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Learning Aggression: The Association Between Parental Psychological Control
and Adolescent Relational Aggression

Jennifer Jaeun Byon

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

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ABSTRACT

Learning Aggression: The Association Between Parental Psychological Control and Adolescent Relational Aggression

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Master of Science

Late adolescence and early emerging adulthood are important developmental time periods during which transitions to adulthood begins including independence from one's parents. While adolescents spend more time away from their homes, especially as they start attending college, the influence of their parents is still salient. Parental psychological control has been shown to impact adolescents' developmental outcomes, including their engagement in relational aggression. While past research has focused mostly on children and young adolescents, the current study seeks to explore the bidirectional associations between parental psychological control and relational aggression among late adolescents and early emerging adults. It also seeks to explore adolescent sex as a potential moderator. Using the Flourishing Families Project data, the results revealed that across ages 16-19, there were significant bidirectional associations. However, there were no sex differences. Several important implications as well as suggestions for future studies are drawn.

Keywords: psychological control, relational aggression, social learning theory, SDT

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Learning Aggression: The Association Between Parental Psychological Control and Adolescent
Relational Aggression

According to Barber (1996), parental psychological control is defined as “control that constrains, invalidates, and manipulates children’s psychological and emotional experience and expression” (p. 3296). It is a tactic employed to elicit and maintain control over adolescents via psychological and emotional means such as love withdrawal and guilt induction, disappointment and shame, as well as possessiveness and protectiveness. It is different from behavioral control, which is an attempt to manage and monitor the adolescent’s behavior. Instead, it is concerned with the child’s psychological self and is a violation of his or her psychological autonomy (Barber & Harmon, 2002). Indeed, psychological control has been linked with numerous outcomes for children and adolescents, including internalizing problems such as depression as well as externalizing problems such as delinquency (Barber, 1996). Both involving a manipulative nature, psychological control has also been related to relational aggression among young children and adolescents, supposedly modeling after their parents (Nelson & Crick, 2002). However, fewer studies have examined psychological control in relation to relational aggression in late adolescence and early emerging adulthood, when the need for autonomy and the salience of friendships and romantic relationships are greater. While the struggle in finding a balance between parents not viewing their late adolescents as adults yet and adolescents striving for more independence heightens during these periods (Urry, Nelson, & Padilla-Walker, 2011), relational aggression appears to be still prevalent during these periods and has been linked with lower parent-adolescent relationship quality (Linder, Crick, & Collins, 2002; Verona, Sadeh, Case, Reed, & Bhattacharjee, 2008). Thus, the purpose of the current study is to explore the associations between parental psychological control and late adolescent relational aggression.

Specifically, it seeks to test the bidirectional nature of these associations across time and how these might be moderated by adolescent sex.

Psychological Control and Aggression

Aggression refers to one's intent to harm others (Archer & Coyne, 2005), and relational aggression is a specific form of aggression that differs from physical aggression in that it focuses on the purposeful manipulation or damage to one's relationships, and may include behaviors such as giving the silent treatment, social exclusion, or threatening to damage the relationship (Nelson & Crick, 2002; Werner & Crick, 1999). This type of aggression is important to consider during late adolescence and early emerging adulthood because these periods are necessary to successfully transition into adulthood. Numerous studies report that relational aggression predicts future problems including depression and risky behaviors (Crick, Ostrov, & Werner, 2006; Nelson & Crick, 2002) as well as youth violence (Liu, Lewis, & Evans, 2013), and there may be continuity in the associations between aggression and psychosocial adjustment across time (Werner & Crick, 1999). It may also be a significant form of aggression to look at during these developmental periods due to the increasing salience of peer and romantic relationships, the importance of identity exploration (Barber & Harmon, 2002), and the greater need for autonomy from one's parents, all of which provides the adolescents with an increased number of relationships and contexts for relational aggression to occur. Furthermore, it may be a more appropriate and more common form of aggression to consider for older adolescents given that they are less likely to engage in physical aggression (Wagner & Abaied, 2016; Werner & Crick, 1999). Thus, adjustment during these times can set the stage for adjustment in adulthood.

Among the many different sources from which adolescents may learn and develop aggressive behaviors, home is an important contributing environment (Miles & Carey, 1997;

Nelson & Crick, 2002). It is in the home that the child first acquires the skills and knowledge to become a competent individual and it is also in the home that the child can learn maladaptive behaviors, including aggressive behaviors. Parental psychological control may be one way that parents can shape their child's aggression, including during late adolescence, when the nature of parenting might change as adolescents strive for greater independence (Padilla-Walker & Nelson, 2012). Social learning theory (Bandura, 1977) suggests that behaviors are learned observationally from the environment. According to this theory, adolescents may model their parents' behaviors, including their engagement in psychological control (Lau, Marsee, Lapré, & Halmos, 2016). Specifically, observing their parents' psychological control may lead adolescents to use similar types of tactics and manipulation in their own relationships with others. This may especially be the case if adolescents view that psychological control is a positive reinforcement to use in other relationships given that they have become accustomed to such strategies. In fact, the relationship one has with his or her parents can set the stage for future relationships and its outcomes can carry over in friendships (Kuppens, Grietens, Onghena, & Michiels, 2009; Nelson & Crick, 2002; Wagner & Abaied, 2016) and romantic relationships (Leadbeater, Banister, Ellis, & Yeung, 2008; Linder et al., 2002). In addition, the overlap between parental psychological control and relational aggression may explain the association between the two (Kuppens et al., 2009). For instance, they both involve manipulative behaviors (Lau et al., 2016) and withdrawal of affection (Wagner & Abaied, 2016). Thus, it may be that adolescents learn and model the aggressive strategies used by their parents in their own lives.

While numerous studies have cited social learning theory as the theoretical background of the link between parental psychological control and adolescent relational aggression (e.g., Kawabata, Alink, Tseng, Van Ijzendoorn, & Crick, 2011; Kuppens et al., 2009; Kuppens,

Laurent, Heyvaert, & Onghena, 2013; Lau et al., 2016; Nelson & Crick, 2002; Soenens et al., 2007; Wagner & Abaied, 2016), it is possible that this theory provides more explanation for younger children and adolescents than older adolescents. One reason may be that young adolescents are more prone to observe their parents and thus learn aggression via external sources without having to internalize or think about its correlates and consequences. In fact, younger adolescents may be limited in their cognitive abilities to be able to think abstractly and also in their emotional capabilities to self-regulate. Building onto the social learning theory, self-determination theory (SDT; Deci & Ryan, 1985) may be a theory that further explains how adolescents' motivation and personality is related to their autonomy (i.e., self-determination), competence, and relatedness. Specifically, the SDT posits that there is a need for growth and integration, as well as challenge and satisfaction, which is particularly relevant for late adolescents and early emerging adults who are in the process of figuring out their identities, roles, and responsibilities. To foster such growth and integration of the self, the ability to act in a volitional manner is essential as one chooses to believe and behave, which occurs via intrinsic or extrinsic motivation (Soenens & Vansteenkiste, 2010). The first refers to an autonomous motivation where one chooses and acts due to an intrinsic source, such as the self, and the behavior is thus internalized. In contrast, the second refers to a controlled motivation where one chooses and acts due to an extrinsic source, such as parents, and the behavior is introjected. By definition, introjection may be present when adolescents behave in certain ways to develop/maintain their sense of worth or to avoid feeling guilty or shameful in response to pressure and/or obligation from outside sources/socializers. Because the adolescents do not identify or accept the behavior as one's own, there can be a sense of resistance, inner conflict, as well as anxiety (Soenens & Vansteenkiste, 2010).

Indeed, research supports that autonomous motivation can lead to optimal development whereas controlled motivation can jeopardize such development. Like the social learning theory, SDT assumes that the role of parents and the social environment they provide is immense in impacting the adolescents' development. While intrinsic motivation is nurtured by autonomy-supportive conditions (i.e., psychological freedom), extrinsic motivation is rooted in controlling socialization (Soenens & Vansteenkiste, 2010). Certainly, psychological control, in which parents are internally controlling the adolescents, is an example of regulation that promotes controlled motivation where the parents may compel adolescents to think, behave, and feel in ways that align with their expectations. For instance, guilt induction may activate the internal pressures within the adolescents to regulate their behavior. This may lead the adolescents to feel like they have to comply and have no other choice, and to avoid feeling negative emotions, they engage in introjection, which takes away their volitional will to behave in ways that matches their own beliefs and values. This is particularly important to consider for late adolescents and early emerging adults who are involved in identity exploration and commitment (Kuppens et al., 2013). Because parents who employ psychological control do not support adolescents' decision making, adolescents may struggle to integrate and find their true selves, which leads to problematic behavior and puts their adulthood at risk (Luyckx, Soenens, Vansteenkiste, Goossens, & Berzonsky, 2007). It may be that psychological control depletes the psychological resources that adolescents have, which leads them to act out and engage in aggressive tendencies and behaviors (Karaman, 2013; Rogers, Memmott-Elison, Padilla-Walker, & Byon, 2019; Soenens & Vansteenkiste, 2010). Taken together, both social learning theory and self-determination theory help explain why and how parental psychological control may be associated with adolescent relational aggression. On one hand, since psychological control

closely resembles relational aggression, adolescents may be likely to copy and model the aggression involved in their relationships with others. On top of that, since the parents do not meet their adolescents' need of autonomy when they are psychologically controlling, the adolescents are in danger of becoming vulnerable to maladjustment, including aggression.

Past research shows that parental psychological control is related to higher levels of relational aggression among children and adolescents. For instance, several studies have found in a sample of elementary and middle schoolers that parental psychological control was positively related to adolescent relational aggression (Kuppens et al., 2009; Soenens et al., 2007). In contrast, Kuppens et al. (2013) found in their meta-analysis that this positive association between psychological control and child relational aggression was rather weak and that there was a stronger association among older adolescents than younger adolescents. It may be that older adolescents are more developmentally sensitive to the detrimental effects of psychological control as they have a greater level of need to be autonomous and establish a stable identity (Kuppens et al., 2013). Furthermore, some studies reported no significant association between parental psychological control and relational aggression (Wagner & Abaied, 2016). Perhaps some children and adolescents are not as affected by their parents' psychologically controlling tactics as a result of desensitization. These findings provide a preliminary evidence on the link between psychological control and relational aggression, but there needs to be a follow-up study exploring such association in an older sample. Certainly, parents' behaviors seem to provide the context in which adolescents can develop aggressive tendencies (Wagner & Abaied, 2016), particularly for older adolescents who may transfer such tendencies onto their wide range of relationships. Taken together, parental psychological control can predict adolescent aggression as both parents and adolescents react and respond to each other's aggression with aggression.

Contribution of Current Study

While there are numerous preliminary findings on the association between parental psychological control and adolescent relational aggression, there seems to be less research available in late adolescence and early emerging adulthood. This is a limitation because research has shown that late adolescence and early emerging adulthood are critical times of transition when peer and romantic relationships become more salient, with increased number of contexts for aggression to occur. It is also during these important developmental periods when identity exploration and establishment takes place, preparing adolescents for adulthood (Barber & Harmon, 2002; Kuppens et al, 2013). Thus, parental psychological control may be an especially important factor to consider during these periods given that parents may hinder or halt the progress of their adolescents' identity exploration and commitment, including career options, as they take away their autonomy and control their lives in a coercive and intrusive manner (Luyckx et al., 2007). In fact, past studies have shown that psychological control is linked with negative outcomes in emerging adulthood, including low self-worth, high depression, anxiety, and impulsivity (Padilla-Walker & Nelson, 2012). Additionally, parents may show an increased level of psychological control due to a lack of physical proximity as adolescents move out of the home and because they feel like their adolescents are not ready to be independent yet (Abaied & Emond, 2013), and adolescents themselves may be affected by their parents differently across time. For instance, with the increase in one's level of autonomy and maturity, adolescents may view that the controlling tactics used by their parents are ineffective and thus become less likely to model their parenting strategies. The current study, therefore, seeks to close the gaps in the literature by addressing these two critical developmental periods over time and by looking at relational aggression among late adolescents and early emerging adults.

Another limitation is that past studies have often been cross-sectional and thus, there is research needed looking at the association between psychological control and aggression longitudinally and bidirectionally. This is because it is possible that parents and children mutually influence each other through their personality traits, characteristics, and styles (Bell, 1968). For example, numerous studies suggest that the child may engage in relational aggression due to his or her inability to self-regulate emotions (Wagner & Abaied, 2016), tendency to exhibit hostile attributional biases (Crick, Grotpeter, & Bigbee, 2002), and inadequacy to process information from social situations (Kuppens et al., 2013), all of which could potentially affect how parents view and discipline their child. Indeed, children have been seen to influence parents in numerous domains, including in their engagement in psychological control. A study by Kuppens et al. (2009), for instance, found that among 8- to 10-year-old children, relational aggression was positively related to maternal psychological control a year later. They reasoned that parents can respond to children's relationally aggressive strategies with psychologically controlling tactics. Another study found that among adolescents, higher levels of relational aggression at Time 1 was linked to higher levels of perceived maternal psychological control two years later (Albrecht, Galambos, & Jansson, 2007). However, it is unknown whether this direction of association remain true for late adolescents and early emerging adults, when life transitions are occurring and adolescents themselves play an increasing role in their own lives. Perhaps parents are more likely to be psychologically controlling during these developmental times as adolescents examine and explore their identities and careers (Luyckx et al., 2007), but feel that they are not adults yet (Padilla-Walker & Nelson, 2012). By considering the bidirectionality of psychological control and aggression, the nature of these associations can be better understood so that both parents and adolescents can better meet each other's needs.

Sex Differences

Social learning theory also assumes that gender based on one's sex is something that is learned from observations and thus, socially constructed. Therefore, certain parenting behaviors may have more detrimental effects on adolescent well-being and different effects depending on one's sex. Parental psychological control, for instance, elicits and maintains control over adolescents, wherein the parents do not meet the adolescents' needs of autonomy and independence (Barber & Harmon, 2002). This can promote aggressive behaviors as means of modeling and coping, but depending on the sex of the adolescent, the effects of psychological control may be manifested differently, to display the socially accepted and appropriate forms of aggression. Past research suggests that the association between parental psychological control and adolescent aggression may indeed be moderated by the adolescents' sex. Specifically, the gender socialization theory states that girls and boys learn certain behaviors and attitudes that are deemed appropriate for a given sex, and that these can be reinforced and modeled (Fagot, Rodgers, & Leinbach, 2000). Given that girls have been socialized to place more importance on relationships and are thus more likely to be sensitive to and are hurt by the effects of psychological control (Nelson & Crick, 2002) whereas physical dominance has been emphasized in boys (Kuppens et al., 2013), there likely are different gender norms, scripts, and schemas for the different sexes (Bem, 1981). Therefore, it is possible that the correlation between parental psychological control and relational aggression is stronger for girls than boys.

Additionally, there may be different findings depending on the parents' sex. As Kuppens et al. (2013) explained, it may be that maternal psychological control has a stronger impact on the child as mothers tend to spend more time in the home and take greater responsibilities in childrearing. This would likely result in stronger bonds and ties with the child, and thus, the child

may be more sensitive to the mothers' parenting style. Or it may be that there is a cross-sex influence, in that mothers have stronger impact on boys while fathers have stronger impact on girls. Nelson and Crick (2002), for example, found that among third graders, maternal psychological control was not related to relational aggression for girls, but paternal psychological control was. Interestingly, both maternal and paternal psychological control was not related to either physical or relational aggression for boys. While some studies have shown no sex differences (Barber, Olsen, & Shagle, 1994; Kuppens et al., 2013), other studies have demonstrated such differences. Therefore, it is possible that there may be varying associations between parental psychological control and adolescent aggression depending on the sex of the parent. Furthermore, the current study adds onto the literature by examining the influence of fathers as not many studies have done so in the past. It may be that fathers uniquely contribute to adolescent development due to the different societal expectations.

Current Study

The current study explored a) the bidirectional associations between parental psychological control and adolescent relational aggression during late adolescence and early emerging adulthood (i.e., ages 16-19), and b) the potential sex differences in parents and adolescents of the associations between psychological control and aggression. As the social learning theory postulates, parental psychological control can serve as a model for adolescents to parallel in their own relationships with others (Bandura, 1977). Additionally, as the self-determination theory suggests, psychologically controlling parents may be taking away or limiting their adolescents' need for autonomy, a necessity during these critical developmental periods (Soenens & Vansteenkiste, 2010). It is thus hypothesized that higher levels of parental psychological control will be linked to higher subsequent levels of relational aggression among

adolescents. Second, it is likely that the traits and characteristics adolescents possess lead the parents to be psychologically controlling (Bell, 1968). For instance, they may lack the self-regulation skills which elicits their parents to engage in psychological control (Wagner & Abaied, 2016). It is therefore hypothesized that higher levels of adolescent relational aggression will be linked to higher subsequent levels of parental psychological control. Finally, given that female and male adolescents have been socialized to behave according to one's sex (Bem, 1981), it is likely that relational aggression is more common among female adolescents especially since they tend to place more importance on relationships compared to males (Nelson & Crick, 2002). Hence, it is hypothesized that there will be significant sex differences in that there will be stronger correlations between parental psychological control and relational aggression among female adolescents compared to their male counterparts.

Methods

Participants

Participants were from the Flourishing Families Project (FFP), a ten-wave longitudinal study of inner-family life focusing on families with adolescent children. The data for the present study included the four assessments when adolescents were aged 16-19. The sample consisted of 500 families with a $M_{\text{age}} = 16.3$ for adolescents, 48.2 for mothers, and 50.3 for fathers (91.4% retention from age 10 data). Moreover, 47.7% of the adolescents were males and 52.3% were females. For ethnicity, 66% families were of European American ethnicity, 11% were African American, with smaller numbers for Hispanics and Asian Americans (1%), with 22% families categorized as multi-ethnic. For education, 61% of mothers and about 70% of fathers had a bachelor's degree or higher, with 39% of the primary caregivers earning an income of \$100,000 or more per year. Approximately 32.8% were single-parent and 67.2% were two-parent families.

Procedure

Participant families for the FFP were selected from a large northwestern city and were interviewed during the first eight months of 2007 for age 10 data sample and they were followed for ten years, for a total of ten waves. At the first interval, families with a child between 10-14 years of age were recruited and randomly selected from a purchased national telephone survey database (Polk Directories/InfoUSA) via the means of telephone, magazine, and internet subscription reports. Of the 692 eligible families contacted, 423 agreed to participate, resulting in a 61% response rate. In addition, a limited number of families were recruited through other means (e.g., referrals, fliers) to increase the socioeconomic and ethnic diversity of the sample.

Of the ten years, the current study uses ages 16-19 because research has indicated the importance of late adolescence and early emerging adulthood as a period of independence, especially as adolescents leave the home. All families were contacted directly using a multi-stage recruitment protocol: A letter of introduction was first sent to potentially eligible families, interviewers made home visits and phone calls to confirm eligibility and consent, then interviewers made an appointment to come to the families' home to conduct assessment interviews of videotaped interactions and questionnaires. Starting with the age 16 data, the survey questionnaires for both parents and adolescents were placed online due to a large percentage of the adolescents transitioning out of the home and leaving to go to college or live on their own, which also led to a reduction in the number of measures. The surveys were quality controlled by the field directors who worked with the research assistants.

Measures

Parental psychological control. At each year of the assessment, adolescents reported their perceived levels of psychological control for both mothers and fathers using eight items

from the Psychological Control Scale-Youth Self Report (Barber, 1996). The construct validity of the scale has been supported in numerous studies (e.g., Soenens, Vansteenkiste, Luyckx, & Goossens, 2006). The items indicated the degree to which mothers and fathers demonstrated manipulative tactics to control adolescents' psychological sense of self (e.g., "my parent will avoid looking at me when I have disappointed her/him"). These items were rated on a 5-point Likert-type scale ($1 = \textit{Never}$ to $5 = \textit{Very often}$) and were averaged, with higher scores indicating higher levels of parental psychological control. Across ages 16-19, Cronbach's alpha ranged from $\alpha = .89$ to $.90$ for mothers, $\alpha = .89$ to $.91$ for fathers.

Adolescent relational aggression. At each year of the assessment, adolescents reported their level of relational aggression using four items from the Self-Report of Aggression and Social Behavior Measure (SRASBM; Morales & Crick, 1998). Several studies have supported the construct validity of the instrument (e.g., Dahlen, Czar, Prather, & Dyess, 2013). The items indicated the degree to which adolescents showed manipulate efforts, such as exclusion, to harm relationships (e.g., "When mad at a person, I try to make sure that the person is left out from group activities"). These items were indicated on a 5-point Likert type scale ($1 = \textit{Never true}$ to $5 = \textit{Almost always true}$) and were averaged, with higher ratings indicating higher levels of relational aggression. Across ages 16-19, Cronbach's alpha ranged from $\alpha = .69$ to $.76$.

Demographic controls. At age 16, participants were asked to indicate which ethnicity they belonged to (e.g., "To what race/ethnic group do you belong?"; $1 = \textit{European American}$, $2 = \textit{African American}$, $3 = \textit{Hispanic}$, $4 = \textit{Asian American}$, $5 = \textit{Other}$, $6 = \textit{Multi-ethnic}$). For inclusion in analyses, ethnicity was dummy coded as ethnic minority status ($0 = \textit{Non-Hispanic Caucasian}$, $1 = \textit{Non-white minority}$). In addition, to determine income level, primary caregivers were asked to indicate their monthly income ("What is your present monthly income?").

Analytic Strategy

Numerous analyses were carried out to explore the bidirectional, longitudinal associations between parental psychological control and adolescent relational aggression, with adolescent ethnic minority status and parental income as covariates and sex as a potential moderator. These covariates were selected based on research that suggest how such demographic variables can impact either parental and/or adolescent behaviors (Dooley & Stewart, 2007; Yang et al., 2004). As part of the preliminary analyses, descriptive statistics, including Pearson bivariate correlations, between the study variables across time were calculated after screening the data (e.g., outliers, missing patterns, attrition analyses). All of this was done using SPSS and Stata, findings of which can be found under Preliminary Analyses.

As part of the main analyses, a structural equation modeling (SEM) was conducted using Mplus. Using Full Information Maximum Likelihood (FIML) to account for missing data, structural models across parental and adolescent sex were specified and identified. The criteria set by Hu and Bentler (1999) was used to determine whether the model fits the data well: a CFI > .95, a TLI > .95, and a RMSEA < .06. If the model did not fit the data well, a theoretical framework was used to determine whether the model should be modified according to the modification indices. To test the hypotheses, a cross-lagged, autoregressive model was carried out for both mothers and fathers after controlling for adolescent ethnicity and parental income, as well as the previous time points. This type of model was chosen because in contrast to growth curves, the bidirectional or reciprocal nature of the associations can be examined, since as research show, parents and adolescents can affect each other's behavior (Bell, 1968). Additionally, the models were run separately as the primary interest of the study was to examine the adolescent sex differences and there were uneven number of data available for the parents.

Moreover, time invariance was tested to see whether the constructs for maternal and paternal psychological control and adolescent relational aggression were measured equally across time. Specifically, constraints were made with the following parameters in their respective order: cross-lag paths, autoregressive paths, endogenous disturbance terms, and endogenous covariances. In addition, a multiple group analysis was used to explore the potential sex differences between the adolescents by constraining the same parameters in their respective order as above. For both tests, the model was retained at the level where the constraint(s) did not worsen the model fit. Taken together, the purpose of SEM was (a) to explore the bidirectional associations between parental psychological control and adolescent aggression, with ethnicity and income as covariates, and (b) to see whether adolescent sex moderated these relations.

Results

Preliminary Analyses

Data screening. First, the data was screened for outliers and missing data patterns, the results of which indicated no outliers. Across the study variables, the proportion of missing data was about 10%. Moreover, none of the missing data patterns were related to adolescent sex, ethnic minority status, parental income, or age for relational aggression, except for a positive relation with minority status at age 19 ($p < .01$). For maternal psychological control, only minority status was positively related at age 19 ($p < .01$). Thus, participants were more likely to have missing data at this time point if they were non-Caucasian. For paternal psychological control, minority status and income were positively related at age 17 and 18 ($p < .05$). It was also positively related to adolescent age at age 18 ($p < .05$) as well as positively related to minority status at age 19 ($p < .05$). In other words, participants were more likely to have missing data at these time points if they were non-Caucasian and were older in age, and if their parents had

higher income. Moreover, attrition analyses revealed that there were about 2-14% increase in the number of participants dropping out of the study across all study variables across time.

Descriptive statistics. Next, descriptive statistics at age 16 for the study variables were run, which can be found in Table 1. Across the study variables, there were relatively low levels of both maternal and paternal psychological control, as well as adolescent relational aggression. Moreover, as seen in Table 2, Pearson bivariate correlations suggested that the study variables at age 16 were all positively and significantly associated with each other ($p < .001$). Specifically, psychological control at age 16 was positively related to relational aggression at age 16, for both mothers and fathers. Thus, as the level of parental psychological control increased, so did the level of adolescent relational aggression. In addition, higher levels of maternal psychological control were related to higher levels of paternal psychological control. However, income was not significantly related to any of the study variables.

Main Analyses

Maternal psychological control and adolescent relational aggression. First, a model was run with controls (i.e., ethnicity, income) added onto each path, with each study variable. The results indicated that none of the paths were significantly related to either ethnicity or income ($p > .05$) so they were removed from the model. Next, time invariance was tested by constraining the following paths to equality across waves: cross-lagged paths, autoregressive paths, endogenous disturbance terms, and endogenous covariances. An unconstrained model was initially run with no controls, and the model fit was improved by adding covariances among the variables at different time points across ages 16-19 after considering the social learning and the self-determination theories. Each constraint was added one at a time, testing for worsened model fit at each step. All of the listed parameters could be constrained, with the exception of the

autoregressive paths between ages 16-17 which was left freely varied as it worsened the model fit, but with the addition of the rest of each parameter, the model fit did not worsen (see Table 2). Therefore, a model was retained in which the cross-lagged paths, autoregressive paths, endogenous disturbance terms, and endogenous covariances were equal across time. This model fit the data well ($\chi^2 (18) = 22.83, p = .197$; CFI = .997; TLI = .995; RMSEA = .023).

The model was then further constrained to run a multiple group analysis, constraining the following paths to equality by adolescent sex: autoregressive paths, cross-lagged paths, endogenous disturbance terms, endogenous covariances, and exogenous covariances. Again, each constraint was added one at a time and tested for worsened model fit. Results showed that each of these parameters could be constrained to equality across sex since the model fit did not worsen at any step (see Table 2). The final model fit the data well ($\chi^2 (46) = 58.02, p = .110$; CFI = .992; TLI = .991; RMSEA = .032).

Results of the final model showed that all the autoregressive paths were positive and statistically significant. Regarding hypothesized associations, the cross-lagged paths for females and males showed positive bidirectional relations between maternal psychological control and adolescent relational aggression across ages 16-19. That is, as seen in Figure 1, maternal psychological control was related to higher levels of adolescent relational aggression a year later after controlling for prior levels ($\beta = .12, p < .001$), and adolescent relational aggression in turn was related to higher levels of maternal psychological control a year later after controlling for prior levels ($\beta = .04, p < .05$).

Paternal psychological control and adolescent relational aggression. Patterned after the mothers' models, paternal psychological control and adolescent relational aggression were explored across ages 16-19. Again, a model was run with controls added onto each path, but

none of the paths were significantly related to either ethnicity or income ($p > .05$) so they were removed from the model. Time invariance was then tested by adding the constraints of the following parameters: cross-lagged paths, autoregressive paths, endogenous disturbance terms, and endogenous covariances. An unconstrained model was first run with no controls, and the model fit improved by adding the same covariances as in the mothers' models. Each constraint was added one at a time, but only cross-lagged and autoregressive paths could be constrained since the model fit did worsen with the addition of other parameters (see Table 2). Therefore, a model was retained in which cross-lagged and autoregressive paths were equal across time, but in which the endogenous disturbance terms and covariances were free to vary across time. This model fit the data well ($\chi^2(12) = 21.95, p = .038$; CFI = .992; TLI = .982; RMSEA = .041).

The model was then further constrained to run a multiple group analysis using a similar set of constraints across adolescent sex: autoregressive paths, cross-lagged paths, endogenous disturbance terms, endogenous covariances, and exogenous covariances. Each constraint was again tested one at a time and only the following parameters in their respective order could be constrained as these parameters did not worsen the model fit: autoregressive paths, cross-lagged paths, and endogenous disturbance terms (see Table 2). Therefore, the final model indicated that autoregressive and cross-lagged paths, as well as endogenous disturbance terms were invariant by sex, but that endogenous and exogenous covariances were free to vary by sex. The final model fit the data adequately ($\chi^2(45) = 96.48, p < .001$; CFI = .962; TLI = .954; RMSEA = .068).

In addition to significant autoregressive paths, among females and males, there were positive bidirectional relations between paternal psychological control and adolescent relational aggression across ages 16-19. That is, as seen in Figure 2, paternal psychological control was

related to higher levels of adolescent relational aggression a year later after controlling for prior levels ($\beta = .06, p < .01$). Conversely, adolescent relational aggression in turn was related to higher levels of paternal psychological control a year later after controlling for prior levels ($\beta = .08, p < .01$).

Discussion

The purpose of this study was to examine the bidirectional associations between parental psychological control and adolescent relational aggression across time after considering adolescent ethnicity and parental income, and how adolescent sex might moderate these associations. While past studies have mostly looked at children and younger adolescents, the current study added onto the existing literature by studying the reciprocal associations in late adolescence and early emerging adulthood. The first hypothesis was confirmed in that higher levels of both maternal and paternal psychological control was linked with higher levels of relational aggression among adolescents. The second hypothesis was also confirmed in that higher levels of adolescent relational aggression was linked with higher levels of both maternal and paternal psychological control. Lastly, there were no significant sex differences in these associations in that there were no stronger correlations between parental psychological control and relational aggression among female adolescents in comparison to male adolescents. As the social learning and self-determination theories would suggest, these findings support that parents can be important socializers for adolescent aggression, and that adolescents themselves can elicit certain parenting styles from their parents. Moreover, these claims hold true during late adolescence and early emerging adulthood when there is a greater need for autonomy.

First, it was hypothesized that higher levels of parental psychological control will be linked to higher levels of adolescent relational aggression. As supported by previous research,

parental psychological control appears to be significantly related to adolescent development, particularly to their psychological well-being. Since psychological control could be considered as a form of aggression involving a manipulative tactic like relational aggression, it could be that adolescents are remembering and reenacting what they observed in their parents. It could also be that because psychologically controlling parents are limiting the adolescents' need for autonomy, adolescents are acting out in aggression. These findings are consistent with prior work on children and adolescent samples in how parental psychological control can lead to child relational aggression (e.g., Lau et al., 2016; Soenens et al., 2007). Thus, in support of the social learning theory, adolescents may copy their parents' behavior because they expect that they will get their way by using similar aggressive strategies (Nelson & Crick, 2002), and in support of the SDT, adolescents may be complying with their parents' expectations and standards to avoid feeling shameful or guilty (Soenens & Vansteenkiste, 2010). Indeed, there is evidence to suggest that harsh or inconsistent parenting practices are important risk factors to consider for aggression and violence among youth (WHO, 2016). More specifically, the use of psychological control has been linked to externalizing problems among young children and adolescents (Barber, 1996; Barber & Harmon, 2002). Consistent with these findings are the results in the current study which suggests that an increase in negative parenting style (i.e., psychological control) among mothers and fathers helps predict an increase in relational aggression among late adolescents and early emerging adults over time, which shows that parental influence is still salient during these developmental periods despite a decrease in physical proximity. Certainly, parents appear to continue to provide various forms of support, including emotional and financial, to their older adolescents as they form new relationships and enact new roles (Wagner & Abaied, 2016).

Perhaps the effects from the earlier years of interactions carry over and continue to have an impact on both the parents and adolescents, resulting in a cumulative effect.

This finding is an important one because it implies that mothers *and* fathers play an important role in the adolescents' lives and that their influence should not be neglected. It certainly may be that adolescents are imitating and modeling their parents' psychological control via relational aggression. For instance, when either or both of the parents are less responsive when their adolescents do not meet their expectations or standards, adolescents may learn such strategies and use them in their other relationships as a means to achieve their goals (Soenens, Vansteenkiste, Goossens, Duriez, & Niemiec, 2008). Moreover, because psychologically controlling parents constrain positive interactions, adolescents' ability to learn effective social skills might be jeopardized (Nelson & Crick, 2002). This finding is consistent with past research (e.g., Kawabata et al., 2011), and suggests that late adolescents and early emerging adults may be particularly sensitive to intrusive parenting and that unlike children and younger adolescents, they have developed the cognitive abilities necessary to engage in similar manipulative attitudes and behaviors like their parents (Soenens et al., 2008). It could be that because physical aggression is no longer seen as the appropriate display of aggression among older adolescents (Wagner & Abaied, 2016), they are more likely to mimic their parents' behavior and thus engage in more relational aggression. It could also be that parents are trying to increase their efforts to remain in contact with their adolescents who are moving away from home (Abaied & Emond, 2013), especially since the onset of adulthood is delayed for many (Padilla-Walker & Nelson, 2012). Additionally, this finding confirms that the negative effects of psychological control on adolescent relational aggression hold constant across parental sex. Thus, by understanding and recognizing how both mothers and fathers equally and similarly impact their adolescents'

behaviors, parents, practitioners, and educators may be more inclined to involve fathers more in changing negative behaviors among adolescents, including older adolescents.

Second, it was hypothesized that higher levels of adolescent relational aggression would be linked to higher levels of parental psychological control. Prior research suggests that psychological control may have varying effects on relational aggression depending on the adolescents' temperament (Kuppens et al., 2013), such as shyness (Atherton, Tackett, Ferrer, & Robins, 2017) and hostile attributional biases (Crick et al., 2002). Specifically, the adolescent may not have the necessary self-regulation skills (Wagner & Abaied, 2016) or the social skills (Kuppens et al., 2013), thus leading them to engage in more relational aggression in the first place. As a result, parents might think that the adolescents need to be controlled or disciplined, and they may choose to go with a control more psychological in nature as behavioral control may seem inappropriate for older adolescents. It may also be that late adolescents in particular are more likely to be relationally aggressive as they face numerous interpersonal stressors by having to make new friends, live with roommates, and move away from home (Abaied & Emond, 2013), which could shape their parents' behavior toward them (Steege & Gondoli, 2013). Indeed, a study by Kuppens et al. (2009) confirmed that among young children, relational aggression was related to psychological control. Their reasoning was that perhaps the parents found other parenting strategies to be ineffective or maybe thought that reacting similarly could reduce their child's problem behavior, since it is possible for the parents to learn and imitate aggressive tactics from their child (Kuppens et al., 2009). Perhaps their own parents used similar parenting styles with them growing up. Or perhaps parents are more likely to take their older children seriously as they tend to demonstrate an increase in maturity and cognitive abilities. Another study also found that relational aggression at Time 1 was predictive of maternal but not

paternal psychological control, and the authors reasoned that adolescents who engage in aggressive behavior may be more likely to see their parents as psychologically controlling due to their cognitive biases (Albrecht et al., 2007). In alignment with these findings, the current study added onto the literature by examining such associations during later developmental periods. The results indicated that an increase in relational aggression did predict an increase in psychological control among both mothers and fathers. This is a unique finding because it establishes that the bidirectional association between psychological control and relational aggression exists during late adolescence and early emerging adulthood.

Indeed, these findings imply that both parents and adolescents are salient sources of socialization and support to help manage each other's aggression despite lack of physical proximity as adolescents leave home for college or work. That is, when the positive parent-adolescent interactions are maintained, it may reduce the likelihood of future psychosocial adjustment particularly for adolescents (Crick et al., 2006). However, when the negative parent-adolescent interactions, such as the use of controlling tactics, occur, adolescents may engage in more aggressive behaviors among other potentially problematic behaviors, and parents themselves may experience a diminished sense of well-being. Additionally, it was assumed that because there may be an increased risk for psychopathology for males who do not fit the gender norms in displaying relational aggression (Crick et al., 2006), it may be that fathers are more likely to opt in to control their sons' psychological self in an attempt to change their behavior. However, to the contrary, the current study supported that both mothers and fathers have an impact on their adolescent's behaviors, and that adolescents' behaviors reciprocated their impact on parenting styles and parental behaviors. As Bell (1968) suggested, it appears that both parents and their children play a significant role in each other's lives. It may indeed be that mothers and

fathers are equally capable of being psychologically controlling, despite the seemingly different societal expectations for them and the fact that mothers tend to be more available for their children. This may be particularly true for late adolescents and early emerging adults who have more independence from their parents, have developed a greater sense of the self, and have stronger sets of their own beliefs, values, and opinions.

Thirdly, it was hypothesized that there will be significant sex differences in that there will be stronger correlations between parental psychological control and relational aggression among female adolescents compared to their male counterparts. Past research suggests that females tend to place a greater amount of importance in relationships when compared to males (Nelson & Crick, 2002). Hence, because adolescent females are more affected by their relationships with others, including their parents, they may be more impacted by how accepting or not accepting their parents are, which could then influence their attitudes and behaviors. For example, when they are not accepted by their parents and/or given the autonomy they need as a result of psychological control, they may learn via observation to use similar strategies with their peers, romantic partners and may resort to aggression as a way to cope with their stress (Karaman, 2013). However, inconsistent with these theoretical speculations, there were no significant sex differences among mothers and fathers nor among female and male adolescents. As the gender similarity hypothesis would assert, it may be that adolescent females and males are more similar, and that both genders can be aggressive, including in young adulthood (Shibley Hyde, 2005; Werner & Crick, 1999). Crick et al. (2006), for instance, found in their longitudinal study among children that the association between aggression and future maladjustment was just as present for girls as boys. As the SDT would suggest, it may be that adolescents have needs for autonomous functioning regardless of one's sex, and thus it may be that parental psychological control is

related to adolescent relational aggression similarly for female and male adolescents as they both strive to be autonomous. In addition, it may be that older adolescents' sex does not have a predominant impact on their behavior to the extent that it did when they were younger, perhaps due to an increase and acceptance of androgynous traits over time. Thus, understanding how psychological control affects adolescent development in relation to their sex and the sex of their parents could help parents and others to help prevent aggressive behaviors among older adolescents in addition to that of their parents.

Limitations

One of the strengths of the current study was that it explored the bidirectional associations between parental psychological control and relational aggression during late adolescence and early emerging adulthood. Nevertheless, there are some limitations to this study that future studies could improve upon. First, all of the measures used in the study were child-reports and therefore, does not take into account the parents' perspective, which could provide valuable and varying information. Second, since these were self-reports, it is possible that the adolescents were not fully honest in their responses due to reasons such as social desirability. Third, the sampling could have been more diverse by including more parents and adolescents of different ethnic and socioeconomic backgrounds. Indeed, because the majority of the families were doing relatively well in terms of their functioning as evidenced by the study variables being quite skewed, it may be necessary to obtain a more normally distributed sample. Lastly, there may be other control variables that might be important to consider.

Future Studies

There are numerous ways in which future studies could build on the current study. For example, it may be important to explore different relationships wherein psychological control

and/or aggression may take place, such as peer, romantic, and sibling relationships. Future studies could also look at other potential moderators and mediators, such as relationship quality, loneliness, media exposure, and health-related disorders. The latter is because some researchers have suggested that some relationally aggressive children show a pattern of adjustment problems, such as dissatisfaction with relationships, similar to those who have bulimic tendencies (Werner & Crick, 1999). Furthermore, future studies could look at how social support from peers or parents may buffer the negative effects of psychological control on aggression over time, and how there might be important findings by looking at these associations in different cultures and countries. Finally, additions to the current literature might be expanded by utilizing different reports (e.g., parents, peers) and/or research methods (e.g., interviews).

Conclusion

The purpose of this study was to examine the bidirectional associations between parental psychological control and relational aggression across time in its relation to adolescent sex in late adolescence and early emerging adulthood. Of the many relationships adolescents nurture during these developmental periods, the relationship they have with their parents appear to be still salient, and adolescents themselves can impact their parents' attitudes and behaviors, creating a reciprocal interaction between them. Certainly, parenting especially psychological control still matter even for late adolescents and early emerging adults who are transitioning to adulthood. By understanding how parental psychological control can impact adolescent relational aggression and vice versa, and by seeking to discourage the use of such negative behaviors from both the parents and their adolescents, they may be able to help each other to engage in more positive behaviors while engaging in less negative behaviors like control and/or aggression, thus enhancing their physical, mental, and relational well-being.

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Table 1. *Descriptive Statistics and Correlations for All Study Variables at Age 16*

	M	SD	Range	Correlations			
				1	2	3	4
1. Maternal Psychological Control	2.05	0.82	1-5	-			
2. Paternal Psychological Control	1.85	0.74	1-5	.51***			
3. Adolescent Relational Aggression	1.84	0.66	1-5	.25***	.21***		
4. Parental Monthly Income	1.63	0.76	1-4	-.02	.05	-.02	-

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

Table 2. *Main Analyses for All Study Variables Across Ages 16-19*

	Model	χ^2	df	Change in χ^2	Change in df	p
1. Time Invariance	a. Unconstrained	10.40/17.36	6			
	b. Cross-lagged paths	13.47/20.81	10	3.08/3.44	4	.54/.49
	c. Autoregressive paths	13.55/21.95	12	.08/1.15	2	.96/.56
	d. Endogenous disturbance terms	18.21/31.64	16	4.66/9.69	4	.32/.04
	e. Endogenous covariances	22.83/-	18	4.61/-	2	.09/-
2. Sex Invariance	a. Unconstrained	45.79/74.60	36			
	b. Autoregressive paths	48.41/83.40	40	2.62/8.80	4	.62/.07
	c. Cross-lag paths	52.41/89.25	42	4/5.85	2	.14/.05
	d. Endogenous disturbance terms	52.96/93.70	44	.55/4.45	2	.76/.11
	e. Endogenous covariances	56.13/96.48	45	3.17/2.78	1	.08/.10
	f. Exogenous covariances	58.02/115.79	46	1.89/19.31	1	.17/.00

Note. Values before the slash refers to mothers' models while values after the slash refers to fathers' models.

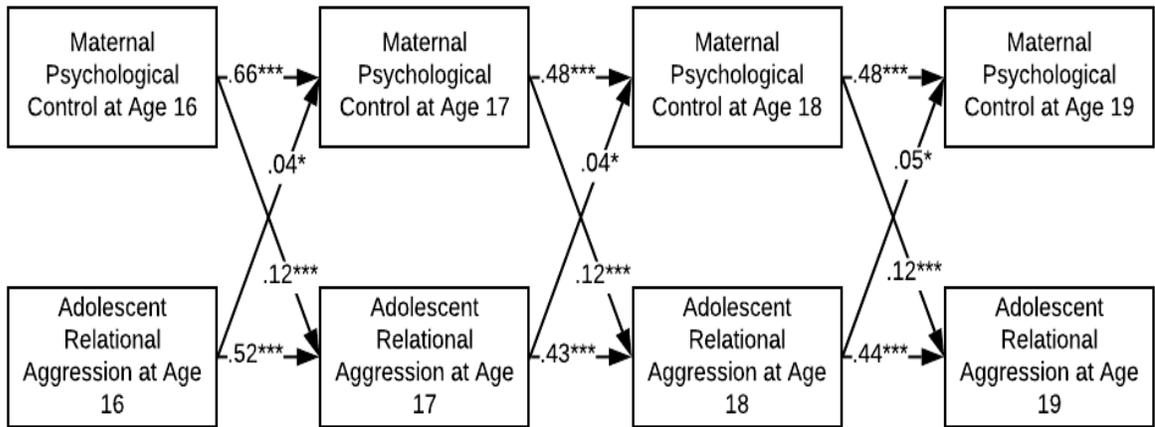


Figure 1. The bidirectional associations between maternal psychological control and relational aggression across ages 16-19. Note. $\chi^2(46) = 58.02, p = .110$; CFI = .992; TLI = .991; RMSEA = .032. Endogenous error correlations are not shown in figure for parsimony. *** $p < .001$, ** $p < .01$, * $p < .05$.

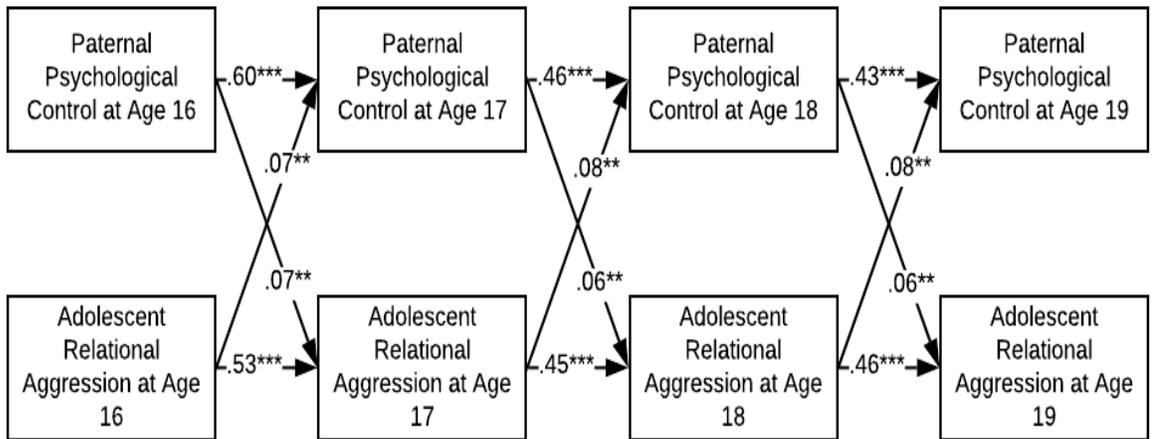


Figure 2. The bidirectional associations between paternal psychological control and relational aggression across ages 16-19. Note. $\chi^2(45) = 96.48, p < .001$; CFI = .962; TLI = .954; RMSEA = .068. Endogenous error correlations are not shown in figure for parsimony. *** $p < .001$, ** $p < .01$, * $p < .05$.