

THE ASSOCIATION BETWEEN ATTACHMENT AND PHYSIOLOGICAL
RESPONSES TO RELATIONAL AGGRESSION DURING EMERGING
ADULTHOOD

by

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ABSTRACT

Relational aggression is a covert form of aggression that, without intervention, can impact an individual's social well-being in a detrimental way. Women are at an increased risk for the detrimental outcomes of relational aggression, such as depression, disordered eating, as well as other social and emotional maladjustments. The current study focuses on three predictors of relational aggression during emerging adulthood: attachment, parenting style and psychological control, as well as self-esteem. Prior studies have looked at each of these predictors and their effects on relational aggression in childhood. However, no studies have looked at the relationship between attachment, parenting style and psychological control, as well as self-esteem on not only predicting relational aggression in emerging adulthood, but assessing each predictor's relationship with physiological responses to relational aggression. This study included 90 female college students (mean age = 19.74) who completed questionnaires online measuring the above variables. Additionally, participants came for an in laboratory session where they watched videos and participated in an interview. I found that individuals who reported high attachment anxiety had decreased reactivity upon exposure to relational aggression and were more likely to engage in relational aggression; those who reported high firm control had decreased reactivity when describing a social stressor. Individuals who reported high maternal autonomy had increased reactivity to upon exposure to relational aggression and were less likely to engage in both types of relational aggression. Furthermore, those with stable, high self-esteem were less likely to engage in both types of relational aggression.

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INTRODUCTION

Relational aggression is a form of aggression in which the aggressor carries out purposeful behaviors designed to hurt others by taking advantage of relationships, social status, and feelings of connectedness (e.g. engaging in gossip with the intent to damage a peer's reputation, social exclusion, purposefully ignoring; Crick & Grotpeter, 1995). This form of aggression is more common in girls than boys and becomes noticeable in early adolescence (Crick, 1996; Crick et al., 1999; Close et al., 2014; Grotpeter, 1995). Many studies on relational aggression have been performed with school aged children, and have found that relational aggression can lead to future social and emotional maladjustment. Thus, those who engage in relational aggression, specifically the aggressors, are at risk for behavior and adjustment problems, which can, without intervention, be detrimental to their future social interactions and behaviors with others (Crick, 1996; Michiels, Grietens, Onghena, & Kuppens, 2008;). For women, relational aggression is closely associated with depression-like symptoms and symptoms of disordered eating and personality disorder (Ostrov et al., 2011; Ostrov & Houston, 2008; Werner & Crick, 1999).

One important avenue of research is to try to understand the factors that might predict why some individuals engage in relational aggression. One explanation centers around the responses that individuals have to witnessing aggression (Wagner & Abaied, 2016). For example, heightened reactivity to witnessing relational aggression may promote feelings of discomfort and deter the individual from engaging in this type of aggression. One study found that those who engage in relational aggression tend to have more muted physiological responses when exposed to examples of relational aggression (Wagner & Abaied, 2016). The study authors speculate that this illustrates a fearlessness

that may drive relational aggression. Thus, the purpose of the current study was to examine the influence of attachment representations, parenting styles, and self-esteem on college-aged females' physiological response to relational aggression.

Attachment Representations

Bowlby's (1969) theory of attachment states that the bond that humans create with a primary caregiver in infancy is essential to healthy development. Indeed, the attachment relationships that humans form in infancy creates a working model, a mental map that represents all relationships including the self, for all future relationships in one's life. During infancy, the infant should be able to feel free to explore the world around them, while using the primary caregiver as a secure base to come back to for comfort and reassurance in times of distress or anxiety.

Ainsworth (1979) subsequently created the strange situation paradigm to assess the quality of the caregiver-infant attachment relationship. Using a series of separations and reunions, Ainsworth (1979) classified infants into one of three categories based on the infant's behavior during reunion with their caregiver. Infants who immediately became distressed upon the primary caregiver leaving, and went immediately to the caregiver upon reunion, seeking comfort and proximity then continued to explore the room were identified as securely attached. On the other hand, infants who only showed some fear and anxiety before separation, were extremely distressed when the mother left, and were contradictory in their behaviors (e.g. seeking close contact with the mother, but resisting contact at the same time) were identified as ambivalent or anxious. Finally, the last group, who at separation did not show any signs of anxiety and at reunion ignored the mother were classified as avoidant. The varying reactions between the three groups

illustrates that how the caregiver responds to the child within the first year of life is important because it allows the infant to form working models. Infants who receive consistent, sensitive responses to their needs typically develop a secure attachment relationship, whereas infants who receive inconsistent, indifferent, and insensitive responses to their needs are expected to have insecure attachment relationships (Ainsworth, 1979). These attachment representations formed early in infancy carry into adulthood and set a working model of all future relationships in the child's life (Bowlby, 1969).

Attachment representations in adulthood influence how an individual understands, perceives, and interacts in relationships (Ainsworth, 1979; Verhage et al., 2015). Mickulincer and Shaver (2007) researched the responses of an individual's interactions in interpersonal relationships based on that individual's attachment representation. In a situation where the interaction partner behaves badly, or responds negatively, adults who are securely attached respond with healthy anger in forgiveness, whereas those whose attachment representations are anxious or avoidant respond with hostility, revenge, withdrawal, and unhealthy, dysfunctional anger. In a situation where the interaction partner or peer responds or behaves positively, the securely attached adult typically experiences positive emotions (e.g. happiness, gratitude, joy) toward the situation and the partner; avoidant or anxious attached adults are typically indifferent or ambivalent in their responses. Securely attached adults who respond badly toward the interaction partner in return will experience feelings of guilt and reparation, whereas ambivalent and anxious adults will experience negative feelings (e.g. resentment, hostility, shame, despair). In responding positively to the interaction behavior, those who are securely

attached will generally experience the same feelings as those experienced when the interaction partner responds positively to them. When an adult classified as avoidant behaves positively toward an interaction partner, they typically experience a grandiose sense of self-appreciation and pride; anxious attached adults experience mixed feelings of anxiety, fear, success, and happiness when they behave positively toward the interaction partner.

Ultimately, securely attached adults have friendships that are characterized by closeness, intimacy, and conflict resolution whereas insecurely attached adults' friendships are characterized by a lack of synchrony and loneliness, leading to less satisfying friendships. Because females naturally place more emphasis on close connection within relationships (Crick & Grotpeter, 1995), and because secure attachment relationships with a primary caregiver set a positive working model for all future relationships, the current study sought to include attachment representations to better understand its role in predicting relational aggression in females entering emerging adulthood.

Parenting Styles and Parental Psychological Control

How a parent disciplines and works with a child influences how a child will behave and socialize both inside and outside the family context. Baumrind (1991) suggested three different types of parenting styles: authoritarian, authoritative, and permissive. Authoritative parents show a balance between discipline and sensitivity, set clear boundaries, and create a welcoming, warm atmosphere for the child. Authoritarian parenting and permissive parenting, on the opposite ends of the spectrum, show too much or too little demand or structure, and either minimal or maximum responsiveness.

Parental warmth is more typical of permissive parents than authoritarian parents, who utilize power-tactics that can come off cold and insensitive (Clark et al., 2015).

Parents also serve as examples for children who will model the behaviors they see the parent engage in. For example, if a child's parents engage in aggressive behaviors with their children, the child might engage in similar aggressive behaviors simply from observing or interacting with his or her parents (Bandura, 1973; Kuppens et al., 2009). Parenting styles have been shown to be related to aggression in children and early adolescents. Specifically, authoritarian parenting has been linked to negative behaviors such as relational aggression, a lack of prosocial behavior, and little empathy among children (Clark, et al., 2015, Kuppens et al., 2009; Sandstrom, 2007). Furthermore, permissive parenting is associated with relational aggression and behavioral adjustment issues in children (Clark et al., 2015; Sandstrom, 2007). Clark et al. (2015) focused their research on parenting styles as a predictor of relational aggression among emerging adulthood. A positive relationship between relational aggression and permissive parenting for emerging adults was found and is consistent with research of younger children. Authoritative parenting was negatively associated with relational aggression, illustrating that emerging adults raised under authoritative parenting styles are potentially less likely to engage in relational aggression. A surprising result was that there was no association between authoritarian parenting style and relational aggression. This may be due to firm disciplinary techniques utilized by both authoritarian and authoritative parents, and could be a safeguard against relational aggression (Clark et al., 2015). The current study sought to use parenting styles as a way to understand whether parents

contribute to their child's engagement in, and reactions to, relational aggression in emerging adulthood.

Additionally, parental psychological control, defined as covert ways of psychologically controlling a child in such a way that the child would be unable to become an individual, is also said to be related to the formation of relational aggression in children and adolescents (Casas et al., 2006; Kuppens et al., 2009; Loukas et al., 2005; Nelson & Crick, 2002; Nelson et al., 2006; Schaefer, 1965, p. 555; Yang et al., 2004). Behaviors consistent with psychological control include, but are not limited to, invalidating the child's feelings and inducing feelings of guilt, shame, or anxiety (Barber, 1996; Kuppens et al., 2009). The goal of parental psychological control is to manipulate and intrude upon the autonomy and individuality of the child, so that the child does not feel free to develop on his or her own. Clark et al., (2015) suggested that because adolescence is a pivotal time for identity formation, parental psychological control could have an impact on the prediction of relational aggression in emerging adulthood if freedom to create one's identity is withheld during adolescence. One study has shown that children of parents who scored high on a psychological control scale had higher scores for relational aggression, and both parents (i.e. mother and father) generated the same parenting techniques or styles, so relational aggression and psychological control cannot be attributed to just one parent (Kuppens, et al., 2009). Given this body of research showing that parenting styles and parental psychological control are linked with relational aggression in children and adolescents, the current study sought to examine whether parenting styles and parental psychological control would predict relational aggression in emerging adulthood, when children are no longer living at home.

Self-Esteem

Self-esteem refers to how a person perceives his or herself based upon their own capabilities and success. High self-esteem is categorized by high amounts of self-respect, the ability to see the self as worthy, and the ability to recognize merits and shortcomings, whereas low self-esteem is categorized by the opposite: a looming sense of inadequacy and a lack of respect for the self (Rosenberg, 1965).

Self-esteem's relationship to aggression has been debated among researchers, with some saying that high self-esteem is a greater risk factor for aggression than low self-esteem, and vice versa (Baumeister, Smart, & Boden, 1996; Donnellan, Trzesniewski, Robins, Moffit & Caspi, 2005; Golmaryami & Barry, 2010). The stability of an individual's self-esteem is also important to consider. In a study by Kernis, Grannemann, and Barclay (1989), those with unstable high self-esteem gravitated toward anger and aggression than those with stable high self-esteem. The researchers proposed that those with stable, high self-esteem were not prone to daily fluctuations in self-esteem and are aloof towards behaviors that could cause self-esteem to fluctuate and anger or aggression to thus ensue (Bushman & Baumeister, 1998; Kernis, Grannemann, and Barclay, 1989). In another study, Bushman and Baumeister (1998) found that participants with extremely high self-esteem (i.e., narcissists) became more aggressive upon an ego threat (i.e., a negative evaluation of the self by another person). However, there were no main effects for self-esteem in predicting relational aggression.

When examining self-esteem, identity formation in emerging adulthood, specifically college age females, must be taken into account. The goal of relationships between peers, especially females, is connectedness and acceptance between the two

peers (Crick & Grotpeter, 1995), and women develop their identity through their friendships with others (Gilligan, 1982). If identity is threatened by the relationally aggressive behaviors or actions of another peer, social maladjustment (i.e., depression, identity problems, and life dissatisfaction) can occur (Weber & Kurpius, 2011; Werner & Crick, 1999). The current study sought to extend the research on self-esteem in predicting relational aggression by examining physiological responses to relational aggression as an outcome.

The Current Study

Previous research on relational aggression has focused on younger children and adolescents and has assumed that the associations found with younger populations would be consistent in emerging adulthood. There are only a handful of studies that address relational aggression in emerging adults, especially at the college level. In addition, no studies exist that measure attachment representations, parenting style and parental psychological control, and self-esteem and how they relate to an individual's physiological response to relational aggression.

The current study asks if attachment representations, parenting styles, and self-esteem impact female engagement in, and physiological responses to, relational aggression. I hypothesize that individuals with secure attachment responses will be less likely to engage in relational aggression and will have increased physiological responses compared to those with insecure attachment representations. Furthermore, I predict that individuals who have experienced positive, healthy parenting styles will be less likely to engage in relational aggression and will have increased physiological responses compared to those with negative parenting styles. Finally, individuals with higher self-

esteem will be less likely to engage in relational aggression and will have increased physiological responses compared to those with lower self-esteem.

METHOD

Participants

For this study, participants included college female students ($n = 90$) between the ages of 17-23 years. The mean of age of the group was 19.74 years ($SD = 1.3$). Participants in this study had at least completed some college classes. Participants' parents' household incomes were also taken into consideration to ensure diversity among participants; these are located in Table 1.

Procedure

Participants were recruited through the Department of Psychology's online research participation website, SONA Systems, where students could sign up for the study. The current study included two portions. First, participants answered a series of surveys online. Next, each participant visited our on-campus laboratory where she watched a series of video clips and participated in an interview. During the lab session, participants' physiological response was measured with galvanic skin sensors attached to the inside of the participant's non-dominant hand. A total of four videos were shown during the lab session, and the order in which the videos were played were assigned randomly. A five-minute video of nature was shown before any of the other video clips in all sessions. This was shown to create a baseline for physiological response in each participant. A clip from the movie "What Lies Beneath" was shown to elicit basic physiological arousal. Physical aggression was displayed in the movie, "Kill Bill," while relational aggression was displayed in the movie, "Mean Girls." After each video, the

participant had a 2-minute resting period. Whether the participant would watch the video clips first or participate in the interview first was determined by the experimenter, who flipped a coin prior to the interview (heads = videos first, tails = interview first). Video order was also counterbalanced.

Prior to the interview portion beginning, a five-minute quiet sitting baseline was conducted. In the interview portion of the lab session, participants were asked to choose a card describing a particularly stressful situation that they had experienced recently. Then, they were asked questions regarding that stressful situation for the following 8-12 minutes and were told to describe the situation in detail. (*“can you tell me about a specific situation when this problem happened?”*). After completion of both the questionnaires and the in-lab portion of the study, participants were awarded course credit, which participants could put toward the classes of their choice as extra credit.

Measures

Parental Control. The current study used the Children’s Report of Parental Behavior Inventory (CRPBI; Margolies & Weintraub, 1977) to measure parental control. This inventory consists of 56 items total, with 24 of the items focusing on Acceptance versus Rejection, 16 items focusing on Firm versus Lax Control, and 16 items geared toward Psychological Control versus Authority. A 3-point Likert scale was used (1 = *very true*, 2 = *somewhat true*, 3 = *not true at all*) to score the behaviors of both mother and father. Participants in this study completed the inventory for both mother and father, unless one of those parents was no longer living. A total of 27 items in the inventory were reverse scored (3 = 1, 2 = 2, 1 = 3); 10 items measuring Firm versus Lax Control were reverse scored, while 16 items measuring psychological control and authority were

reverse scored. The sum of each subscale was calculated. Higher scores for Acceptance versus Rejection illustrate greater Acceptance. Additionally, higher scores for Psychological Control versus Authority illustrate greater independence and autonomy, and higher scores for Firm versus Lax Control indicate appropriate parental discipline towards a child. Internal consistency for the present study was .89 for the autonomy scale, .96 for the acceptance scale, and .83 for the firm control scale.

Adult Attachment. To examine adult attachment anxiety, participants completed the Experiences in Close Relationships Inventory (ECR; Brennan et al., 1998). This inventory consists of 36 items, with 14 items reverse coded, and has a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). There are 2 subscales included in this inventory, one measuring attachment related anxiety and the other measuring attachment avoidance. Each subscale had 18 items per subscale. Subscale scores were averaged separately, and higher scores mean higher attachment anxiety or higher attachment avoidance. This is an extremely common measure of attachment, and has been used in many studies. Internal consistency for the present study was .93 for the anxiety scale and .95 for the avoidance scale.

Self-esteem. The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) was used to measure self-esteem. This measure includes 10 items, with five of the items reverse coded, and uses a 4-point Likert scale (1 = *strongly disagree*, 4 = *strongly agree*). The sum of the 10 items was calculated, and a higher sum indicates a higher self-esteem. Internal consistency for the present study was .90.

Relational Aggression. In order to measure relational aggression, the current study utilized the Self-Report of Aggression and Social Behavior Measure (SRASBM;

Linder, Crick, & Collins, 2002). This measure consists of 56 items with a 7-point Likert scale with 1 being *not true at all*, 4 being *sometimes true*, and 7 being *very true*. The SRASBM covers six different areas of aggression and behavior: relational aggression and physical aggression, physical and relational victimization, exclusivity, and prosocial behavior. Additionally, there are 11 subscales including, proactive, reactive and cross gender relational aggression, proactive and reactive physical aggression, cross gender and peer relational victimization, cross gender and peer physical victimization, cross gender and peer exclusivity, and prosocial behavior. Five items are allotted to proactive relational aggression, six to reactive relational aggression, and five to cross gender relational aggression. Six items emphasized physical aggression with 3 focusing on proactive and the other 3 focusing on reactive. Cross gender physical victimization was given three items, as well as peer physical victimization. Relational victimization was given nine items, five focusing on cross gender and four focusing on peer relational victimization. Cross gender exclusivity and peer exclusivity were each allotted four items, for a total of eight items on exclusivity. Finally, 11 items were dedicated to prosocial behavior. Scores were retrieved by calculating the average of all the items in the subscale. Higher scores indicate higher relational aggression. Internal consistency for the present study was .75 for the proactive scale and .77 for the reactive scale.

Physiological Response. Participants' skin conductance level reactivity (SCLR) was measured in order to analyze physiological stress reactivity. MindWare ambulatory monitors utilizing Biolab 3.1. were used to collect electrodermal activity (EDA). Additionally, the MindWare EDA analysis application was used to analyze the data, with tonic SCL being calculated every 30 seconds. Average levels of skin conductance were

calculated for each task. Each participant endured a five- minute baseline rest period in which physiological data was assessed and recorded before beginning the rest of the tasks. The current study utilized an adapted version of the Social Competence Interview (SCI; Ewart et al. 2002; Ewart and Kolodner 1991,1994; Wagner &Abaied, 2016) in which students participated in an 8-12 minute semi-structured individual interview. The SCL data was averaged across the interview. Participants were given a deck of cards describing stressful situations and were asked to order the cards by the most stressful experience to occur recently to least stressful. After sorting, participants were then asked to choose the one card that described the situation that was most stressful to them. Additionally, participants were given the choice to or to not discuss that particular situation. If the most stressful situation was one about which they did not prefer to talk, then the participant was asked to choose the next stressful. After choosing a stressful situation, participants were asked to describe the situation in detail, including where and when it occurred, who was involved, dialogue between the participant and the other party, and what the other party did during said situation. Finally, they were asked to describe the result of the situation. During the interview, the interviewers asked probing questions in order to get the participants to elicit these detailed responses. Reactivity was calculated during the interview and during “Mean Girls” by subtracting average tonic SCL during “Mean Girls” and the interview from the baseline to create two reactivity measures reflecting physiological response to relational aggression. This form of measurement and interview is regularly used to examine autonomic stress reactivity (Shoulberg et al., 2011; Wagner & Abaied, 2016).

RESULTS

Descriptive statistics and correlations were conducted on all study variables. Descriptive statistics can be found in Table 2 and correlation statistics can be found in Table 3. Prior to conducting analyses, covariates were identified and controlled for, including age ($p = .038$) and race ($p = .026$). Correlations were conducted for age, and an ANOVA was conducted for race. Attachment anxiety was negatively associated with reactivity while watching “Mean Girls,” and was positively associated with both proactive and reactive aggression. Maternal autonomy was positively associated with reactivity while watching “Mean Girls,” and was negatively associated with both proactive and reactive aggression. Maternal firm control was negatively associated with relational aggression during the interview. Finally, self-esteem was negatively associated with both proactive and reactive relational aggression.

A simultaneous multiple linear regression was used to examine the influences of adult attachment, parenting style, and self-esteem on participant’s physiological responses to relational aggression. The results revealed a significant influence of attachment anxiety, $b = -.666$ ($SE = .322$), $p = .041$, $R^2 = .23$ on relational aggression, indicating less reactivity. Additionally, greater maternal autonomy had a significant effect on relational aggression, $b = .122$ ($SE = .051$), $p = .019$, $R^2 = .23$ with more autonomy revealing heightened reactivity when watching videos of relational aggression. Maternal firm control, $b = -.111$ ($SE = .058$), $p = .058$, $R^2 = .12$, had a marginally significant effect on relational aggression as well. The more the participant experienced firm control from her mother, the less reactivity she had when talking about social stressors.

The results also found significant influences of variables on participant's self-reported proactive and reactive aggression. Attachment anxiety had a significant influence, $b = .180$ ($SE = .075$), $p = .018$, $R^2 = .28$, on proactive relational aggression, with heightened anxiety suggesting more engagement in proactive relational aggression. Attachment anxiety, however, also had a significant effect on reactive relational aggression, $b = .223$ ($SE = .068$), $p = .002$, $R^2 = .26$, with greater anxiety indicating more engagement in reactive relational aggression. Maternal autonomy had a significant influence on proactive relational aggression, $b = -.036$ ($SE = .011$), $p = .002$, $R^2 = .28$, where greater autonomy suggests less engagement in proactive relational aggression. Additionally, there was a marginally significant influence of maternal autonomy, $b = -.020$ ($SE = .011$), $p = .075$, $R^2 = .26$, on reactive relational aggression. In this case, more maternal autonomy is associated with less engagement in reactive relational aggression. The results also found a marginally significant influence of self-esteem, $b = -.035$ ($SE = .020$), $p = .078$, $R^2 = .28$, on proactive relational aggression, with higher self-esteem indicating less engagement in proactive relational aggression. Finally, self-esteem had a marginally significant influence on reactive relational aggression, $b = -.035$ ($SE = .020$), $p = .076$, $R^2 = .26$, with higher self-esteem suggesting less engagement in reactive relational aggression.

DISCUSSION

The current study examined whether adult attachment anxiety, parenting behaviors, and self-esteem predicted self-reported engagement in relational aggression among college-aged females. In addition, this study sought to understand how these factors influenced physiological responses to relational aggression. Consistent with the

study hypotheses, the results of the study showed that higher levels of attachment anxiety and maternal firm control were associated with decreased reactivity when exposed to relational aggression in the video clips. Additionally, higher levels of attachment anxiety were associated with increased engagement in relational aggression. Furthermore, females who reported more maternal autonomy showed an increased reaction to witnessing relational aggression and decreased engagement; those who reported stable, high self-esteem were associated with decreased engagement in relational aggression.

Female college students' attachment representations were a significant predictor of engagement in, and reactions to, relational aggression. Those who reported heightened attachment anxiety were more likely to engage in proactive relational aggression and had less physiological reactivity when exposed to a video showing relational aggression. Proactive relational aggression is a goal-oriented form of aggression (i.e. the aggressor may engage in relational aggression to maintain her social status) and adults with high attachment anxiety tend to respond with hostility, revenge, and withdrawal when met with a threatening situation in a relationship (Mickulincer & Shaver, 2007). Additionally, those with high attachment anxiety exhibit mixed feelings of anxiety and fear even if the other person with whom they are in conflict responds positively in an argument. If the other person responds negatively, they will experience negative feelings about themselves and the relationship. Thus, these feelings, both positive and negative, may have the potential to initiate relational aggression as a way to defend oneself and keep oneself at the pinnacle of popularity after a perceived threat. Additionally, those with heightened attachment anxiety were also more likely to engage in reactive relational aggression, which is a more protection-oriented form of relational aggression that is

typically in response to provocation. Attachment anxiety is associated with friendships that are marked by a lack of synchrony and loneliness (Mickulincer & Shaver, 2007). Thus, it may be that college females with anxious attachment representations may feel the need to protect themselves by engaging in relational aggression towards another as a form of retaliation. On the other hand, it may be that women with anxious attachment representations would rather talk behind the back of a friend to another friend who maybe does not have the same feelings towards that friend, rather than confronting the friend with whom they have a problem. Thus, this creates the lack of synchrony. Future research is needed that includes measurements pertaining to friendships. For example, a study on how friends with different attachment representations respond to each other after an argument, as well as how long it takes them to forgive each other and reconcile. Because the results found that greater levels of attachment anxiety are associated with both proactive and reactive relational aggression, it may be that participants who reported high attachment anxiety did not have a physiological response to witnessing relational aggression due to the fact that relational aggression is normal to them and does not affect them.

This study also investigated whether family-level factors, such as parenting behaviors and psychological control, influenced students engagement in and physiological response to relational aggression. Though participants answered a survey about both mother and father, the current study only focused on the maternal relationship. Consistent with prior research (Clark et al., 2015), this study found that participants who experienced greater maternal autonomy, which is associated with an authoritative parenting style, tended to engage in less proactive and reactive relational aggression.

Additionally, these participants had more reactivity in response to exposure to relational aggression. Autonomy-supporting behaviors include an element of trust that is the result of responsiveness from the parent, comfort, and predictability of the parent (Kawabata et al., 2011). Previous research with adolescents has found that children whose parents encourage autonomy are less likely to engage in aggressive behaviors (Wagner & Abaied, 2016). Possible reasons for this include the openness in communication, positive involvement, and the help and guidance displayed by parents who grant their child autonomy. In this study, we show that these benefits extend into the college years, even when students are no longer living at home. The outcomes of autonomy are extremely beneficial in that college females who were granted autonomy in childhood know how to openly communicate which may be beneficial during arguments (Kawabata et al., 2011).

These results may be due to the benefits of autonomy from a parent who utilizes authoritative parenting skills. Authoritative parents encourage their children to explore their thoughts, explore their environments, and have their kids help in decision making (Kawabata et al., 2011). All of these factors tie into autonomy. Autonomy allows the child to be free to form her own thoughts, make her own decisions, and understand rules and disciplinary action (Graves & Larkin, 2006). Thus, it may be that emerging adult females who have experienced living under authoritative parenting are invited into understanding the parenting style their parents display. They receive explanations for why their behaviors were either appropriate or inappropriate, rather than just merely being punished without explanation. This openness and understanding, this freedom to explore in thought and environment might keep a child from having to hold any grudges against their parents which could potentially develop into passive aggression and built up

anger. There is no need to retaliate as one who engages in reactive relational aggression does, and there is no goal-setting oriented around popularity and staying on top that is associated in taking part in proactive relational aggression. Furthermore, because emerging adults raised under authoritative parenting receive tend to shy way from engaging in any sort of relational aggression, this may explain why these participants have more reactivity when exposed to relational aggression. They may experience feelings of discomfort or awkwardness for the person who is the victim of relational aggression. On the other hand, participants who experienced the firm parental control that is associated with authoritarian parenting, tended to have less reactivity when describing a stressful situation involving relational aggression. This is consistent with prior findings indicating that authoritarian parenting is linked to negative behaviors such as, engagement in relational aggression, a lack of prosocial behavior, and a lack of or little empathy (Clark et al., 2015). Firm control and authoritarian parenting go hand in hand in that they keep a child from exploring life for themselves, do not welcome questions, do not allow a child freedom to make decisions, and give no explanation for punishment (Clark et al., 2015). This may build up anger towards the firm control parent that the child may feel she cannot unleash for fear that she will get severely punished. Thus, the anger is held in and passive aggression ensues within the child. Furthermore, because this anger and frustration may never come to the surface, it may follow the child into adulthood where, when exposed to relational aggression, she is numb to the discomfort and awkwardness experienced by those who reported greater maternal autonomy.

Although there was no association between self-esteem and physiological response, the current study's findings confirmed the hypothesis that high self-esteem

would result in less relational aggression engagement. Prior research suggests that those with stable high self-esteem do not tend to gravitate toward aggressive behaviors, relational or otherwise, unlike those with an inflated sense of self (i.e. narcissism) or unstable, high self-esteem (Busman & Baumeister, 1998). This may be because an adult woman with high self-esteem may be able to distinguish between what is not true about herself and what is true. In response to relational aggression this is extremely important, as relational aggression often involves words or actions that are spoken or acted directly or indirectly. If a woman is rooted in who she knows herself to be and thinks much, but not too much of herself, she may be less likely to waver in her self-perception in a situation where she is threatened. It is possible that there was no association between high self-esteem and physiological response because the relational aggression witnessed in the videos was not a direct attack on the participant, and thus, the participant may not have responded physiologically in the way they would when her self-esteem is threatened.

Limitations and further directions

While the information found in the present study is valuable, there are a few limitations that need to be discussed. First, a majority of this study was based on self-reports. Because participants are in control of how and what they answer on a self-report, these assessments can sometimes be unreliable measures. Participants, when confronted with more intrusive, personal questions, may have chosen to respond dishonestly in order to appear more positively. This may end up skewing the data or giving data that does not present accurate findings. In future studies on this topic, another type of measure, such as an interview asking the same questions from the self-report.

Additionally, this study utilized a video clip from the popular movie, Mean Girls, to illustrate relational aggression. Many participants have likely watched this movie and may know it too well to exhibit a physiological reaction to the expressions of relational aggression. The popularity of this movie may have been perceived as a funny scene from the film or something that participants may have become numb toward. Thus, it may be that participants who did or did not react to exposure of relational aggression in this video clip may be reacting because it is a movie that is quotable and can be laughed at or may not be reacting because it has become all too familiar. In further research, using a different movie or video clip should be considered.

Another limitation of this study is that some participants accidentally answered questions asking if they had been in romantic relationships within the past year when really they were not. This is a basic failure to read instructions that could potentially skew the data in either a negative or positive way. It is important for the participant to have read these directions as they affect the style of attachment indicated by the assessment. It is suggested that further research should be more specific when selecting participants. For example, offering the study to those who were in romantic relationships within the past year or are currently in a romantic relationship.

Furthermore, there were some participants who failed to complete both parts of the study, and because of this, were not included in data analyses. For this study, it was crucial to complete the online assessments because insight on self-esteem, parenting style, and attachment was found. If only the interview portion of the current study was completed, all of the data regarding those three variables would not be included in analyses. On the other hand, if only the online surveys were completed by the participant,

how the participant reacts to relational aggression exposure would not be recorded. Both parts are necessary for the study as they depend on each other. In future research, participants should come into the lab in order to complete surveys and then participate in the interview shortly after to ensure that both get completed.

Lastly, this study was conducted over one, single period of time. Thus, it cannot be assumed that one variable predicts or causes the other (e.g., authoritarian parental control causes relational aggression in emerging adulthood). A longitudinal study is suggested for further research as it would allow researchers to determine the direction of effects. Additionally, external environmental factors outside of the family could potentially influence relational aggression or change the way that it develops within a child. It would be interesting to examine how other important figures such as teachers, mentors, or close friends impact and influence the occurrence of relational aggression.

Conclusions

Despite these limitations, these results are important to the study of relational aggression and contribute to the general understanding of what may predict relational aggression and one's physiological response to it. Studying relational aggression is essential because engagement in relational aggression can lead to lack of prosocial behaviors and maladjustment. Additionally, it is essential that relational aggression is studied because victims of relational aggression may also adapt these negative behaviors, which could then lead to further social problems. The study of relational aggression may also be impactful on new parents raising young children. It could help them understand why attachment, good parenting, and self-esteem matter even for their adult children. Future research should focus on extending this research more thoroughly, as there is not

much research on the combination of these three variables on relational aggression. If research on the influence of these three variables on relational aggression is extended, the possible result may be a decrease in bullying, better parenting, and all around more prosocial behaviors.

REFERENCES

- Ainsworth, M.D.S., Blehar, M.C., Waters, E., & Wall, S. *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, N.J.: Erlbaum, 1978.
- Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs: Prentice Hall.
- Barber, B.K. (1996). Parental Psychological Control: Revisiting a Neglected Construct. *Child Development, 67*, 3296-3319.
- Baumeister, R.F., Smart, L., & Boden., J.M. (1996). Relation of Threatened Egotism to Violence and Aggression: The Dark Side of High Self-Esteem. *Psychological Review, 103*, 5-33.
- Baumrind, D. (1991) The Influence of Parenting Style on Adolescent Competence and Substance Use. *Journal of Early Adolescence, 11*, 56-95.
doi:10.1177/02724316911111004
- Brennan, K.A., Clark, C.L., & Shaver, P.R. (1998). Self-report measurement of adult attachment: An integrative overview (pp. 46– 76). In J.A. Simpson & W.S. Rholes (eds.), *Attachment theory and close relationships*. New York: Guilford Press.
- Bushman, B.J., & Baumeister, R.F. (1998). Threatened Egotism, Narcissism, Self-Esteem, and Direct and Displaced Aggression: Does Self-Love or Self-Hate Lead to Violence?. *Journal of Personality and Social Psychology, 75*, 219-229.
- Casas, J.F., Weigel, S.M., Crick, N.R., Ostrov, J.M., Woods, K.E., Yeh, E.A.J., & Huddleston-Casas, C.A. (2006). Early parenting and children’s relational and

- physical aggression in the preschool and home contexts. *Journal of Applied Developmental Psychology*, 27, 209-227. doi:10.1016/j.appdev.2006.02.003
- Clark, C.M., Dahlen, E.R., & Nicholson, B.C. (2015). The Role of Parenting in Relational Aggression and Prosocial Behavior among Emerging Adults. *Journal of Aggression, Maltreatment & Trauma*, 24., 185-202.
doi:10.1080/10926771.2015.1002653
- 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*, 66., 2317-2327
- Crick, N.R., & Grotpeter, J.K. (1995). Relational Aggression, Gender, and Social-Psychological Adjustment. *Child Development*, 66., 710-722.
doi:10.2307/1131945
- Donnellan, M.B., Trzesniewski, K.H., Robins, R.W., Moffit, T.E., & Caspi, A. (2005). Low Self-Esteem is Related to Aggression, Antisocial Behavior, and Delinquency. *Psychological Science*, 16, 328-335.
- Gilligan, C. (1982). *In a different voice*. Cambridge, MA: Harvard University Press.
- Golmaryami, F.N., & Barry, C.T. (2010). The Associations of Self-Reported and Peer-Reported Relational Aggression with Narcissism and Self-Esteem Among Adolescents in a Residential Setting. *Journal of Clinical Child & Adolescent Psychology*, 39, 128-133. doi:10.1080/15374410903401203
- Graves, S.B., & Larkin, E. (2006). Lessons from Erikson. *Journal of Intergenerational Relationships*, 4, 61-71. doi:10.1300/J194v04n02_05

- Kawabata, Y., Alink, L.R.A, Tseng, W., van Ijzendoorn, M.H., & Crick, N.R. (2011). Maternal and paternal parenting styles associated with relational aggression in children and adolescents: A conceptual analysis and meta-analytic review. *Developmental Review*, 31, 240-278. doi:10.1016/j.dr.2011.08.001
- Kernis, M.H., Grannemann, B.D., & Barclay, L.C. (1989). Stability and level of self-esteem as predictors of anger arousal and hostility. *Journal of Personality and Social Psychology*, 56, 1013-1022.
- Kuppens, S., Grietens, H., Onghena, P., & Michiels, D. (2009). Associations between parental control and children's overt and relational aggression. *British Journal of Developmental Psychology*, 27, 607-623. doi:10.1348/026151008X345591
- Linder J.R., Crick N.R., Collins W.A. Relational aggression and victimization in young adults' romantic relationships: Associations with perceptions of parent, peer, and romantic relationship quality. *Social Development*. 2002;11:69–86
- Loukas, A., Paulos, S.K., & Robinson, S. (2005). Early adolescent social and overt aggression: Examining the roles of social anxiety and maternal psychological control. *Journal of Youth and Adolescence*, 34, 335-345. doi:10.1007/s10964-0055757-2
- Michiels, D., Grietens, H., Onghena, P., & Kuppens, S. (2008). Parent-child interactions and relational aggression in peer relationships. *Developmental Review*, 28., 522-540. doi:10.1016/j.dr.2008.08.002
- Murray-Close, D., Crick, N.R., Tseng., W., Lafko, N., Burrows, C., Pitula, C., & Ralston, P. (2014). Physiological stress reactivity and physical and relational aggression: The moderating roles of victimization, type of stressor, and child gender.

Development and Psychopathology, 26., 589-603.

doi:10.1017/S095457941400025X

- Margolies, P.J., & Weintraub, S. (1977). The revised 56-item CRPBI as a research instrument: Reliability and factor structure. *Journal of Clinical Psychology*, 33, 472-476. doi:10.1002/1097-4678(197704)33:2<472::AID-JCLP2270330230>3.0CO;2-S
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.
- 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* (pp.161-189). Washington, DC: American Psychological Association.
- Nelson, D.A., Hart C.H., Yang, C., Olsen, J.A., & Jin, S. (2006). Aversive parenting in China: Associations with child physical and relational aggression. *Child Development*, 77, 554-572. doi:10.1111/j.1467-8624.2006.00890.x
- Ostrov, J.M., & Houston, R.J. (2008). The Utility of Forms and Functions of Aggression in Emerging Adulthood: Association with Personality Disorder Symptomatology. *Journal of Youth Adolescence*, 37., 1147-1158. doi:10.1007/s10964-008-9289-4
- Ostrov, J.M., & Houston, R.J. (2008). The Utility of Forms and Functions of Aggression in Emerging Adulthood: Association with Personality Disorder Symptomatology. *Journal of Youth Adolescence*, 37., 1147-1158. doi:10.1007/s10964-008-9289-4
- Rosenberg, M. (1965). *Society and adolescent self-image*. Princeton, NJ: Princeton University.

- Sandstrom, M.J. (2007). A link between mothers' disciplinary strategies and children's relational aggression. *British Journal of Developmental Psychology*, 25, 399-407. doi:10.1348/026151006X158753
- Schaefer, E.S. (1965). A configurational analysis of children's reports of parent behavior. *Journal of Consulting Psychology*, 29, 552-557. doi:10.1037/h0022702
- Verhage, M.L., & Schuengel, C., et al. (2016) Narrowing the Transmission Gap: A Synthesis of Three Decades of Research on Intergenerational Transmission of Attachment. *Psychological Bulletin*, 142, 337-366. doi:10.1037/bu10000038
- Wagner, C. R., & Abaied, J. L. (2016). Skin conductance level reactivity moderates the association between parental psychological control and relational aggression in emerging adulthood. *Journal of Youth and Adolescence*, 45, 687-700. doi:10.1007/s10964-016-04255-5
- Weber, D., & Kurpius, S.H. (2011). The Importance of Self-Beliefs on Relational Aggression of College Students. *Journal of Interpersonal Violence*, 26, 2735-2743. doi:10.1177/0886260510388287
- Werner, N.E., & Crick, N.R. (1999). Relational Aggression and Social-Psychological Adjustment in a College Sample. *Journal of Abnormal Psychology*, 108., 615-623.
- Yang, C., Hart, C.H., Nelson, D.A., Porter, C.L., Olsen, S.F., Robinson, C.C., et al. (2004). Fathering in 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: Erlbaum

APPENDIX

Table 1

Sample Demographics (n = 90)

	% (n)
Annual Household Income	
I don't know	.12 (11)
\$5,001-\$10,000	.01 (1)
\$15,001-\$20,000	.01 (1)
\$20,001-\$30,000	.02 (2)
\$30,001-\$40,000	.03 (3)
\$41,000-\$50,000	.03 (3)
\$50,001-\$60,000	.02 (2)
\$60,001-\$80,000	0.1 (9)
\$80,001-\$100,000	.06 (6)
\$100,001-\$150,000	.12 (11)
> \$150,000	.46 (41)

Table 2

Descriptive statistics

Variable	<i>Mean</i>	<i>SD</i>
1. Attachment anxiety	3.21	1.24
2. Attachment avoidance	2.72	1.22
3. Maternal acceptance	64.21	10.29

Table 3

Correlation Statistics

	1	2	3	4	5	6	7	8
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1. Attachment anxiety	-	.48**	-.11	-.10	-.12	-.43**	.39**	.44**
2. Attachment avoidance		-	-.16	.04	-.15	-.26*	.23	.15
3. Acceptance			-	-.13	.32**	.33**	-.20	-.24*
4. Firm Control				-	-.35**	.20	-.00	-.10
5. Autonomy					-	.16	-.37**	-.24*
6. Self-esteem						-	-.35**	-.36**
7. Proactive relational aggression							-	.76**
8. Reactive relational aggression								-

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)