits required for their

**Table 1***Individual and Parental Characteristics as a Percentage of the Sample*

| Characteristic          | Participants ( $n = 237$ ) |
|-------------------------|----------------------------|
| Sex                     |                            |
| Male                    | 22.8                       |
| Female                  | 77.2                       |
| Age                     |                            |
| 18                      | 29.1                       |
| 19                      | 27.0                       |
| 20                      | 19.4                       |
| 21                      | 22.4                       |
| 22                      | 1.7                        |
| 23                      | 0.4                        |
| Class Year              |                            |
| Freshman                | 30.8                       |
| Sophomore               | 24.9                       |
| Junior                  | 19.4                       |
| Senior                  | 24.9                       |
| Ethnicity               |                            |
| Caucasian               | 85.2                       |
| Black                   | 2.5                        |
| Asian                   | 6.8                        |
| Hispanic                | 3.0                        |
| Other                   | 2.5                        |
| Number of Close Friends |                            |
| 0-5                     | 13.8                       |
| 6-10                    | 39.5                       |
| 11-15                   | 24.1                       |
| 16-20                   | 11.4                       |
| 21 or More              | 11.2                       |
| Sex of Close Friends    |                            |
| Same Sex Only           | 25.3                       |
| Opposite Sex Only       | 2.5                        |
| Mix of Sexes            | 72.2                       |

*Continued...*

| Characteristic                            | Participants ( $n = 237$ ) |
|---|----------------------------|
| <b>Primary Mother Figure</b>              |                            |
| Biological Mother                         | 95.4                       |
| Stepmother                                | 0.4                        |
| Adoptive Mother                           | 1.7                        |
| Other Female Guardian                     | 1.3                        |
| No Primary Mother Figure                  | 1.3                        |
| <b>Primary Father Figure</b>              |                            |
| Biological Father                         | 92.8                       |
| Stepfather                                | 1.7                        |
| Adoptive Father                           | 1.3                        |
| Other Male Guardian                       | 0.8                        |
| No Primary Father Figure                  | 3.4                        |
| <b>Biological Parents' Marital Status</b> |                            |
| Married                                   | 82.3                       |
| Separated                                 | 0.8                        |
| Divorced                                  | 10.1                       |
| Never Married                             | 3.0                        |
| Widowed                                   | 2.5                        |
| Unknown                                   | 1.3                        |
| <b>Mother Figure's Education Level</b>    |                            |
| Did not complete high school              | 1.3                        |
| Completed high school                     | 11.8                       |
| Two years of college                      | 10.1                       |
| Four years of college                     | 42.9                       |
| Professional/graduate school              | 33.9                       |
| <b>Father Figure's Education Level</b>    |                            |
| Did not complete high school              | 1.3                        |
| Completed high school                     | 13.9                       |
| Two years of college                      | 3.8                        |
| Four years of college                     | 39.2                       |
| Professional/graduate school              | 41.8                       |

course, and participants enrolled in certain other psychology courses received extra credit in their course.

### **Procedure**

Participants followed an online link to Qualtrics, a survey-distribution computer program, where they completed a series of survey measures. The use of Qualtrics for data collection allowed the survey responses to be downloaded for analysis anonymously. Participants' identifying information and survey responses were kept confidential. After reading and signing an informed consent form, participants completed a series of self-report survey measures that collected their demographic information and information about their primary mother figure's and primary father figure's parenting behaviors. The survey measures also collected information about participants' friendship quality, social skills, use of relational aggression, self-esteem, and tendency to respond in a socially desirable manner. Upon completion of the survey, participants were given the principal investigator's contact information to utilize if they had any questions or concerns about the study.

### **Measures**

All survey measures used in the study are provided in Appendix A.

**Demographic information.** The demographic information survey consists of 15 items that examined participants' demographic background (e.g., class year, age, sex, ethnicity), family background (e.g., primary mother and father figures, parents' marital status), and friendship characteristics (e.g., number of close friends, sex of close friends).



**Psychological control and parenting behaviors.** The child-report version of the Children's Report of Parental Behavior Inventory (CRPBI-30; Schludermann & Schludermann, 1988) consists of three 10-item subscales that were used to assess levels of parental psychological control (e.g., "My primary mother figure/primary father figure is less friendly with me if I do not see things her/his way"), behavioral control (e.g., "My primary mother figure/primary father figure is very strict with me"), and warmth/acceptance (e.g., "My primary mother figure/primary father figure makes me feel better after talking over my worries with her/him"). The CRPBI-30 uses a three-point response scale to measure how closely each statement describes participants' primary mother and father figures (1 = *not like*, 3 = *a lot like*). Item responses in the subscales were summed to yield a psychological control score, a behavioral control score, and a warmth/acceptance score. Higher scores indicate higher levels of these parenting behaviors. The CRPBI-30 had a strong internal reliability, as Cronbach's alpha for the psychological control subscale was .84 for mothers and .86 for fathers, for the behavioral control subscale was .83 for mothers and .85 for fathers, and for the warmth/acceptance subscale was .93 for both mothers and fathers.

The Parental Psychological Control Scale-Youth Self-Report (PCS-YSR; Barber, 1996) was used to assess levels of parental psychological control. The PCS-YSR consists of eight items that measure aspects of parental psychological control that differ from those measured by the CRPBI-30 (e.g., "My primary mother figure/primary father figure is a person who acts like she/he knows what I'm thinking or feeling"). The PCS-YSR uses a three-point response scale to identify how closely each statement describes

participants' primary mother and father figures (1 = *not like her/him*, 3 = *a lot like her/him*). Item responses were summed to yield a psychological control score, and higher scores indicate higher levels of psychological control. The PCS-YSR had a strong internal reliability, as Cronbach's alpha was .84 for mothers and .81 for fathers. Because students' responses concerning their primary mother figure's and primary father figure's use of psychological control were similar on the CRBPI-30 and the PCS-YSR and scores on these measures were strongly correlated (see Table 3), only scores from the PCS-YSR were used in the study's analyses examining the effects of parental psychological control.

**Friendship quality and social skills.** The Peer subscales of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) were used to assess participants' friendship quality. The Peer subscales of the IPPA consist of 25 total items that measure the degree of mutual trust (e.g., "I can count on my friends when I need to get something off my chest"), the quality of communication (e.g., "When we discuss things, my friends care about my point of view"), and the extent of anger and alienation (e.g., "I feel alone or apart when I am with my friends") in participants' friendships. The IPPA uses a five-point response scale to measure how true participants feel that each statement is about their close friends (1 = *almost never or never true*, 5 = *almost always or always true*). Item responses were summed to yield a peer attachment score. Higher peer attachment scores indicate better overall friendship quality. The Peer subscales of the IPPA had a strong internal reliability ( $\alpha = .93$ ).

The Social Acceptance subscale and the Close Friendship subscale of the Self-Perception Profile for College Students (Neemann & Harter, 1986) were used to assess

additional aspects of participants' social skills. The Social Acceptance subscale consists of four items that measure participants' satisfaction with their social skills and their ability to make friends (e.g., "Some students like the way they interact with other people, but other students wish their interactions with other people were different"). The Close Friendship subscale consists of four items that assess participants' relationships with close friends (e.g., "Some students are able to make close friends they can really trust, but other students find it hard to make close friends they can really trust"). Both subscales use a question format in which participants identify how true one of the statements about each topic is for them (e.g., a participant chooses "Some students are able to make close friends they can really trust" or "Other students find it hard to make close friends they can really trust" and then identifies whether the chosen statement is *really true* for them or *sort of true* for them). Items were scored 4, 3, 2, or 1. Higher scores indicate increased feelings of social acceptance and better relationships with close friends. The Social Acceptance subscale had a strong internal reliability ( $\alpha = .80$ ), as did the Close Friendship subscale ( $\alpha = .80$ ).

**Relational aggression.** A slightly modified seven-item relational aggression scale developed by Werner and Crick (1999) was used to assess participants' levels of relational aggression. I modified the scale to make it a self-report measure (e.g., "When mad, I try to damage others' reputations by passing on negative information"). This relational aggression scale uses a three-point response scale to measure how closely each statement describes the participant (1 = *not like me*, 3 = *a lot like me*). To increase the scale's internal reliability, one item was excluded from analysis. Responses to the

remaining six items were summed to yield a total relational aggression score. Higher scores indicate higher levels of relational aggression. The relational aggression scale had a lower internal reliability ( $\alpha = .57$ ).

**Self-esteem.** The Rosenberg Self-Esteem Scale (Rosenberg, 1965) was used to assess participants' self-esteem. The scale consists of 10 items that measure global self-worth (e.g., "On the whole, I am satisfied with myself"). The Rosenberg Self-Esteem Scale uses a four-point response scale to measure how strongly participants agree or disagree that each statement describes them (4 = *strongly agree*, 1 = *strongly disagree*). Item responses were summed to yield a total self-esteem score. Higher scores indicate higher self-esteem. The Rosenberg Self-Esteem scale had a strong internal reliability ( $\alpha = .91$ ).

**Social desirability.** A 13-item shortened version of the Marlowe-Crowne Social Desirability Scale (M-C SDS; Reynolds, 1982) was used to assess participants' tendencies to respond to questions in a socially desirable or culturally acceptable manner (e.g., "I sometimes feel resentful when I don't get my way"). Response choices are *true* or *false* for each item. Participants' responses to this scale were used as a control measure to evaluate the social desirability level of their responses to other measures in the study. This scale had strong internal reliability ( $\alpha = .70$ ).

## Results

I first conducted a 2 (Sex) x 4 (Class year) multivariate analysis of variance (MANOVA) to test if any main effects emerged for student sex or class year on the

study's dependent variable measures (i.e., CRPBI-30, PCS-YSR, IPPA, Social Acceptance subscale, Close Friendship subscale, relational aggression scale, Rosenberg Self-Esteem Scale, M-C SDS). Table 2 displays descriptive statistics for all dependent variable measures. There were no significant differences between sexes (Wilks' Lambda = .95,  $F(14, 159) = .58, p = .88$ ) or class years (Wilks' Lambda = .79,  $F(42, 472) = .93, p = .60$ ) on any of the dependent variable measures. Therefore, all participants were combined into one total sample in the following analyses.

Paired *t*-tests examined differences between mothers' and fathers' psychological control, behavioral control, and warmth/acceptance scores. Mothers ( $M = 11.01, SD = 3.28$ ) had significantly higher psychological control scores than fathers ( $M = 10.41, SD = 2.89$ ),  $t(220) = 2.37, p = .02$ , with a small effect size (Cohen's  $d = .19$ ). Similarly, mothers ( $M = 25.78, SD = 4.98$ ) had significantly higher warmth/acceptance scores than fathers ( $M = 24.42, SD = 5.38$ ),  $t(219) = 4.09, p = .00$ , with a medium effect size (Cohen's  $d = .29$ ). There were no significant differences between mothers' ( $M = 19.37, SD = 4.10$ ) and fathers' ( $M = 19.92, SD = 4.45$ ) behavioral control scores,  $t(220) = -1.66, p = .10$  (Cohen's  $d = .10$ ). Although there were significant differences between mothers' and fathers' psychological control scores and warmth/acceptance scores, the small to medium effect sizes suggest that their scores were not dramatically different. Therefore, parenting behaviors were examined together in some analyses.

### **Does Psychological Control Predict Relational Aggression?**

To test my hypothesis that higher levels of parental psychological control would be associated with students' increased relational aggression, I first calculated Pearson

**Table 2***Descriptive Statistics for Scores on All Study Measures*

| Variable                    | Range of Measure | Range of Scores | <i>M</i> | <i>SD</i> |
|-----------------------------|------------------|-----------------|----------|-----------|
| <b>PCS</b>                  |                  |                 |          |           |
| Mother Score                | 8 – 24           | 8 – 24          | 11.01    | 3.28      |
| Father Score                | 8 – 24           | 8 – 24          | 10.41    | 2.89      |
| <b>CRPBI</b>                |                  |                 |          |           |
| Mother Warmth               | 10 – 30          | 10 – 30         | 25.78    | 4.98      |
| Father Warmth               | 10 – 30          | 10 – 30         | 24.42    | 5.38      |
| Mother Behavioral Control   | 10 – 30          | 10 – 30         | 19.37    | 4.10      |
| Father Behavioral Control   | 10 – 30          | 10 – 30         | 19.92    | 4.45      |
| <b>IPPA</b>                 |                  |                 |          |           |
| Social Acceptance Subscale  | 4 – 16           | 4 – 16          | 11.64    | 3.17      |
| Close Friendships Subscale  | 4 – 16           | 4 – 16          | 12.93    | 3.13      |
| Relational Aggression Score | 6 – 18           | 6 – 12          | 6.60     | 1.09      |
| Self-Esteem Score           | 10 – 40          | 14 – 40         | 30.36    | 5.66      |
| Social Desirability Score   | 0 – 13           | 0 – 12          | 6.41     | 2.84      |

correlations between maternal and paternal psychological control scores and students' relational aggression scores. Table 3 displays these correlations along with intercorrelations among all dependent variables. Both maternal psychological control ( $r = .30, p < .01$ ) and paternal psychological control ( $r = .19, p < .01$ ) were modestly

**Table 3**  
*Correlations among Study Variables*

| Measure                       | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8      | 9      | 10      | 11     | 12 |
|-------------------------------|---------|---------|---------|---------|---------|---------|---------|--------|--------|---------|--------|----|
| 1.) Mother PCS                | -       |         |         |         |         |         |         |        |        |         |        |    |
| 2.) Mother Warmth             | -.501** | -       |         |         |         |         |         |        |        |         |        |    |
| 3.) Mother Behavioral Control | .308**  | -.260** | -       |         |         |         |         |        |        |         |        |    |
| 4.) Father PCS                | .283**  | -.082   | .162*   | -       |         |         |         |        |        |         |        |    |
| 5.) Father Warmth             | -.118   | .462**  | -.071   | -.437** | -       |         |         |        |        |         |        |    |
| 6.) Father Behavioral Control | .060    | -.035   | .572**  | .396**  | -.212** | -       |         |        |        |         |        |    |
| 7.) Friendship Quality        | -.265** | .360**  | -.134*  | -.361** | .313**  | -.109   | -       |        |        |         |        |    |
| 8.) Social Acceptance         | -.168** | .273**  | -.088   | -.325** | .266**  | -.173** | .382**  | -      |        |         |        |    |
| 9.) Close Friendship          | -.230** | .291**  | -.127   | -.360** | .291**  | -.220** | .557**  | .512** | -      |         |        |    |
| 10.) Relational Aggression    | .295**  | -.066   | .040    | .193**  | .048    | .059    | -.341** | -.052  | -.120  | -       |        |    |
| 11.) Self-Esteem              | -.395** | .418**  | -.177** | -.343** | .315**  | -.193** | .396**  | .500** | .430** | -.115   | -      |    |
| 12.) Social Desirability      | -.167*  | .109    | .046    | -.119   | .086    | -.001   | .233**  | .123   | .139*  | -.302** | .269** | -  |

\* $p < .05$ . \*\* $p < .01$ .

positively correlated with students' relational aggression with their peers. In other words, higher levels of parental psychological control were associated with higher levels of students' relational aggression. It is important to mention that students' relational aggression scores were significantly correlated with their social desirability scores ( $r = -.30, p < .01$ ), and the inverse correlation suggests that students probably underreported their relational aggression to appear more socially desirable. If students had reported honestly, the positive correlations between maternal and paternal psychological control and students' relational aggression could have been stronger.

To further examine the relationship between parental psychological control and students' relational aggression, I conducted a hierarchical regression analysis (stepwise method) predicting students' relational aggression. Table 4 displays the results of this regression analysis. All of the variables entered in the analysis were correlated significantly with students' relational aggression. Students' social desirability scores were used as Step 1. Controlling for students' social desirability scores may help to better determine the influence of other variables on their relational aggression. Step 2 was students' friendship quality (i.e., IPPA scores), and Step 3 was both maternal and paternal psychological control. After controlling for students' social desirability ( $R^2 = .09, p < .01$ ), friendship quality predicted students' relational aggression in Step 2 ( $\Delta R^2 = .07, p < .01$ ), and in Step 3 maternal psychological control predicted significant additional variance in students' relational aggression ( $\Delta R^2 = .04, p < .01$ ). Students' social desirability, friendship quality, and maternal psychological control together predicted



**Table 4***Hierarchical Regression Analysis Predicting Relational Aggression*

|                     | <u>Model 1</u> | <u>Model 2</u> | <u>Model 3</u> |
|---------------------|----------------|----------------|----------------|
| Variable            | $\beta$        | $\beta$        | $\beta$        |
| Social Desirability | -.30**         | -.22**         | -.20**         |
| Friendship Quality  |                | -.29**         | -.24**         |
| Mother PCS          |                |                | .20**          |
| Father PCS          |                |                | .05            |
| $R^2$               | .09            | .16            | .20            |
| $\Delta R^2$        | .09**          | .07**          | .04**          |
| $F$                 | 19.86**        | 20.27**        | 17.34**        |

\*  $p < .05$ . \*\*  $p < .01$ .

20% of the variance in their relational aggression. Paternal psychological control did not predict students' relational aggression.

### **Does Psychological Control Predict Friendship Quality?**

To test my hypothesis that higher levels of parental psychological control would be associated with students' lower friendship quality, I first calculated Pearson correlations between maternal and paternal psychological control scores and students' friendship quality scores. Both maternal psychological control ( $r = -.26, p < .01$ ) and paternal psychological control ( $r = -.36, p < .01$ ) were modestly negatively correlated with students' friendship quality. In other words, higher levels of parental psychological control were associated with students' lower friendship quality. Students' friendship quality scores were also significantly correlated with their social desirability scores ( $r = .23, p < .01$ ), and the positive correlation suggests that students probably over reported

their friendship quality to appear more socially desirable. If students had reported honestly, the negative correlations between maternal and paternal psychological control and students' friendship quality could have been stronger.

To further examine the relationship between parental psychological control and students' friendship quality, I conducted a hierarchical regression analysis (stepwise method) predicting students' friendship quality. Table 5 displays the results of this regression analysis. All of the variables entered in the analysis were correlated significantly with students' friendship quality. Students' social desirability scores and self-esteem scores were used as Step 1. Controlling for these personal variables may help to better determine the influence of other variables on students' friendship quality. Step 2 was students' close friendship, relational aggression, and social acceptance; Step 3 was maternal and paternal warmth/acceptance and maternal behavioral control; and Step 4 was maternal and paternal psychological control. After controlling for students' self-esteem and social desirability ( $R^2 = .17, p < .01$ ), students' friendship quality was predicted on Step 2 by close friendship, relational aggression, and social acceptance ( $\Delta R^2 = .26, p < .01$ ). On Step 3, paternal warmth/acceptance predicted significant additional variance in students' friendship quality ( $\Delta R^2 = .03, p < .01$ ). On Step 4, neither maternal nor paternal psychological control were significant predictors of students' friendship quality. Thus, after accounting for the influence of students' personal and peer relationship variables and paternal warmth/acceptance, students' friendship quality was not predicted by maternal warmth/acceptance, maternal behavioral control, or maternal and paternal psychological control. However, students' self-esteem, social desirability,

**Table 5***Hierarchical Regression Analysis Predicting Friendship Quality*

|                       | <u>Model 1</u> | <u>Model 2</u> | <u>Model 3</u> | <u>Model 4</u> |
|-----------------------|----------------|----------------|----------------|----------------|
| Variable              | $\beta$        | $\beta$        | $\beta$        | $\beta$        |
| Self-Esteem           | .36**          | .13*           | .10            | .10            |
| Social Desirability   | .14*           | .05            | .03            | .03            |
| Close Friendship      |                | .39**          | .34**          | .34**          |
| Relational Aggression |                | -.26**         | -.28**         | -.28**         |
| Social Acceptance     |                | .16*           | .16*           | .16*           |
| Mother Warmth         |                |                | .11            | .11            |
| Father Warmth         |                |                | .19**          | .19**          |
| Mother Behav. Control |                |                | -.01           | -.01           |
| Mother PCS            |                |                |                | -.02           |
| Father PCS            |                |                |                | -.03           |
| $R^2$                 | .17            | .43            | .46            | .46            |
| $\Delta R^2$          | .17**          | .26**          | .03**          | .00            |
| $F$                   | 20.18**        | 29.55**        | 27.87**        | 27.87**        |

\*  $p < .05$ . \*\*  $p < .01$ .

close friendship, relational aggression, social acceptance, and paternal warmth/acceptance collectively predicted 46% of the variance in students' friendship quality.

### **Does Psychological Control Predict Other Peer Relationship Variables?**

Because friendship quality is a similar construct to social acceptance and close friendship, I examined the effects of parental psychological control on students' social acceptance and close friendship to determine whether parental psychological control had a similar effect on these peer relationship variables. Both maternal psychological control ( $r = -.17, p < .01$ ) and paternal psychological control ( $r = -.32, p < .01$ ) were modestly

negatively correlated with students' social acceptance. In other words, higher levels of parental psychological control were associated with students' lower social acceptance. Similarly, both maternal psychological control ( $r = -.23, p < .01$ ) and paternal psychological control ( $r = -.36, p < .01$ ) were modestly negatively correlated with students' close friendship. In other words, higher levels of parental psychological control were associated with students' lower scores on close friendship.

To further examine the relationship between parental psychological control and students' social acceptance, I conducted a hierarchical regression analysis (stepwise method) predicting students' social acceptance. Table 6 displays the results of this regression analysis. All of the variables entered in the analysis were correlated significantly with students' social acceptance. Students' self-esteem scores were used as Step 1. Controlling for students' self-esteem may help to better determine the influence other variables on students' social acceptance. Step 2 was students' close friendship and friendship quality; Step 3 was maternal and paternal warmth/acceptance and paternal behavioral control; and Step 4 was maternal and paternal psychological control. After controlling for students' self-esteem ( $R^2 = .23, p < .01$ ), students' close friendship predicted significant additional variance in their social acceptance ( $\Delta R^2 = .11, p < .01$ ). Students' self-esteem and close friendship together predicted 34% of the variance in their social acceptance. Thus, after accounting for the influence of students' personal and peer relationship variables, parental psychological control was not a significant predictor of students' social acceptance. These results are similar to those for the regression analysis predicting students' friendship quality.

To further examine the relationship between parental psychological control and students' close friendship, I conducted a hierarchical regression analysis (stepwise method) predicting students' close friendship. Table 6 displays the results of this regression analysis. All of the variables entered in the analysis were correlated significantly with students' close friendship. Students' social desirability scores and self-esteem scores were used as Step 1. Controlling for these personal variables may help to better determine the influence of other variables on students' close friendship. Step 2 was students' friendship quality and social acceptance; Step 3 was maternal and paternal warmth/acceptance and paternal behavioral control; and Step 4 was maternal and paternal psychological control. After controlling for students' self-esteem ( $R^2 = .16, p < .01$ ), students' friendship quality and social acceptance predicted significant additional variance in students' close friendship on Step 2 ( $\Delta R^2 = .26, p < .01$ ). Students' self-esteem, friendship quality, and social acceptance collectively predicted 42% of the variance in their close friendship. Thus, after controlling for students' self-esteem, friendship quality, and social acceptance, neither students' social desirability nor any parenting behavior variables were significant predictors of their close friendship. These results are similar to the results of the regression analyses predicting students' friendship quality and social acceptance, as parental psychological control was not a significant predictor of students' close friendship after accounting for their peer relationship variables.

**Table 6***Hierarchical Regression Analyses Predicting Other Peer Relationship Variables*

| Variable                 | Model 1 | Model 2 |         | Model 3 |
|--------------------------|---------|---------|---------|---------|
|                          | $\beta$ | $\beta$ | $\beta$ | $\beta$ |
| <b>Social Acceptance</b> |         |         |         |         |
| Self-Esteem              | .48**   | .33**   | .33**   | .33**   |
| Close Friendship         |         | .37**   | .37**   | .37**   |
| Friendship Quality       |         | .11     | .11     | .11     |
| Mother Warmth            |         |         | .04     | .04     |
| Father Warmth            |         |         | .03     | .03     |
| Father Behav. Control    |         |         | -.05    | -.05    |
| Mother PCS               |         |         |         | .06     |
| Father PCS               |         |         |         | -.07    |
| $R^2$                    | .23     | .34     | .34     | .34     |
| $\Delta R^2$             | .23**   | .11**   | .00     | .00     |
| $F$                      | 58.76** | 51.61** | 51.61** | 51.61** |
| <b>Close Friendship</b>  |         |         |         |         |
| Self-Esteem              | .40**   | .10     | .10     | .10     |
| Social Desirability      | .06     | -.01    | -.01    | -.01    |
| Friendship Quality       |         | .42**   | .42**   | .42**   |
| Social Acceptance        |         | .28**   | .28**   | .28**   |
| Mother Warmth            |         |         | .02     | .02     |
| Father Warmth            |         |         | .07     | .07     |
| Father Behav. Control    |         |         | -.08    | -.08    |
| Mother PCS               |         |         |         | -.01    |
| Father PCS               |         |         |         | -.10    |
| $R^2$                    | .16     | .42     | .42     | .42     |
| $\Delta R^2$             | .16**   | .26**   | .00     | .00     |
| $F$                      | 36.92** | 47.77** | 47.77** | 47.77** |

\*  $p < .05$ . \*\*  $p < .01$ .

### **Does Relational Aggression Predict Friendship Quality?**

To test my hypothesis that students' increased relational aggression would be associated with their lower friendship quality, I first calculated Pearson correlations for these variables. Students' relational aggression was modestly negatively correlated with their friendship quality,  $r = -.34, p < .01$ . In other words, students who displayed higher levels of relational aggression had lower quality friendships. As previously explained, students' relational aggression scores ( $r = -.30, p < .01$ ) and friendship quality scores ( $r = .23, p < .01$ ) were significantly correlated with their social desirability scores, which suggests that students may have responded to the items on these measures in a socially desirable manner. If students had responded honestly, the negative correlation between their relational aggression and friendship quality could have been stronger.

To further examine the relationship between students' relational aggression and friendship quality, I conducted a hierarchical regression analysis (stepwise method) predicting students' friendship quality. Table 7 displays the results of this regression analysis. All of the variables entered in the analyses were correlated significantly with students' friendship quality. Students' self-esteem scores and social desirability scores were used as Step 1. Controlling for these personal variables may help to better determine the influence other variables on students' friendship quality. Step 2 was students' close friendship and social acceptance; Step 3 was maternal and paternal warmth/acceptance, maternal behavioral control, and maternal and paternal psychological control; and Step 4 was students' relational aggression. After controlling for students' self-esteem and social desirability ( $R^2 = .17, p < .01$ ), students' friendship quality was

**Table 7**

*Hierarchical Regression Analysis: Does Relational Aggression Predict Friendship Quality?*

|                       | <u>Model 1</u> | <u>Model 2</u> | <u>Model 3</u> | <u>Model 4</u> |
|-----------------------|----------------|----------------|----------------|----------------|
| Variable              | $\beta$        | $\beta$        | $\beta$        | $\beta$        |
| Self-Esteem           | .36**          | .14*           | .05            | .06            |
| Social Desirability   | .14*           | .12*           | .11            | .04            |
| Close Friendship      |                | .41**          | .35**          | .34**          |
| Social Acceptance     |                | .15*           | .12            | .14*           |
| Mother Warmth         |                |                | .18**          | .18**          |
| Father Warmth         |                |                | .06            | .12            |
| Mother Behav. Control |                |                | .02            | .03            |
| Mother PCS            |                |                | .01            | .10            |
| Father PCS            |                |                | -.16**         | -.12*          |
| Relational Aggression |                |                |                | -.25**         |
| $R^2$                 | .17            | .37            | .41            | .47            |
| $\Delta R^2$          | .17**          | .20**          | .04**          | .06**          |
| $F$                   | 20.18**        | 28.49**        | 22.61**        | 24.03**        |

\*  $p < .05$ . \*\*  $p < .01$ .

predicted on Step 2 by their close friendship and social acceptance ( $\Delta R^2 = .20, p < .01$ ) and on Step 3 by maternal warmth/acceptance and paternal psychological control ( $\Delta R^2 = .04, p < .01$ ). On Step 4, students' relational aggression predicted significant additional variance in their friendship quality ( $\Delta R^2 = .06, p < .01$ ). Thus, after accounting for the influence of students' personal and peer relationship variables and significant parenting behavior variables, students' relational aggression was a significant negative predictor of their friendship quality. Students' self-esteem, social desirability, close friendship, social



acceptance, maternal warmth, paternal psychological control, and students' relational aggression collectively predicted 47% of the variance in students' friendship quality.

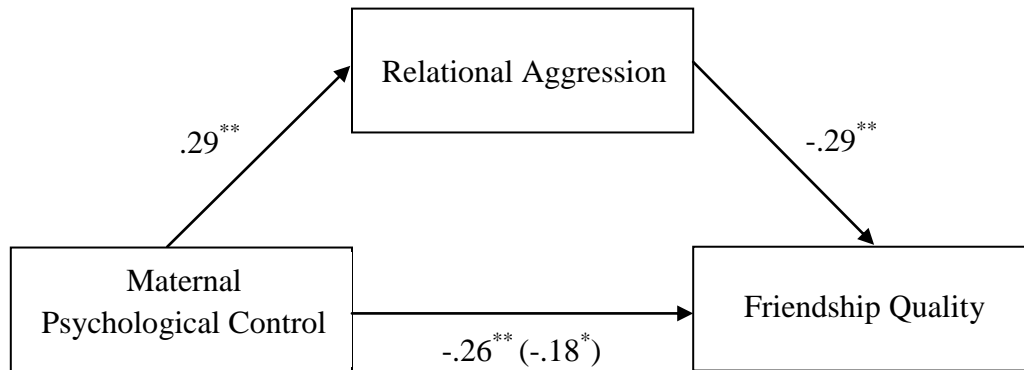
### **Mediation Analyses: Relational Aggression as a Link between Psychological Control and Friendship Quality**

To test my hypothesis that students' relational aggression functions as a mediating link between parental psychological control and students' friendship quality, I conducted mediation analyses using the Sobel test (Baron & Kenny, 1986; Sobel, 1982). The purpose of a mediation analysis is to examine the influence of a third, intervening variable on the relationship between two other related variables (Baron & Kenny, 1986). I chose to conduct a mediation analysis on the relationship between parental psychological control and students' relational aggression and friendship quality because parental psychological control did not significantly predict students' friendship quality after accounting for the influence of students' peer relationship variables. Students' relational aggression, however, did predict their friendship quality after accounting for the influence of other related variables. Based on these findings and findings from previous research (Soenens et al., 2008), it seemed possible that students' relational aggression could function as a connecting variable between parental psychological and students' friendship quality. Since maternal and paternal psychological control were measured as separate variables, I conducted separate mediation analyses for each of these variables.

First, I conducted a mediation analysis to examine the relationship between maternal psychological control and students' relational aggression and friendship quality.

All of the correlational requirements were met for this analysis, as maternal psychological control was significantly correlated with students' relational aggression and friendship quality, and students' relational aggression was significantly correlated with their friendship quality. (See Table 3 for correlations.) A series of regression analyses were conducted to determine whether students' relational aggression functions as a mediator between maternal psychological control and students' friendship quality. The results indicated that higher levels of maternal psychological control predicted a decrease in students' friendship quality ( $\beta = -.26, p = .00$ ). When adding into the model the significant relationship between maternal psychological control and students' relational aggression ( $\beta = .29, p = .00$ ) and the significant relationship between students' relational aggression and friendship quality ( $\beta = -.29, p = .00$ ), the relationship between maternal psychological control and students' friendship quality decreased in significance ( $\beta = -.18, p = .01$ ). Results of the Sobel test indicated that students' relational aggression functions as a partial mediator in the relationship between maternal psychological control and students' friendship quality ( $Z = 3.00, p = .00$ ). Thus, some of the influence of maternal psychological control on students' friendship quality can be explained by students' relational aggression. Figure 1 displays the results of this mediation analysis.

Next, I conducted a mediation analysis to examine the relationship between paternal psychological control and students' relational aggression and friendship quality. All of the correlational requirements were met for this analysis, as paternal psychological control was significantly correlated with students' relational aggression and friendship quality, and students' relational aggression was significantly correlated with their

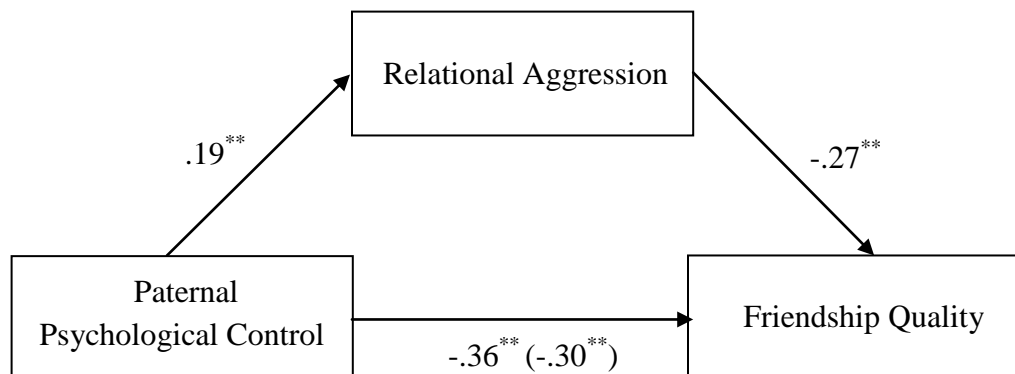


*Figure 1.* Standardized regression coefficients for the relationship between maternal psychological control and students' friendship quality as mediated by students' relational aggression. The standardized regression coefficient between maternal psychological control and friendship quality controlling for relational aggression is in parentheses.

\*  $p < .05$ . \*\*  $p < .01$ .

friendship quality. (See Table 3 for correlations.) A series of regression analyses were conducted to determine whether students' relational aggression functions as a mediator between paternal psychological control and students' friendship quality. The results indicated that higher levels of paternal psychological control predicted a decrease in students' friendship quality ( $\beta = -.36, p = .00$ ). When adding into the model the significant relationship between paternal psychological control and students' relational aggression ( $\beta = .19, p = .00$ ) and the significant relationship between students' relational aggression and friendship quality ( $\beta = -.27, p = .00$ ), the relationship between paternal psychological control and students' friendship quality weakened ( $\beta = -.30, p = .00$ ). Results of the Sobel test indicated that students' relational aggression functions as a

partial mediator in the relationship between paternal psychological control and students' friendship quality ( $Z = 3.46, p = .00$ ). Thus, some of the influence of paternal psychological control on students' friendship quality can be explained by students' relational aggression. Figure 2 displays the results of this mediation analysis.



*Figure 2.* Standardized regression coefficients for the relationship between paternal psychological control and students' friendship quality as mediated by students' relational aggression. The standardized regression coefficient between maternal psychological control and friendship quality controlling for relational aggression is in parentheses.

\*  $p < .05$ . \*\*  $p < .01$ .

### **Mediation Analyses: Friendship Quality as a Link between Psychological Control and Relational Aggression**

Although the results of the mediation analyses examining students' relational aggression as a link between parental psychological control and students' friendship quality suggest that students' use of relational aggression with peers can partially explain the relationship between parental psychological control and students' friendship quality,

these results cannot imply causation. In other words, it cannot be assumed that parents' use of psychological control causes their children to use relational aggression with peers, which causes them to have lower quality friendships. Rather, the relationship between these three variables may be more complex and multidirectional. To further examine the directionality of these relationships, I conducted additional mediation analyses to determine if students' friendship quality functions as a mediating link between parental psychological control and students' relational aggression. Since maternal and paternal psychological control were measured as separate variables, I conducted separate mediation analyses for each of these variables.

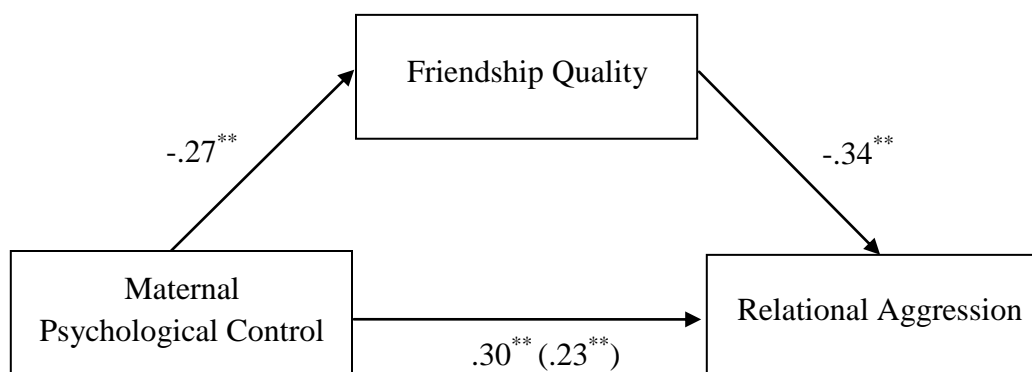
First, I conducted a mediation analysis to examine the relationship between maternal psychological control and students' friendship quality and relational aggression. All of the correlational requirements were met for this analysis, as maternal psychological control was significantly correlated with students' friendship quality and relational aggression, and students' friendship quality was significantly correlated with their relational aggression. (See Table 3 for correlations.) A series of regression analyses were conducted to determine whether students' friendship quality functions as a mediator between maternal psychological control and students' relational aggression. The results indicated that higher levels of maternal psychological control predicted an increase in students' relational aggression ( $\beta = .30, p = .00$ ). When adding into the model the significant relationship between maternal psychological control and students' friendship quality ( $\beta = -.27, p = .00$ ) and the significant relationship between students' friendship quality and relational aggression ( $\beta = -.34, p = .00$ ), the relationship between maternal

psychological control and students' relational aggression weakened ( $\beta = .23, p = .00$ ).

Results of the Sobel test indicated that students' friendship quality functions as a partial mediator in the relationship between maternal psychological control and students' relational aggression ( $Z = 2.67, p = .01$ ). Thus, some of the influence of maternal psychological control on students' relational aggression can be explained by students' friendship quality. Figure 3 displays the results of this mediation analysis.

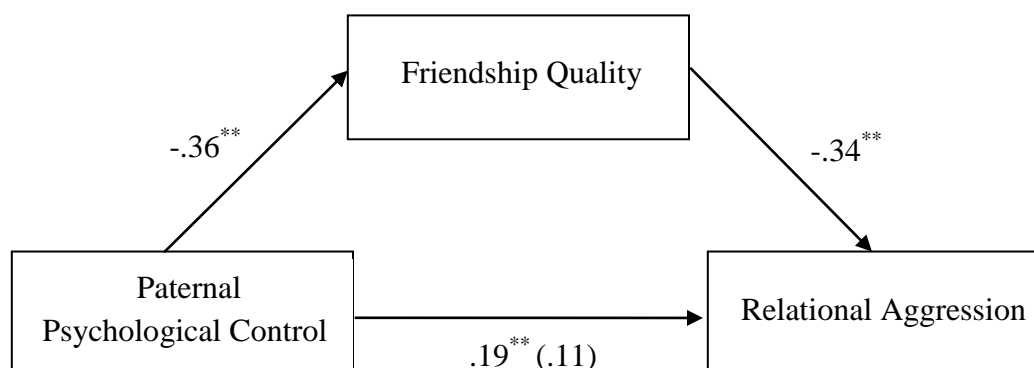
Next, I conducted a mediation analysis to examine the relationship between paternal psychological control and students' friendship quality and relational aggression. All of the correlational requirements were met for this analysis, as paternal psychological control was significantly correlated with students' friendship quality and relational aggression, and students' friendship quality was significantly correlated with their relational aggression. (See Table 3 for correlations.) A series of regression analyses were conducted to determine whether students' friendship quality functions as a mediator between paternal psychological control and students' relational aggression. The results indicated that higher levels of paternal psychological control predicted an increase in students' relational aggression ( $\beta = .19, p = .00$ ). When adding into the model the significant relationship between paternal psychological control and students' friendship quality ( $\beta = -.36, p = .00$ ) and the significant relationship between students' friendship quality and relational aggression ( $\beta = -.34, p = .00$ ), the relationship between paternal psychological control and students' relational aggression was no longer significant ( $\beta = .11, p = .12$ ). Thus, students' friendship quality functions as a full mediator in the relationship between paternal psychological control and students' relational aggression.

In other words, the influence of paternal psychological control on students' use of relational aggression can be explained by students' friendship quality. Figure 4 displays the results of this mediation analysis.



*Figure 3.* Standardized regression coefficients for the relationship between maternal psychological control and students' relational aggression as mediated by students' friendship quality. The standardized regression coefficient between maternal psychological control and relational aggression controlling for friendship quality is in parentheses.

\*  $p < .05$ . \*\*  $p < .01$ .



*Figure 4.* Standardized regression coefficients for the relationship between paternal psychological control and students' relational aggression as mediated by students' friendship quality. The standardized regression coefficient between paternal psychological control and relational aggression controlling for friendship quality is in parentheses.

\*  $p < .05$ . \*\*  $p < .01$ .

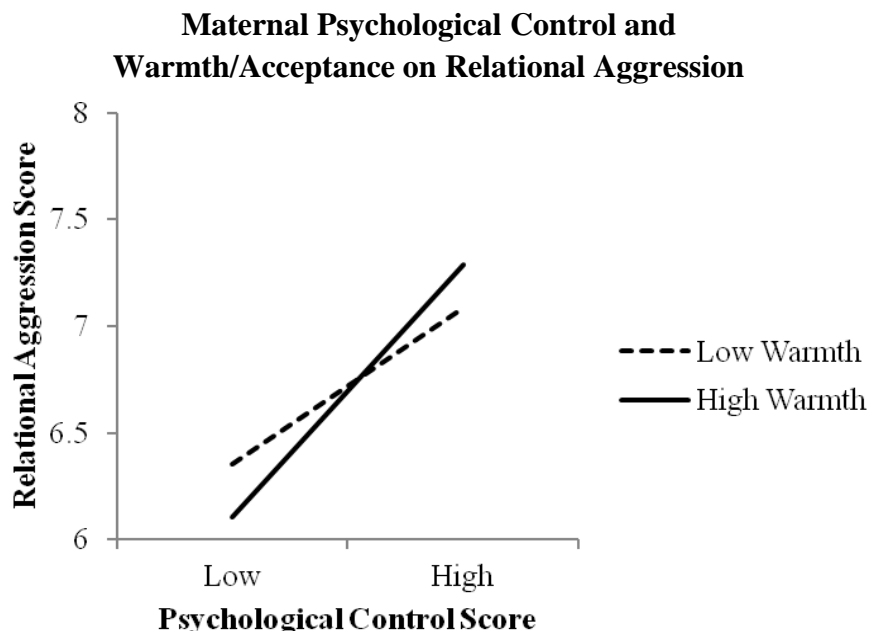
### **Moderation Analyses: Effects of Parenting Behavior Combinations**

I conducted a series of moderated multiple regression analyses to test two hypotheses: 1) high levels of parental psychological control combined with high levels of parental warmth/acceptance would increase students' relational aggression and decrease their friendship quality to a greater extent than other combinations of these parenting behaviors, and 2) high levels of parental psychological control combined with high levels of parental behavioral control would increase students' relational aggression and decrease their friendship quality to a greater extent than other combinations of these parenting behaviors. The purpose of a moderation analysis is to examine the effect of one variable based on different levels of another variable (e.g., the effect of psychological control on students' relational aggression based on different levels of parental warmth/acceptance). Because maternal and paternal psychological control were measured separately, I conducted separate analyses on students' relational aggression and friendship quality for these variables. Before conducting these analyses, I centered all of the predictor variables around their means to correct for possible multicollinearity problems in the data.

**Psychological control and levels of warmth on relational aggression.** A moderated multiple regression analysis tested the effects of maternal psychological control for low and high levels of maternal warmth/acceptance on students' relational aggression. The results yielded a significant main effect for maternal psychological control ( $\beta = .46, p = .00$ ), a nonsignificant main effect for maternal warmth/acceptance ( $\beta = .01, p = .90$ ), and a significant interaction for these two variables ( $\beta = .29, p = .00$ ).

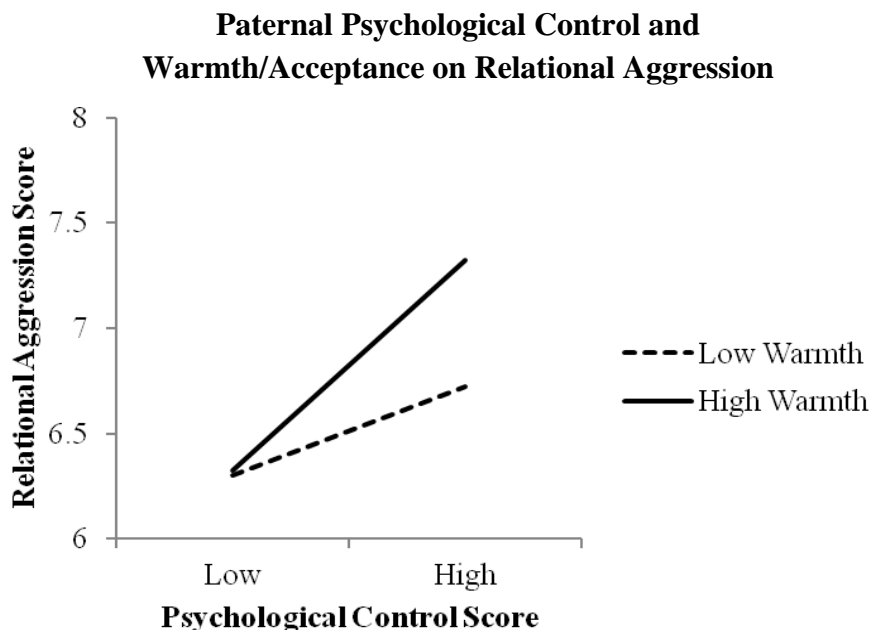


The overall regression model was significant,  $F(3, 221) = 12.76, p = .00$ . I then used a method for post hoc assessment of interactions suggested by Aiken and West (1991) to determine how the effects of maternal psychological control on students' relational aggression differed for low and high levels of maternal warmth/acceptance. Figure 5 displays the results of this examination. The results supported my hypothesis: high levels of maternal psychological control combined with high levels of maternal warmth/acceptance predicted the highest levels of students' relational aggression, whereas low levels of maternal psychological control combined with high levels of maternal warmth/acceptance predicted the lowest levels of students' relational aggression. In other words, the effect of maternal psychological control on students' relational aggression was greater for students whose mothers were high in warmth/acceptance than for students whose mothers were low in warmth/acceptance.



*Figure 5.* The influence of maternal psychological control on students' relational aggression moderated by maternal warmth/acceptance.

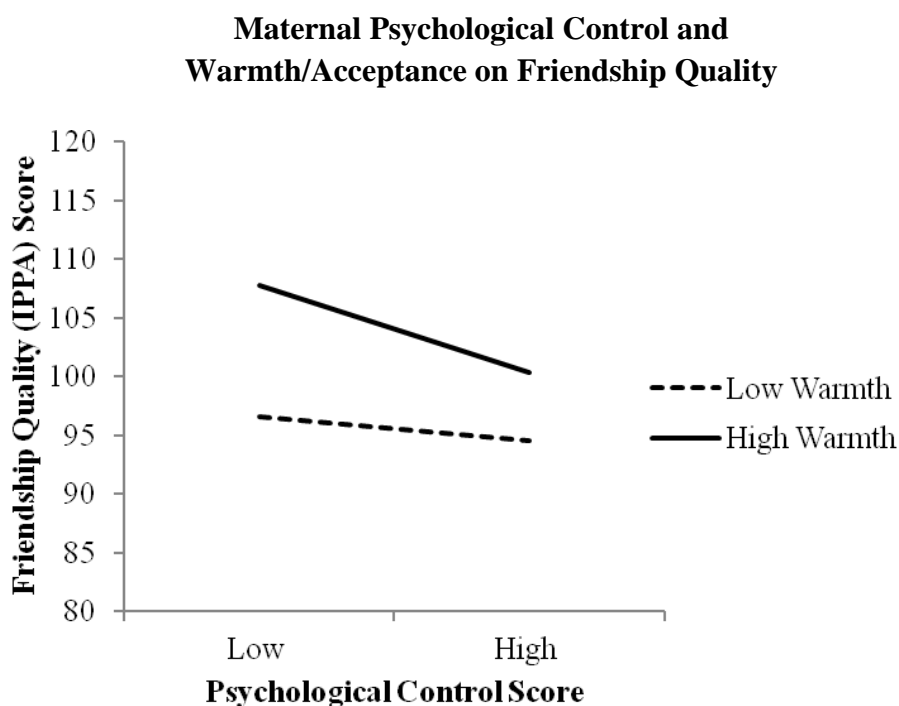
A moderated multiple regression analysis tested the effects of paternal psychological control for low and high levels of paternal warmth/acceptance on students' relational aggression. The results yielded significant main effects of paternal psychological control ( $\beta = .40, p = .00$ ) and paternal warmth/acceptance ( $\beta = .14, p = .05$ ) and a significant interaction for these two variables ( $\beta = .24, p = .00$ ). The overall regression model was significant,  $F(3, 222) = 7.81, p = .00$ . Figure 6 displays the results of a post hoc assessment of the interaction of paternal psychological control and paternal warmth/acceptance as a predictor of students' relational aggression. The results supported my hypothesis: high levels of paternal psychological control combined with high levels of paternal warmth/acceptance predicted the highest levels of students' relational aggression, whereas high levels of paternal psychological control combined with low levels of paternal warmth/acceptance predicted lower levels of students' relational aggression. In addition, low levels of paternal psychological control combined with high levels of paternal warmth/acceptance and low levels of paternal psychological control combined with low levels of paternal warmth/acceptance both predicted the lowest levels of students' relational aggression. Thus, these results are similar to those found for the interaction of maternal psychological control and maternal warmth/acceptance, as the effect of paternal psychological control on students' relational aggression was greater for students' whose fathers were high in warmth/acceptance than for students whose fathers were low in warmth/acceptance.



*Figure 6.* The influence of paternal psychological control on students' relational aggression moderated by paternal warmth/acceptance.

**Psychological control and levels of warmth on friendship quality.** A moderated multiple regression analysis tested the effects of maternal psychological control for low and high levels of maternal warmth/acceptance on students' friendship quality. The results yielded significant main effects of maternal psychological control ( $\beta = -.20, p = .01$ ) and maternal warmth/acceptance ( $\beta = .40, p = .00$ ) and a significant interaction for these two variables ( $\beta = -.25, p = .00$ ). The overall regression model was significant,  $F(3, 215) = 15.67, p = .00$ . Figure 7 displays the results of a post hoc assessment of the interaction of maternal psychological control and maternal warmth/acceptance as a predictor of students' friendship quality. In contrast to my hypothesis, high levels of maternal psychological control combined with low levels of maternal warmth/acceptance

predicted the lowest levels of students' friendship quality. The results, however, partially supported my hypothesis, as students' friendship quality decreased at a greater rate when mothers who were high in warmth/acceptance were also high in psychological control than when mothers who were low in warmth/acceptance were high in psychological control. In other words, the effect of maternal psychological control on students' friendship quality was greater for students whose mothers were high in warmth/acceptance than for students whose mothers were low in warmth/acceptance.



*Figure 7.* The influence of maternal psychological control on students' friendship quality moderated by maternal warmth/acceptance.

A moderated multiple regression analysis tested the effects of paternal psychological control for low and high levels of paternal warmth/acceptance on students' friendship quality. The results yielded significant main effects of paternal psychological control ( $\beta = -.34, p = .00$ ) and paternal warmth/acceptance ( $\beta = .20, p = .00$ ) and a nonsignificant interaction for these two variables ( $\beta = -.11, p = .14$ ). Although the overall regression model was significant, ( $F(3, 215) = 14.52, p = .00$ ), the nonsignificant interaction suggests that paternal warmth/acceptance does not significantly moderate the effect of paternal psychological control on students' friendship quality.

**Psychological control and levels of behavioral control on relational aggression.** A moderated multiple regression analysis tested the effects of maternal psychological control for low and high levels of maternal behavioral control on students' relational aggression. The results yielded a significant main effect of maternal psychological control ( $\beta = .35, p = .00$ ), a nonsignificant main effect of maternal behavioral control ( $\beta = -.03, p = .62$ ), and a nonsignificant interaction for these two variables ( $\beta = -.13, p = .07$ ). Although the overall regression model was significant ( $F(3, 222) = 8.43, p = .00$ ), the nonsignificant interaction suggests that maternal behavioral control does not significantly moderate the effect of maternal psychological control on students' relational aggression.

A moderated multiple regression analysis tested the effects of paternal psychological control for low and high levels of paternal behavioral control on students' relational aggression. The results yielded a significant main effect of paternal psychological control ( $\beta = .19, p = .02$ ), a nonsignificant main effect of paternal

behavioral control ( $\beta = .00, p = .99$ ), and a nonsignificant interaction for these two variables ( $\beta = -.06, p = .41$ ). The overall regression model was not significant,  $F(3, 221) = 2.18, p = .09$ . These results suggest that paternal behavioral control does not significantly moderate the effect of paternal psychological control on students' relational aggression.

**Psychological control and levels of behavioral control on friendship quality.**

A moderated multiple regression analysis tested the effects of maternal psychological control for low and high levels of maternal behavioral control on students' friendship quality. The results yielded a significant main effect of maternal psychological control ( $\beta = -.23, p = .00$ ), a nonsignificant main effect of maternal behavioral control ( $\beta = -.05, p = .48$ ), and a nonsignificant interaction for these two variables ( $\beta = -.03, p = .70$ ). Although the overall regression model was significant ( $F(3, 216) = 5.21, p = .00$ ), the nonsignificant interaction suggests that maternal behavioral control does not significantly moderate the effect of maternal psychological control on students' friendship quality.

A moderated multiple regression analysis tested the effects of paternal psychological control for low and high levels of paternal behavioral control on students' friendship quality. The results yielded a significant main effect of paternal psychological control ( $\beta = -.34, p = .00$ ), a nonsignificant main effect of paternal behavioral control ( $\beta = .04, p = .58$ ), and a nonsignificant interaction for these two variables ( $\beta = -.05, p = .53$ ). Although the overall regression model was significant ( $F(3, 214) = 10.16, p = .00$ ), the nonsignificant interaction suggests that paternal behavioral control does not significantly moderate the effect of paternal psychological control on students' friendship quality.

## **Discussion**

The aim of this study was to contribute to the field of research on parental psychological control by examining its effects on relational aggression and friendship quality in college students. The study's findings revealed that while parental psychological control predicted students' use of relational aggression with peers, it did not predict the quality of students' friendships. Students' use of relational aggression, however, functioned as a mediating link between parental psychological control and students' friendship quality. Students' friendship quality also functioned as a mediating link between parental psychological control and students' relational aggression. The study also found that combinations of parenting behaviors (i.e., psychological control, warmth/acceptance) were more informative predictors of students' relational aggression and friendship quality than parental psychological control alone. Additionally, the study's findings concerning students' social desirability have important implications for future research.

### **Psychological Control and Relational Aggression**

The present study found that parents' use of psychological control was associated with students' use of relational aggression with peers. This finding is consistent with previous research on children and adolescents (Kuppens et al., 2013) and is the first, to my knowledge, to reveal a relationship between parental psychological control and college students' use of relational aggression with friends. Researchers have suggested that "relational aggression is psychological control grown up" (Kerig & Sink, 2010, pp. 207-208). In other words, psychological control behaviors (e.g., love withdrawal, guilt

induction) and relational aggression are similar in nature, as they both involve social and emotional manipulation (Nelson & Crick, 2002; Reed et al., 2008). From a social learning theory perspective, it is possible that individuals with psychologically controlling parents could learn to behave in relationally aggressive ways with their peers by observing and imitating their parents' psychologically controlling, manipulative behaviors (Bandura, 1973; Casas et al., 2006; Coie & Dodge, 1998). Hence, students who experience parental psychological control may be more likely to develop the tendency to use relational aggression with peers.

Using hierarchical regression analyses predicting students' relational aggression, the study found that after accounting for students' personal (i.e., social desirability) and peer relationship (i.e., friendship quality) variables, parental psychological control predicted students' relational aggression. Only mothers' use of psychological control, however, predicted students' relational aggression. In other words, higher levels of maternal psychological control predicted an increase in students' relational aggression. This finding suggests that fathers' use of psychological control with their college-age children does not affect their children's use of relational aggression with peers as much as mothers' use of psychological control does. One possible explanation of the greater impact of maternal psychological control on students' relational aggression is the idea that mother-child relationships may involve more dependency in children than father-child relationships (for a review, see Collins & Russel, 1991). If children are more dependent on their mothers than on their fathers, mothers' use of psychological control



may have a greater effect than fathers' use of psychological control on their children's relational aggression.

### **Psychological Control and Friendship Quality**

The present study also found that parents' use of psychological control was associated with students' lower friendship quality. This finding is consistent with previous research on children and adolescents (Cook et al., 2012; Dekovic & Meeus, 1997; Karavasilis et al., 2003; Soenens et al., 2006; Soenens et al., 2008). The developmental contextual perspective suggests that early family relationships influence individuals' later relationship quality with friends (Conger et al., 2000). Parents who are psychologically controlling may have negative relationships with their children, which may lead their children to have negative relationships with friends later in life. Attachment theory supports this idea by suggesting that the absence of a secure base for development resulting from negative relationships with parents may make it more difficult for individuals to develop supportive, healthy friendships (Ainsworth, 1989; Call & Mortimer, 2001).

Using hierarchical regression analyses predicting students' friendship quality, the study found that after accounting for students' personal (i.e., self-esteem, social desirability) and peer relationship (i.e., close friendship, relational aggression, social acceptance) variables, the only parenting behavior that predicted students' friendship quality was paternal warmth/acceptance. Thus, parents' use of psychological control did not predict students' friendship quality after accounting for the influence of these other variables. This finding was unexpected and did not support my hypothesis that parental

psychological control would predict students' friendship quality. Besides paternal warmth/acceptance, the predictors of students' friendship quality were personal and peer relationship variables. Since the measures of students' social acceptance and close friendship are similar constructs to friendship quality, as they all assess characteristics of students' peer relationships, the study examined the influence of parental psychological control on these measures as well. The findings revealed that students' personal and peer relationship variables predicted their social acceptance and close friendship scores, but parenting behaviors did not. Taken together, these findings suggest that characteristics of peer relationships may play a larger role than parenting behaviors in shaping college students' friendships. As individuals enter college and transition into emerging adulthood, they begin to establish independence from their families and may interact more frequently with peers (Dalton et al., 2006; Roisman et al., 2004). Because the establishment of close, healthy friendships is a salient developmental task for emerging adults, they may focus heavily on achieving this task during the transition to college (Kerig & Wenar, 2006; Roisman et al., 2004). College students' strong focus on peer relationships along with increased independence from their parents may cause characteristics of students' peer interactions to play a large role in shaping their social development. Although parents' use of psychological control may have a greater impact on younger children's and adolescents' friendship quality, it did not predict friendship quality in an older, college-age sample. Thus, the characteristics of college students' peer interactions may be more influential than relationships with their parents in determining their friendship quality.

### **The Relationship between Relational Aggression and Friendship Quality**

An examination of the relationship between students' relational aggression and friendship quality revealed that students who displayed higher levels of relational aggression had lower quality friendships. This finding is consistent with previous research on children and adolescents (Crick, 1996; Crick, 1997; Crick & Grotpeter, 1995; Crick et al., 1998; Soenens et al., 2008; Tomada & Schneider, 1997; Werner & Crick, 2004; Zimmer-Gembeck et al., 2005) and on college students (Werner & Crick, 1999). Friendships in which relational aggression is used are based on a conditional and manipulative relationship, which may lead to a lower quality friendship (Grotpeter & Crick, 1996).

Using hierarchical regression analyses predicting students' friendship quality, the study found that after accounting for students' personal (i.e., self-esteem, social desirability) and peer relationship (i.e., close friendship, social acceptance) variables and parenting behavior variables (i.e., maternal warmth/acceptance, paternal psychological control), students' relational aggression predicted their friendship quality. In other words, higher levels of students' relational aggression predicted decreases in their friendship quality.

Although parental psychological control did not predict students' friendship quality, students' relational aggression did. The significant relationship between parental psychological control and students' relational aggression suggested that relational aggression may act as an intervening variable, or mediating link, between parents' use of psychological control and students' friendship quality. A mediation analysis examining

the relationship between these three variables supported my hypothesis by finding that students' relational aggression partially explains the relationship between parental psychological control and students' friendship quality. Although this relationship cannot imply causation, it is possible that parents' use of psychological control influences their children's use of relational aggression with peers, which may influence their friendship quality. This finding is consistent with previous research on adolescents (Soenens et al., 2008). The role of relational aggression as a mediating link between parents' use of psychological control and students' friendship quality may also help to explain why parental psychological control did not predict students' friendship quality. In other words, it may not be parents' use of psychological control itself that impacts students' friendship quality. Rather, the consequences of parents' use of psychological control on their children's social development could impact students' friendship quality.

Attachment theory provides further insight into the relationship parental psychological control and students' relational aggression and friendship quality. Unresponsive, insensitive, rejecting parenting (e.g., psychologically controlling) may lead to an insecure parent-child attachment (Bowlby, 1973). Insecure parent-child attachments may cause children to develop negative working models of relationships that lead them to have insecure relationships with peers. Insecure peer relationships may involve feeling rejected or conditionally accepted by peers. As a form of self-defense against these negative feelings, children may use relational aggression with peers and friends. In other words, children's understanding of relationships that develops from their insecure parent-child attachments may lead them to carry this understanding of

relationships into their friendships. Perceiving relationships with others as conditional and manipulative may lead children to use relational aggression to attempt to gain control over their relationships, and engaging in relationally aggressive behaviors with friends may decrease the quality of children's friendships (Bowlby, 1973; Deci & Ryan, 2000; Michiels et al., 2008; Simons et al., 2001; Soenens et al., 2008; Troy & Sroufe, 1987).

The implications of attachment theory on children's unconscious relationship schemas during early childhood may work in tandem with the implications of social learning theory on their later development. As previously explained, social learning theory suggests that children may learn to behave in relationally aggressive ways with their peers by observing and imitating their parents' manipulative, psychologically controlling behaviors (Bandura, 1973; Casas et al., 2006; Coie & Dodge, 1998). Children may become more cognizant of this learning process at an older age (e.g., during adolescence) and may carry these kinds of behaviors into their friendships throughout emerging adulthood. Taken together, the implications of attachment theory and social learning theory suggest that children's relationships with their parents significantly affect their relationships with friends. Parents' use of psychological control, therefore, has significant effect on their college-age children's relational aggression and friendship quality.

The results of the mediation analyses examining students' friendship quality as a mediating link in the relationship between parents' use of psychological control and students' use of relational aggression with peers further complicate the interpretation of the relationship between these three variables. The mediation analyses that identify

students' relational aggression as an intervening variable in the relationship between parental psychological control and students' friendship quality suggest that these three variables share a linear relationship. In other words, this model suggests that parents' use of psychological control affects students' use of relational aggression with peers, which affects students' friendship quality. However, these results cannot imply causation. In addition, the results of the mediation analyses that identify students' friendship quality as an intervening variable in the relationship between parental psychological control and students' relational aggression suggest that the relationship between parents' use of psychological control and students' relational aggression and friendship quality is complex and multidirectional. In other words, students' use of relational aggression with peers does not develop in a vacuum. Although students' use of relational aggression with peers may be directly affected by their parents' use of psychological control, it may also be affected by their peer relationships. The kinds of friendships that students have could influence their behaviors with friends and peers. For example, students who have low quality friendships could be more likely to engage in relationally aggressive behaviors with peers and friends as a form of self-defense against the implications of such friendships. Overall, the identification of both students' relational aggression and friendship quality as intervening variables in the relationship between these two variables and parental psychological control suggests that parents' use of psychological control alone cannot provide a simple, linear explanation of students' friendship quality or use of relational aggression with peers.

### **The Influence of Other Parenting Behaviors**

Using moderated multiple regression analyses, the study revealed that the effects of parental psychological control on students' relational aggression and friendship quality can be better explained in consideration of the influence of parental warmth/acceptance. In support of my hypothesis, the extent to which parents' use of psychological control affected students' relational aggression and friendship quality was dependent on parents' levels of warmth/acceptance. In contrast to my hypothesis, the extent to which parents' use of psychological control affected students' relational aggression and friendship quality was not dependent on parents' use of behavioral control.

Findings revealed that the effect of parental psychological control on students' relational aggression was contingent upon parents' levels of warmth/acceptance. In particular, the effect of parental psychological control on students' relational aggression was greater for students whose parents were high in warmth/acceptance than for students whose parents were low in warmth/acceptance. Parents who were high in psychological control and high in warmth/acceptance had students who were more relationally aggressive, whereas parents who were low in psychological control and high in warmth/acceptance had students who were less relationally aggressive. This finding is consistent with Aunola and Nurmi's (2005) findings that high levels of maternal psychological control combined with high levels of maternal warmth/acceptance predicted an increase in children's externalizing problems. It is inconsistent, however, with previous research that found that high levels of parental psychological control

combined with high levels of parental warmth/acceptance predicted positive child outcomes (Gray & Steinberg, 1999; Pettit & Laird, 2002).

The finding that psychologically controlling parents who were warm and accepting had students who were more relationally aggressive is interesting because high levels of parental warmth/acceptance are typically associated with positive child outcomes (Dodge et al., 1994; Miller et al., 1993). There are several possible explanations for this study's finding that the combination of high parental psychological control and high warmth/acceptance predicted negative child outcomes. When parents are psychologically controlling and are also warm and accepting with their children, parent-child communication patterns that lead to children's psychological and emotional dependency may develop (Aunola & Nurmi, 2004). This type of parent-child interaction inhibits the development of children's psychological and emotional autonomy and may thus lead children to display problem behaviors (Schaefer, 1965; Humphrey, 1989). Another explanation is that warm, accepting parents' use of psychological control may send inconsistent messages of approval to their children (Barber, 1996), which may inhibit children's ability to develop psychological autonomy and a secure sense of self (Chorpita & Barlow, 1998). The absence of psychological autonomy may make children more likely to display problem behaviors (Schaefer, 1965; Humphrey, 1989).

This study's findings also revealed that the effect of parental psychological control on students' friendship quality was contingent upon parents' levels of warmth/acceptance, but only for mothers. Combinations of fathers' use of psychological control and warmth/acceptance had no impact on students' friendship quality. My



hypothesis that high levels of parental psychological control combined with high levels of parental warmth/acceptance would decrease students' friendship quality to a greater extent than other combinations of these parenting behaviors was partially supported by the findings for mothers. The most maladaptive combination of mothers' psychological control and warmth/acceptance (i.e., high psychological control and low warmth/acceptance) predicted a decrease in students' friendship quality. Although this finding might be expected, it did not support my hypothesis, which was based on Aunola and Nurmi's (2005) findings described above. My hypothesis was partially supported, however, as the effect of psychological control on students' friendship quality was greater for students whose mothers were high in warmth/acceptance than for students whose mothers were low in warmth/acceptance. In other words, students whose mothers were high in warmth/acceptance experienced a greater decrease in their friendship quality when their mothers were psychologically controlling (as compared to when their mothers were not psychologically controlling) than students whose mothers were low in warmth/acceptance. Thus, high levels of maternal warmth/acceptance did not mitigate the effect of maternal psychological control on students' friendship quality.

Although my hypotheses about combinations of parental psychological control and behavioral control were not supported, the findings involving combinations of parental psychological control and warmth/acceptance suggest that effects of parenting behaviors on child outcomes can be better explained in consideration of the influence of other parenting behaviors. This study's results revealed that combinations of ideal parenting behaviors (e.g., high warmth/acceptance and low psychological control)

predicted positive student outcomes. Beyond that, however, predictions of student outcomes became more complicated. Hence, examining the effects of combinations of parenting behaviors may provide a more complete picture of what predicts child outcomes.

### **The Importance of Social Desirability**

This study found that students' reports of their relational aggression and friendship quality were associated with their socially desirable tendencies. Students who scored high on the social desirability measure indicated that they were less relationally aggressive and had higher quality friendships than students who scored low on the social desirability measure. Although students' self-esteem was not a primary variable of interest in this study, students who scored high on the social desirability measure indicated that they had higher self-esteem than students who scored low on the social desirability measure. These findings suggest that the assessment of personal qualities (e.g., relational aggression, friendship quality, and self-esteem) is highly susceptible to cultural pressures to uphold a socially desirable image. Responding to measures in a socially desirable manner may reduce or inflate relationships between variables. Thus, future research may benefit from the use of a social desirability measure to gauge the honesty of participant responses.

### **Limitations and Future Directions**

There are several limitations of this study. First, the sample was predominantly composed of Caucasian females. Because participants were sampled from a private liberal arts university, the range of socioeconomic diversity was also limited. To ensure

that this study's findings are representative of the college student population, future research should examine a more diverse sample. It may also be useful to collect data on parenting behaviors using parent-report measures in addition to participant self-report measures. Although the use of self-report measures to assess parenting behaviors is quite common and data from self-report measures has been positively correlated with data from parent-report measures (e.g., Barber et al., 2004; Soenens et al., 2008), other studies have found that parents and their college-age children differ in their reports of parenting behaviors (i.e., psychological control, warmth/acceptance) (Letchinger, 2013). Similar results using parent-report measures would strengthen the findings and implications of this study, and different results may highlight the consequences of students' versus parents' perceptions of parental psychological control on student outcomes.

Additionally, the modified relational aggression scale used in this study had an internal reliability issue, which resulted in the exclusion of one item from analysis. Students' responses on the relational aggression scale also suffered from social desirability pressures. Future research should address these issues by using alternative or additional methods to measure participants' relational aggression. Werner and Crick (1999), for example, used a peer-nomination instrument to assess participants' relational aggression. Using a peer-nomination instrument in conjunction with a self-report measure may provide a more accurate representation of participants' relational aggression (e.g., Soenens et al., 2008). Although using a peer-nomination instrument in college-age samples may be difficult, Werner and Crick (1999) suggest using this type of measure with members of a social organization such as a fraternity or sorority.

Finally, future research using a longitudinal design could track changes in the effects of parental psychological control versus peer relationship variables on college students' relational aggression and friendship quality. Assessing this study's variables in participants beginning in adolescence and ending in the college years would provide further evidence that the influence of parental psychological control on participants' friendship quality decreases as participants grow older. Results of this kind would further emphasize the importance of peer relationships in college students' social development. It is also possible that parents' use of psychological control could have a greater effect on participants' relational aggression during adolescence than it does during the college years. Tracking changes in participants' relational aggression and friendship quality over time could also reveal directional relationships between these two variables. As this study's mediation models suggest, it is possible that college students' relationally aggressive tendencies could emerge as a result of their poor friendship quality rather than their poor friendship quality emerging as a result of their relational aggression (Werner & Crick, 2004; Zimmer-Gembeck et al., 2005). Thus, a longitudinal design could provide further insight into the relationship between parental psychological control and students' relational aggression and friendship quality by tracking changes occurring from adolescence through the college years.

Overall, the findings of this study contribute to the field of research on parental psychological control by revealing relationships between parents' use of psychological control and college students' relational aggression and friendship quality. The results suggest that parents' use of psychological control relates to students' increased use of

relational aggression with their peers, which may lead to lower quality friendships. This study highlights the value of examining combinations of parenting behaviors to gain a better understanding of their effects on child outcomes. It also highlights the value of assessing participants' social desirability when measuring sensitive personal qualities. Finally, this study's results suggest that the influence of parental psychological control decreases during emerging adulthood and that peer relationships may play a larger role in shaping college students' social development.

## References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Ainsworth, M. D. (1989). Attachments beyond infancy. *American Psychologist*, *44*(4), 709-716.
- Albrecht, A. K., Galambos, N. L., & Jansson, S. M. (2007). Adolescents' internalizing and aggressive behaviors and perceptions of parents' psychological control: A panel study examining direction effects. *Journal of Youth and Adolescence*, *36*, 673-684.
- Arım, R. G., Marshall, S. K., & Shapka, J. D. (2010). A domain-specific approach to adolescent reporting of parental control. *Journal of Adolescence*, *33*, 355-366.
- Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Relationships to well-being in adolescence. *Journal of Youth and Adolescence*, *16*(5), 427-454.
- Aunola, K., & Nurmi, J. (2004). Maternal psychological control moderates the impact of affection on children's math performance. *Developmental Psychology*, *40*, 965-978.
- Aunola, K., & Nurmi, J. (2005). The role of parenting styles in children's problem behavior. *Child Development*, *76*(6), 1144-1159.

- Bandura, A. (1973). *Aggression: A social learning approach*. Englewood Cliffs, NJ: Prentice Hall.
- Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development, 67*(6), 3296-3319.
- 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: American Psychological Association.
- Barber, B. K., Olsen, J. A., & Shagle, S. C. (1994). Associations between parental psychological and behavioral control and youth internalized and externalized behaviors. *Child Development, 65*(4), 1120-1136.
- Barber, B. K., Stolz, H. E., & Olsen, J. A. (2005). *Parental support, psychological control, and behavioral control: Assessing relevance across time, culture, and method* (Vol. 70, No. 4). Boston: Blackwell Publishing.
- Barnes, G. M., & Farrell, M. P. (1992). Parental support and control as predictors of adolescent drinking, delinquency, and related problem behaviors. *Journal of Marriage and the Family, 54*(4), 763-776.
- 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*(6), 1173-1182.

- Baron, P., & MacGillivray, R. G. (1989). Depressive symptoms in adolescents as a function of perceived parental behavior. *Journal of Adolescent Research, 4*(1), 50-62.
- Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs, 75*(1), 43-88.
- Baumrind, D., & Black, A. E. (1967). Socialization practices associated with dimensions of competence in preschool boys and girls. *Child Development, 38*(2), 291-327.
- Baumrind, D. (1991). The influence of parenting styles on adolescent competence and substance use. *Journal of Early Adolescence, 11*(1), 56-95.
- Becker, W. C. (1964). Consequences of different kinds of parental discipline. In M. L. Hoffman & W. W. Hoffman (Eds.), *Review of child development research* (Vol. 1, pp. 169-208). New York: Russell Sage Foundation.
- Bowlby, J. (1973). *Attachment and loss: Separation, anxiety and anger* (Vol. 2). New York: Basic Books.
- Call, K. T., & Mortimer, J. T. (2001). *Arenas of comfort in adolescence: A study of adjustment in context*. Mahwah, NJ: Lawrence Erlbaum Associates.
- 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 context. *Journal of Applied Developmental Psychology, 27*(3), 209-227.



- Chorpita, B. F., & Barlow, D. H. (1998). The development of anxiety: The role of control in the early environment. *Psychological Bulletin*, *124*(1), 3-21.
- Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology. Vol. 3. Social, emotional, and personality development* (pp. 779-862). New York: Wiley.
- Collins, W. A., & Russell, G. (1991). Mother-child and father-child relationships in middle childhood and adolescence: A developmental analysis. *Developmental Review*, *11*(2), 99-136.
- Conger, R. D., Cui, M., Elder, G. H., & Bryant, C. M. (2000). Competence in early adult romantic relationships: A developmental perspective on family influences. *Journal of Personality and Social Psychology*, *79*(2), 224-237.
- Cook, E. C., Buehler, C., & Fletcher, A. C. (2012). A process model of parenting and adolescents' friendship competence. *Social Development*, *21*(3), 461-481.
- Crick, N. R. (1996). The role of overt aggression, relational aggression, and prosocial behavior in the prediction of children's future social adjustment. *Child Development*, *67*(5), 2317-2327.
- Crick, N. R. (1997). Engagement in gender normative versus nonnormative forms of aggression: Links to social-psychological adjustment. *Developmental Psychology*, *33*(4), 610-617.

- Crick, N. R., Bigbee, M. A., & Howes, C. (1996). Gender differences in children's normative beliefs about aggression: How do I hurt thee? Let me count the ways. *Child Development, 67*(3), 1003-1014.
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66*(3), 710-722.
- Crick, N. R., Werner, N. E., O'Brien, K. M., Nelson, D. A., Grotpeter, J. K., & Markon, K. (1998). Childhood aggression and gender: A new look at an old problem. In D. Bernstein (Ed.), *Nebraska symposium on motivation: Vol. 45. Gender and motivation* (pp. 75-141). Lincoln: University of Nebraska Press.
- Dalton, W. T. III, Frick-Horbury, D., Kitzmann, K. M. (2006). Emerging adults' retrospective reports of parenting by mothers and fathers: Associations with current relationship quality. *The Journal of General Psychology, 133*(1), 5-18.
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113*(3), 487-496.
- 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*(4), 227-268.
- Dekovic, M., & Meeus, W. (1997). Peer relations in adolescence: Effects of parenting and adolescents' self-concept. *Journal of Adolescence, 20*(2), 163-176.

- Dodge, K. A., Pettit, G. S., & Bates, J. E. (1994). Socialization mediators of the relation between socioeconomic status and child conduct problems. *Child Development, 65*(2), 649-665.
- Galambos, N. L., Barker, E. T., & Almeida, D. M. (2003). Parents *do* matter: Trajectories of change in externalizing and internalizing problems in early adolescence. *Child Development, 74*(2), 578-594.
- Gray, M. R., & Steinberg, L. (1999). Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Marriage and the Family, 61*(3), 547-587.
- Grotjeter, J. K., & Crick, N. R. (1996). Relational aggression, overt aggression, and friendship. *Child Development, 67*(5), 2328-2338.
- Hart, C. H., Ladd, G. W., & Burleson, B. R. (1990). Children's expectations of the outcomes of social strategies: Relations with sociometric status and maternal disciplinary styles. *Child Development, 61*(1), 127-137.
- Hartup, W. W. (1985). Relationships and their significance in cognitive development. In R. A. Hinde, A. Perret-Clermont, & J. Stevenson-Hinde (Eds.) *Social relationships and cognitive development* (pp. 66-82). Oxford, England: Clarendon Press.
- Herman, M. R., Dornbusch, S. M., Herron, M. C., & Herting, J. R. (1997). The influence of family regulation, connection, and psychological autonomy on six measures of adolescent functioning. *Journal of Adolescent Research, 12*(1), 34-67.

- Humphrey, L. L. (1989). Observed family interactions among subtypes of eating disorders using structural analysis of social behavior. *Journal of Consulting and Clinical Psychology, 57*(2), 206-214.
- Karavasilis, L., Doyle, A. B., & Markiewicz, D. (2003). Associations between parenting style and attachment to mother in middle childhood and adolescence. *International Journal of Behavioral Development, 27*(2) 153-164.
- Kerig, P. K., Schulz, M. S., & Hauser, S. T. (Eds.) (2012). *Adolescence and beyond: Family processes and development*. New York: Oxford University Press.
- Kerig, P. K., & Sink, H. E. (2010). The new scoundrel on the schoolyard: Contributions of Machiavellianism to the understanding of youth aggression. In C. T. Barry, P. K., Kerig, K. K. Stellwagen, & T. D. Barry (Eds.), *Narcissism and Machiavellianism in youth: Implications for the development of adaptive and maladaptive behavior* (pp. 193-212). Washington, DC: American Psychological Association Press.
- Kerig, P. K., & Swanson, J. A. (2010). Ties that bind: Triangulation, boundary dissolution, and the effects of interparental conflict on child development. In M. S. Schulz, M. K. Pruett, P. K. Kerig, & R. D. Parke (Eds.), *Strengthening couple relationships for optimal child development: Lessons from research and intervention* (pp. 59-76). Washington, D.C.: American Psychological Association.

- Kerig, P. K., & Wenar, C. (2006). *Developmental psychopathology: From infancy through adolescence* (5th ed.). New York: McGraw-Hill.
- Kuppens, S., Laurent, L., Heyvaert, M., & Onghena, P. (2013). Associations between parental psychological control and relational aggression in children and adolescents: A multilevel and sequential meta-analysis. *Developmental Psychology, 49*(9), 1697-1712.
- Ladd, G. W., & Pettit, G. S. (2002). Parenting and the development of children's peer relationships. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 5. Practical issues in parenting* (2nd ed., pp. 269-309). Mahwah, NJ: Erlbaum.
- Letchinger, A. R. (2013). *Congruence in college students' and mothers' perceptions of the mothers' child-rearing behaviors* (Honors thesis).
- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In M. Hetherington (Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (pp. 1-101). New York: Wiley.
- Michiels, D., Grietens, H., Onghena, P., & Kuppens, S. (2008). Parent-child interactions and relational aggression in peer relationships. *Developmental Review, 28*(4), 522-540.
- Miller, N. B., Cowan, P. A., Cowan, C. P., Hetherington, E. M., & Clingempeel, W. G. (1993). Externalizing in preschoolers and early adolescents: A cross-study replication of a family model. *Developmental Psychology, 29*(1), 3-18.

- Neemann, J., & Harter, S. (2012). Self-perception profile for college students: Manual and questionnaires.
- Nelson, D. A., & Crick, N. R. (2002). Parental psychological control: Implications for childhood physical and relational aggression. In B. K. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents*. Washington, DC: American Psychological Association.
- Nelson, D. A., Hart, C. H., Yang, C., Olson, J. A., & Jin, S. (2006). Aversive parenting in China: Associations with child physical and relational aggression. *Child Development, 77*(3), 554-572.
- Parke, R. D., & Buriel, R. (1998). Socialization in the family: Ethnic and ecological perspectives. In N. Eisenberg (Vol. Ed.), & W. Damon (Series Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5<sup>th</sup> ed., pp. 463-552). New York: Wiley.
- Pettit, G. S., & Laird, R. D. (2002). Psychological control and monitoring in early adolescence: The role of parental involvement and earlier child adjustment. In B. K. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 97-123). Washington, DC: American Psychological Association.

- Pettit, G. S., Laird, R. D., Dodge, K. A., Bates, J. E., & Criss, M. M. (2001). Antecedents and behavior problem outcomes of parental monitoring and psychological control in early adolescence. *Child Development, 72*(2), 583-595.
- Reed, T. J., Goldstein, S. E., Morris, A. S., & Keyes, A. W. (2008). Relational aggression in mothers and children: Links with psychological control and child adjustment. *Sex Roles, 59*(1), 39-48.
- Reynolds W. M. (1982). Development of reliable and valid short forms of the Marlowe-Crowne social desirability scale. *Journal of Clinical Psychology, 38*(1), 119-125.
- Rogers, K. N., Buchanan, C. M., & Winchell, M. E. (2003). Psychological control during early adolescence: Links to adjustment in differing parent/adolescent dyads. *Journal of Early Adolescence, 23*(4), 349-383.
- Roisman, G. I., Masten, A. S., Coatsworth, J. D., & Tellegan, A. (2004). Salient and emerging developmental tasks in the transition to adulthood. *Child Development, 75*(1), 123-133.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Schaefer, E. S. (1965a). Children's reports of parental behavior: An inventory. *Child Development, 36*(2), 413-424.
- Schaefer, E. S. (1965b). A configurational analysis of children's reports of parent behavior. *Journal of Consulting Psychology, 29*(6), 552-557.

- Schludermann, S., & Schludermann, E. (1988). Questionnaire for Children and Youth (CRPBI-30). *Unpublished manuscript*.
- Schwarz, J. C., Barton-Henry, M. L., & Pruzinsky, T. (1985). Assessing child-rearing behaviors: A comparison of ratings made by mother, father, child, and sibling on the CRPBI. *Child Development, 56*(2), 462-479.
- Simons, K. J., Paternite, C. E., & Shore, C. (2001). Quality of parent/adolescent attachment and aggression in young adolescents. *Journal of Early Adolescence, 21*(2), 182-203.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology, 13*, 290-312.
- Soenens, B., Vansteenkiste, M., Duriez, B., & Goossens, L. (2006). In search of the sources of psychologically controlling parenting: The role of parental separation anxiety and parental maladaptive perfectionism. *Journal of Research on Adolescence, 16*(4), 539-559.
- Soenens, B., Vansteenkiste, M., Goossens, L., Duriez, B., & Niemiec, C. P. (2008). The intervening role of relational aggression between psychological control and friendship quality. *Social Development, 17*(3), 661-681.
- Soenens, B., Vansteenkiste, M., Luyten, P., Duriez, B., & Goossens, L. (2005). Maladaptive perfectionist self-representations: The meditational link between



psychological control and adjustment. *Personality and Individual Differences*, 38(2), 487-498.

Steinberg, L., Elmen, J. D., & Mounts, N. S. (1989). Authoritative parenting, psychosocial maturity, and academic success among adolescents. *Child Development*, 60(6), 1424-1436.

Tomada, G., & Schneider, B. H. (1997). Relational aggression, gender, and peer acceptance: Invariance across cultures, stability over time, and concordance among informants. *Developmental Psychology*, 33(4), 601-609.

Troy, M., & Sroufe, L. A. (1987). Victimization among preschoolers: Role of attachment relationship history. *Journal of the American Academy of Child & Adolescent Psychiatry*, 26(2), 166-172.

Werner, N. E., & Crick, N. R. (1999). Relational aggression and social-psychological adjustment in a college sample. *Journal of Abnormal Psychology*, 108(4), 615-623.

Werner, N. E., & Crick, N. R. (2004). Maladaptive peer relationships and the development of relational and physical aggression during middle childhood. *Social Development*, 13(4), 495-514.

Wolfradt, U., Hempel, S., & Miles, J. N. V. (2003). Perceived parenting styles, depersonalisation, anxiety and coping behaviour in adolescents. *Personality and Individual Differences*, 34(3), 521-532.

- Wood, J. J., McLeod, B. D., Sigman, M., Hwang, W-C. & Chu, B. C. (2003). Parenting and childhood anxiety: Theory, empirical findings, and future directions. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 44(1), 134-151.
- Yang, C., Hart, C. H., Nelson, D. A., Porter, C. L., Olsen, S. F., & Robinson, C. C. (2004). Fathering in a Beijing, Chinese sample: Associations with boys' and girls' negative emotionality and aggression. In R. D. Day & M. E. Lamb (Eds.), *Conceptualizing and measuring father involvement* (pp. 185-215). Mahwah, NJ: Laurence Erlbaum Associates.
- Zimmer-Gembeck, M. J., Geiger, T. C., & Crick, N. R. (2005). Relational and physical aggression, prosocial behavior, and peer relations: Gender moderation and bidirectional associations. *Journal of Early Adolescence*, 25(4), 421-452.

## Appendix A

### Informed Consent Form

**General Description.** The purpose of this study is for the researcher to learn about relationships between family dynamics and social behaviors in college students. You will be asked to complete a survey about your familial background and your current social relationships. It should take about 20 minutes to complete the survey. There are no “right” or “wrong” answers to the questions on the survey, and you should answer as honestly as you can.

**Participation.** Your participation in this study is completely voluntary, and you can withdraw from participation at any time. You may choose not to answer any individual questions on the surveys if you do not want to. To participate in this study, you must be at least 18 years of age.

**Confidentiality.** Your answers to the survey questions will be kept anonymous and confidential. Your name will not appear with your survey answers, so the researcher will be unable to identify who completed each survey. Students’ names are recorded only for the purposes of rewarding research credit, rewarding extra credit, or entering the raffle. Your answers to the surveys will not be used individually but will be combined with other students’ answers to obtain the study’s results.

**Risks.** There are no risks to you for participating in this study.

**Compensation.** As a thank you for your participation, you can choose to receive .5 research credit hours for PSYC 100, receive extra credit in your indicated course with Professor Boyatzis, or enter a raffle to win a \$50.00 gift card. A total of four gift card winners will be selected. Gift card winners will be notified by the end of the fall 2013 semester.

**By completing the form below, you confirm that you are at least 18 years of age, you understand all of the above information, and you consent to participate in this study.**

Your Name \_\_\_\_\_

Date \_\_\_\_\_

**Please choose your method of compensation for participating in this study.**

- I am a PSYC 100 student, so please give me .5 research credit hours.
- I would like to receive extra credit in PSYC 207.
- I would like to receive extra credit in PSYC 297.
- I would like to receive extra credit in PSYC 320.
- I would like to enter the raffle to win one of four \$50.00 gift cards.

If you chose to receive one of the compensation options listed above, please provide your email address so that you may be contacted if necessary. If you chose to receive research credit for PSYC 100 or extra credit for a psychology course, you will be emailed a receipt of your participation to keep for your records. If you chose to enter the gift card raffle, you will be contacted only if you are a winner.

Email Address \_\_\_\_\_

### Demographic Information Survey

**Please provide the following background information about yourself.**

1.) What is your class year?

- 2014
- 2015
- 2016
- 2017

2.) What is your age? \_\_\_\_\_

3.) What is your sex?

- Male
- Female
- Other

4.) What is your ethnic background?

- Asian
- Black
- Caucasian
- Hispanic
- Native American
- Other \_\_\_\_\_

**Please provide the following information about your family background.**

5.) Who is your primary mother figure?

- Biological mother
- Stepmother
- Adoptive mother
- Other female guardian
- No primary mother figure

6.) Who is your primary father figure?

- Biological father
- Stepfather
- Adoptive father
- Other male guardian
- No primary father figure

7.) What is your biological parents' marital status?

- Married
- Separated
- Divorced
- Never married
- Never married, but they live together
- Widowed
- Unknown

8.) When at home, with whom do you live?

- Both biological parents together
- Both biological parents separately
- Biological mother and stepparent
- Biological father and stepparent
- Biological mother only
- Biological father only
- Adoptive parent(s)
- Other \_\_\_\_\_

9.) How long have you lived with the person(s) indicated above? \_\_\_\_\_

10.) What is your primary mother figure's education level?

- Did not complete high school
- Completed high school
- Completed two years of college
- Completed four years of college
- Completed professional or graduate level schooling

11.) What is your primary father figure's education level?

- Did not complete high school
- Completed high school
- Completed two years of college
- Completed four years of college
- Completed professional or graduate level schooling

**Please provide the following information about your current social relationships.**

12.) Do you have a boyfriend/girlfriend/dating partner?

- Yes
- No

13.) How many close friends do you have? \_\_\_\_\_

\*Note: Please include everyone whom you would consider to be your close friend in this number, whether they are from home, at Bucknell, or elsewhere. If you consider any of your family members to be close friends, please include them in this number. However, if you have a boyfriend/girlfriend/dating partner, DO NOT include him/her in this number.

14.) Choose the statement that best describes your close friends.

\*Note: If you have a boyfriend/girlfriend/dating partner, DO NOT include him/her in this answer.

- My close friends are the same sex as I am.
- My close friends are of the opposite sex.
- My close friends are a mix of both sexes.
- I don't consider myself to have any close friends.

15.) Please provide more information about your close friends. Complete this statement by checking all answers that apply to you.

My close friends include...

- My primary mother figure.
- My primary father figure
- One or more of my biological siblings
- One or more of my step-siblings
- One or more persons who are close to me in age
- One or more persons who are at least 10 years older than me (not including your primary mother and father figures)
- One or more persons who are at least 5 years younger than me
- I don't consider myself to have any close friends.



**CRPBI-30 (Child-Report)**

(Participants completed separate forms for their primary mother and father figures.)

Please complete the following questions in reference to your **PRIMARY MOTHER/FATHER FIGURE**. Please read each statement and choose the answer that most closely describes the way your primary mother/father figure acts toward you.

If you think the statement describes a person who is **Not Like** your primary mother/father figure, choose this answer.

If you think the statement describes a person who is **Somewhat Like** your primary mother/father figure, choose this answer.

If you think the statement describes a person who is **A Lot Like** your primary mother/father figure, choose this answer.

**MY PRIMARY MOTHER/FATHER FIGURE IS A PERSON WHO...**

|  | <b>Not Like</b>       | <b>Somewhat Like</b>  | <b>A Lot Like</b>     |
|--|-----------------------|-----------------------|-----------------------|
| ...makes me feel better after talking over my worries with her.                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...tells me of all the things she has done for me.                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...believes in having a lot of rules and sticking with them.                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...smiles at me often.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...says, if I really cared for her, I would not do things that cause her to worry. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...insists that I must do exactly as I am told.                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...is able to make me feel better when I am upset.                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...is always telling me how I should behave.                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...is very strict with me.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...enjoys doing things with me.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...would like to be able to tell me what to do all the time.                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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|   |                       |                       |                       |
|---|-----------------------|-----------------------|-----------------------|
| ...gives hard punishment.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...cheers me up when I am sad.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...wants to control whatever I do.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...is easy with me.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...gives me a lot of care and attention.                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...is always trying to change me.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...lets me off easy when I do something wrong.                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...makes me feel like the most important person in her life.                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...only keeps rules when it suits her.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...gives me as much freedom as I want.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...believes in showing her love for me.                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...is less friendly with me if I do not see things her way.                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...lets me go any place I please without asking.                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...often praises me.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...will avoid looking at me when I have disappointed her.                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...lets me go out any evening I want.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...is easy to talk to.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...if I have hurt her feelings, stops talking to me until I please her again. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...lets me do anything I like to do.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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### PCS-YSR

(Participants completed separate forms for their primary mother and father figures.)

Please complete the following questions in reference to your PRIMARY MOTHER/FATHER FIGURE.

If you think the statement describes a person who is **Not Like** your primary mother/father figure, choose this answer.

If you think the statement describes a person who is **Somewhat Like** your primary mother/father figure, choose this answer.

If you think the statement describes a person who is **A Lot Like** your primary mother/father figure, choose this answer.

#### MY PRIMARY MOTHER/FATHER FIGURE IS A PERSON WHO...

|   | <b>Not Like</b>       | <b>Somewhat Like</b>  | <b>A Lot Like</b>     |
|---|-----------------------|-----------------------|-----------------------|
| ...changes the subject whenever I have something to say.                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...finishes my sentences whenever I talk.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...often interrupts me.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...acts like she knows what I'm thinking or feeling.                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...would like to be able to tell me how to feel or think about things all the time. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...is always trying to change how I feel or think about things.                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...blames me for other family members' problems.                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...brings up my past mistakes when she criticizes me.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

### Social Acceptance Subscale of the Self-Perception Profile for College Students

Choose the statement that best describes how you feel about yourself. Then indicate whether this statement is **Really True** or **Sort of True** for you.

| <b>Really<br/>True<br/>for Me</b> | <b>Sort of<br/>True for<br/>Me</b> |   | <b>BUT</b> |  | <b>Really<br/>True<br/>for Me</b> | <b>Sort of<br/>True for<br/>Me</b> |
|-----------------------------------|------------------------------------|---|------------|--|-----------------------------------|------------------------------------|
| <input type="checkbox"/>          | <input type="checkbox"/>           | Some students are not satisfied with their social skills          | <b>BUT</b> | Other students think their social skills are just fine                   | <input type="checkbox"/>          | <input type="checkbox"/>           |
| <input type="checkbox"/>          | <input type="checkbox"/>           | Some students find it hard to make new friends                    | <b>BUT</b> | Other students are able to make new friends easily                       | <input type="checkbox"/>          | <input type="checkbox"/>           |
| <input type="checkbox"/>          | <input type="checkbox"/>           | Some students like the way they interact with other people        | <b>BUT</b> | Other students wish their interactions with other people were different. | <input type="checkbox"/>          | <input type="checkbox"/>           |
| <input type="checkbox"/>          | <input type="checkbox"/>           | Some students feel that they are socially accepted by many people | <b>BUT</b> | Other students wish more people accepted them                            | <input type="checkbox"/>          | <input type="checkbox"/>           |

### Close Friendships Subscale of the Self-Perception Profile for College Students

Choose the statement that best describes how you feel about yourself. Then indicate whether this statement is **Really True** or **Sort of True** for you.

| <b>Really True<br/>for Me</b> | <b>Sort of<br/>True for<br/>Me</b> |   | <b>BUT</b> |   | <b>Really True<br/>for Me</b> | <b>Sort of<br/>True for<br/>Me</b> |
|-------------------------------|------------------------------------|---|------------|---|-------------------------------|------------------------------------|
| <input type="checkbox"/>      | <input type="checkbox"/>           | Some students get kind of lonely because they don't really have a close friend to share things with | <b>BUT</b> | Other students don't usually get too lonely because they do have a close friend to share things with          | <input type="checkbox"/>      | <input type="checkbox"/>           |
| <input type="checkbox"/>      | <input type="checkbox"/>           | Some students are able to make close friends they can really trust                                  | <b>BUT</b> | Other students find it hard to make close friends they can really trust                                       | <input type="checkbox"/>      | <input type="checkbox"/>           |
| <input type="checkbox"/>      | <input type="checkbox"/>           | Some students don't have a close friend they can share their personal thoughts and feelings with    | <b>BUT</b> | Other students do have a close friend who is close enough for them to share thoughts that are really personal | <input type="checkbox"/>      | <input type="checkbox"/>           |
| <input type="checkbox"/>      | <input type="checkbox"/>           | Some students are able to make really close friends   | <b>BUT</b> | Other students find it hard to make really close friends  | <input type="checkbox"/>      | <input type="checkbox"/>           |

### Modified Relational Aggression Scale

Read each statement and choose the answer that best describes you.

If the statement describes a person who is **Not Like** you, choose this answer.

If the statement describes a person who is **Somewhat Like** you, choose this answer.

If the statement describes a person who is **A Lot Like** you, choose this answer.

|  | <b>Not Like<br/>me</b> | <b>Somewhat Like me</b> | <b>A Lot Like me</b>  |
|--|------------------------|-------------------------|-----------------------|
| When angry, I give others the silent treatment.  | <input type="radio"/>  | <input type="radio"/>   | <input type="radio"/> |
| When mad, I try to damage others' reputations by passing on negative information.                    | <input type="radio"/>  | <input type="radio"/>   | <input type="radio"/> |
| When mad, I retaliate by excluding others from activities.   | <input type="radio"/>  | <input type="radio"/>   | <input type="radio"/> |
| I intentionally ignore others until they agree to do something for me.                               | <input type="radio"/>  | <input type="radio"/>   | <input type="radio"/> |
| I make it clear to my friends that I will think less of them unless they do what I want.             | <input type="radio"/>  | <input type="radio"/>   | <input type="radio"/> |
| I threaten to share private information with others in order to get people to comply with my wishes. | <input type="radio"/>  | <input type="radio"/>   | <input type="radio"/> |
| When angry with a same-sex peer, I try to steal that person's dating partner.                        | <input type="radio"/>  | <input type="radio"/>   | <input type="radio"/> |

### Rosenberg Self-Esteem Scale

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

|  | <b>Strongly<br/>Agree</b> | <b>Agree</b>          | <b>Disagree</b>       | <b>Strongly<br/>Disagree</b> |
|--|---------------------------|-----------------------|-----------------------|------------------------------|
| On the whole, I am satisfied with myself.                                  | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>        |
| At times I think I am no good at all.                                      | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>        |
| I feel that I have a number of good qualities.                             | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>        |
| I am able to do things as well as most other people.                       | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>        |
| I feel I do not have much to be proud of.                                  | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>        |
| I certainly feel useless at times.   | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>        |
| I feel that I'm a person of worth, at least on an equal plane with others. | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>        |
| I wish I could have more respect for myself.                               | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>        |
| All in all, I am inclined to feel that I am a failure.                     | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>        |
| I take a positive attitude toward myself.                                  | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>        |

### Shortened Version of the Marlowe-Crowne Social Desirability Scale

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

|  | True                  | False                 |
|--|-----------------------|-----------------------|
| It is sometimes hard for me to go on with my work if I am not encouraged.  | <input type="radio"/> | <input type="radio"/> |
| I sometimes feel resentful when I don't get my way.  | <input type="radio"/> | <input type="radio"/> |
| On a few occasions, I have given up doing something because I thought too little of my ability.                  | <input type="radio"/> | <input type="radio"/> |
| There have been times when I felt like rebelling against people in authority even though I knew they were right. | <input type="radio"/> | <input type="radio"/> |
| No matter who I'm talking to, I'm always a good listener.  | <input type="radio"/> | <input type="radio"/> |
| There have been occasions where I took advantage of someone.   | <input type="radio"/> | <input type="radio"/> |
| I'm always willing to admit it when I make a mistake.  | <input type="radio"/> | <input type="radio"/> |
| I sometimes try to get even rather than forgive and forget.  | <input type="radio"/> | <input type="radio"/> |
| I am always courteous, even to people who are disagreeable.  | <input type="radio"/> | <input type="radio"/> |
| I have never been irked when people expressed ideas very different from my own.                                  | <input type="radio"/> | <input type="radio"/> |
| There have been times when I was quite jealous of the good fortune of others.                                    | <input type="radio"/> | <input type="radio"/> |
| I am sometimes irritated by people who ask favors of me.   | <input type="radio"/> | <input type="radio"/> |
| I have never deliberately said something that hurt someone's feelings.   | <input type="radio"/> | <input type="radio"/> |