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FRIENDSHIP DISSOLUTIONS AND RELATIONAL AGGRESSION IN ADOLESCENCE AND EMERGING ADULTHOOD: THE MEDIATING ROLE OF FRIENDSHIP JEALOUSY

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FRIENDSHIP DISSOLUTIONS AND RELATIONAL AGGRESSION IN ADOLESCENCE AND EMERGING ADULTHOOD: THE MEDIATING ROLE OF FRIENDSHIP JEALOUSY

A DISSERTATION APPROVED FOR THE

DEPARTMENT OF PSYCHOLOGY

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Table of Contents

List of Tables…….. vi

List of Figures…….. vii

Abstract…… viii

Introduction……. 1

Methods……..16

Results……....19

Discussion……..…24

Limitations and Future Directions…….32

References……..35

Appendix A……58

Appendix B……59

Appendix C……62

List of Tables

Table 1. Correlations Among Key Study Variables for Two Age Groups……48

Table 2. Emerging Adult Correlations Among Key Study Variables By Gender…….49

Table 3. Adolescent Correlations Among Key Study Variables By Gender…….50

Table 4. Predicting Relational Aggression: Age, Gender, Dissolution, and Downgrade……..51

List of Figures

Figure 1. Age moderates the association between friendship dissolution and relational aggression.……....52

Figure 2. Age moderates the association between friendship downgrades and relational aggression.……....53

Figure 3. Two-way interaction between gender and age in the prediction of relational aggression.……....54

Figure 4. Friendship Jealousy Mediates the Association Between Friendship Downgrades and Relational Aggression in Adolescence.…….55

Figure 5. Friendship Jealousy Mediates the Association Between Friendship Dissolutions and Relational Aggression in Emerging Adulthood.……56

Figure 6. Friendship Jealousy Mediates the Association Between Friendship Dissolutions and Relational Aggression in Emerging Adult Females.…….57

Abstract

Friendships are significant to social development and offer support in times of transition, such as adolescence and emerging adulthood. However, friendships are not always stable, and dissolutions occur in two forms, complete dissolutions and downgrade dissolutions. Complete dissolutions involve entirely separating ties with a friend and downgrade dissolutions are characterized by remaining friends, but not as close. This study investigated the relationship between experiencing either form of friendship instability and relational aggression at two transitional time points, and whether this relationship was mediated by friendship jealousy. Data were collected from middle school and college samples in the Midwest. Results indicated that friendship instabilities are positively associated with relational aggression. Friendship jealousy fully mediated the relationship between downgrade dissolution and relational aggression in adolescents, and partially mediated the relationship between complete dissolution and relational aggression in emerging adults.

Introduction

Friendships are essential to our social development, mental health, and life satisfaction (Berndt, 2002; van Hermelen et al., 2016; Raboteg-Saric & Sakic, 2014; Gillespie, Lever, Frederick, & Royce, 2015), and provide support through different life transitions and social milestones. Friendships are differentiated from the broader context of peer relations because they are dyadic relationships with more affective ties and provide an opportunity for social and emotional growth (Newcomb & Bagwell, 1995). For example, quality friendships in childhood provide support against negative social outcomes such as loneliness and peer rejection (Asher & Paquette, 2003; Parker & Asher, 1993), and lead to a reduction in bullying others (Bollmer, Milich, Harris, & Maras, 2005). In doing so, these early contexts of friendship development can set children and adolescents on the path towards social competence, emotion regulation, and higher levels of self-esteem (Oden & Asher, 1997; Sherman, de Vries, & Lansford, 2000). In emerging adulthood, a phase in life between the ages of 18- and 25-years old (Arnett, 2000), high quality friendships are linked to decreases in internalizing and externalizing behaviors (Pittman & Richmond, 2008), as well as better psychosocial adjustment (Bagwell, Bender, Andreassi, Kinoshita, Montarello, & Muller, 2005).

Research supports that friendship benefits change as we age, depending on context and life transitions (Sherman, de Vries, & Lansford, 2000). For example, adults who have close friendships are more successful at coping with stressful life events than adults without close friends (Cohen & Wills, 1985). The type of social support needed is subject to the friendship dyad. According to Shantz (1983), the patterns of friendship change over time, fulfilling greater expectations and deeper needs. What begins as behavioral and activity-based friendships evolve

into emotional relationships, self-centeredness shifts to a mutually beneficial focus, and short-lived interactions develop into long-standing friendships that are capable of overcoming conflict.

Nevertheless, not all friendships are smooth sailing; some are high in conflict and are unstable over time (Chan & Poulin, 2007; Wojslawowicz Bowker, Rubin, Burgess, Rose-Krasnor, & Booth-LaForce, 2006). Some friendships adapt to life changes and come out stronger and more intimate, while other friendships dissolve, putting individuals at risk for psychosocial maladjustment (Chan & Poulin, 2009). Considered a stressful life event by researchers, the end of a best friendship predicts negative adjustment outcomes for early adolescents and is significantly worse for those who already have mental health struggles (Ford, Collishaw, Meltzer, & Goodman, 2007). For those in emerging adulthood, social stress is heightened due to increases in instability and exploration (Lanctot & Poulin, 2018), with stresses concerning friendships amplified (Chow & Ruhl, 2014). Paul and Brier (2011) coined the term "friendsickness," to explain the preoccupation with and concern for losses and changes in precollege friendships after the transition to college. This level of concern, coupled with the significant associations between depressive symptoms and friendship instability found by LaPierre & Poulin (2020), provides substantial support for further understanding of friendship loss in this transitional time.

Berndt (1986) explained that the reasons for friendship loss vary by age. For example, in childhood, the prospect of losing a friend because they move to a new school is reason enough to be upset (Field, 1984). Middle school aged participants reported changes in relationship conditions such as a decreased sense of common ground to explain a friendship dissolution (Bukowski, Hoza, & Boivin, 1994). Adolescents found dissimilar attitudes concerning important topics grounds for a friendship breakup (Hartup, 1993). In early adulthood, with the transition to

college, individuals feel a decreased sense of competence as a friend due to the loss of frequent socializing and intimacy with familiar friends (Paul & Brier, 2011). Therefore, this study aims to investigate the prevalence of friendship dissolutions as well as the emotional responses to dissolutions at two important transitional points throughout life – in adolescence and in emerging adulthood.

Friendship in Periods of Transition

Adolescence

Adolescence is a time of social and relational challenges, and yet friendships are still at the forefront. Adolescent social development is shaped by concern for having friends, who those friends are (e.g. same-sex friends, similar behavior and social class), and the quality of those friendships (Hartup, 1993). Crockett, Losoff, and Peterson found that daily friendship interactions made up a substantial amount of adolescents' free time (1984). Another study established that adolescents with more friendships reported more feelings of companionship and help from friends, while their peers with fewer friends reported less cohesion in their classroom (Chow, Kiuru, Parker, Eccles, & Salmela-Aro, 2018).

Friendships serve more than a social function in adolescence. Researchers found friendships act as coping mechanism for adolescents who experience stresses from family environments (Gauze, Bukowski, Aquan-Assee, & Sippola, 1996). Insofar, results indicated positive associations between measures of friendship quality and reports of social competence and general self-worth for adolescents from families low in cohesion (Gauze et.al, 1996). Buhrmester (1990), found that adolescents with more intimate friendships (i.e., more companionate, disclosing, and satisfying), had higher self-esteem, lower reports of hostility, and were less anxious and depressed. Adolescent friendships also provide an academic benefit as

well. Results from Berndt and Keefe (1995) indicate that friendships influence one another regarding academic adjustment, especially for friendship dyads characterized by positive features who were more involved in school.

Furthermore, while friendship interactions remain a large part of day-to-day life for adolescents, Bowker reported that only 50% of friendships from a middle school sample remained stable throughout the school year (2004). This large percentage of unstable friendships underlies the importance of understanding where the problems lie. In a study of early adolescent participants who read vignettes about friendship transgressions, MacEvoy and Asher found that girls were more troubled when it came to friendship transgressions than boys, responding with significantly more anger and sadness (2012). Interestingly, both boys and girls strongly endorsed revenge goals and aggressive strategies – rather than maintenance goals – when they were angered by transgressions. These results indicate that (hypothetical) behavioral responses are closely linked to emotional responses. It is important to keep in mind, various behavioral responses are not limited to adolescence, as friendship instability can happen at different phases in life.

Emerging Adulthood

Emerging adulthood is a developmental period full of changes in social support, relationships, jobs, and worldviews (Erikson, 1968; Rindfuss, 1991). When the daily source of social support transitions from family to friends, as it does at the transition to college, Klaiber, Whillans, and Chen found it is important to make new friends in the first school term to help with overall health outcomes, such as self-reported health, eating behaviors, and physical activity (2018). Demir (2010) conducted a large study of college freshmen and found a strong correlation between quality of new friendships and adjustment to university. Importantly, emerging

adulthood is not synonymous with beginning college, but 69% of US high school graduates do go on to college (U.S. Bureau of Labor Statistics, 2019). A study by Lapierre and Poulin (2020) found that friendship instability predicted depressive symptoms a few years later, but only for those pursuing postsecondary education. The same effects were not found for participants who were not in college. Therefore, friendship instability is potentially more harmful for college students (compared to non-collegiate peers), providing further support for the need to investigate emotional outcomes of friendship dissolutions in college students.

In a sample of young adults who had recently experienced termination or deterioration of a friendship, Rose (1984) found four reasons why the friendships were no longer – physical separation, newer friends taking the place of older friends, growing to dislike the friend, and interference from a romantic relationship. Further analyses found a higher rate of friendship deterioration in the college sample than was reported in high school, and higher reports among female participants (1984). These findings could be due to students' feelings that friends should share time in physical space, and there is less shared space if friends go to different colleges (Rose, 1984). Rodin (1982) applied a model of disengagement to friendship, with changes to four criteria: a friend may do something the other dislikes, their interests may change, a friend may be displaced, or the pleasure to cost ratio may be disproportionate.

Dissolution and Downgrading

Researchers have investigated friendship dissolutions (Park, 1992; Field 1984), but much of the focus has been on friend loss through physical separation. Friendships are imperfect above and beyond distance, and complications can arise in far more relational ways. It was Bowker (2011) who first published evidence that friendship dyads can experience break-ups in *two* forms –- complete dissolutions through which all ties are severed, and downgrade dissolutions which

occur when best friends become less close. Bowker asked adolescent participants to report on their emotional reactions to their complete dissolutions and downgrade dissolutions, and found that adolescents were saddened by both types of friendship break-ups, and that females more than males reported both types of dissolutions (2011). Up until Bowker's research, according to the literature, friendships either stayed together or completely severed connections. The more nuanced aspects of being downgraded versus completely losing the friendship offers an entirely new approach to looking at friendship dynamics and is worth further investigation (Bowker, 2011). With a complete dissolution, the friendship is entirely severed, indicating both friends in the dyad at least know with certainty where they stand. In the instance of a downgrade dissolution, the friendship can still be close, but the best friend who has been "replaced" has the potential for great uncertainty. Specifically, when a friend gets downgraded, the level of self-disclosure may change due to variations in intimacy exchange and questions of doubt arise. If someone is replaced by a new friend, is that new best friend the go-to for secret sharing? Who then sits next to the friend at lunch? Should the "best" friend charm be thrown away? Should more or less effort be put into the friendship trying to regain the top spot, or should they recognize that the best friendship is over and invest in a new best friend?

What is known about friendships is that dyads continue when both friends agree to continue the friendship (Laursen, 2017). Therefore, factors such as similarity are involved to remain in a close friendship, implying that dissimilarity predicts deselection – the dissolution of a friendship because of dissimilarity (Laursen, 2017). Also, distinguishing between unilateral and reciprocal friendships is important (Sijtsema, 2015). If the dyad has one friend playing the "taking" role and the other friend in the "giving" role, the imbalance may leave room for discontent. Guimond, Laursen, Hartl, and Cillessen (2019) found dissimilarity to be more

responsible for friendship dissolutions than one friend's anxiety or depressive symptoms . The literature has a firm grasp on what characteristics are involved in friendship formation and maintenance. However, the reason for friendship dissolutions are assumed to be different than the reasons for which the friendships began (Laursen, 2017).

Furthermore, friendship dissolutions are common. Bowker (2004) reported that half of friendships end in adolescence, while Guimond and colleagues found an even higher rate between 7th and 8th grade, with a dissolution risk at 73% and decreasing over time. Reports of friendship dissolution prevalence in early adulthood indicate a rise in dissolutions throughout this transitional phase, but an exact number is unknown (Rose, 1984).

Unanswered Questions About Friendship Dissolution

Dissolution research is slowly becoming more prevalent in the friendship literature. The field is beginning to understand the causes and consequences of friendship dissolutions (Bowker 2011), but there is more to explore. Emotional response to friendship dissolution is particularly relevant, because how individuals handle a loss in friendship could lead to cascading effects, based on whether the response is positive and relationally productive, or negative and relationally damaging. Additionally, identifying trends in emotional responses to both types of dissolutions is necessary. How an individual responds to a complete friendship dissolution could potentially be different than how they react to a downgrade dissolution.

The overarching goal of this study is to compare friendship dissolution and downgrading at two ages: early adolescence and emerging adulthood. At the descriptive level, the prevalence of these types of friendship instability will be compared across age groups. At the process level, adolescents' and young adults' emotional responses to friendship dissolution and downgrading will be investigated. Emotional responses to downgrade dissolutions and complete dissolutions

should vary across adolescence and emerging adulthood. MacEvoy and Asher suggest how people cope with friendship instability is dependent on their emotional response following the friendship dissolution (2012). Therefore, it is crucial to understand the emotional effects of losing a friend and how the emotional responses may influence certain individuals in various ways.

Phases in life may render certain friendship dissolutions easier or more convenient than others. In adolescence if old best friends are continuing to see each other every day in the school halls, share classes, or attend extracurricular activities together, a complete dissolution would be much harder to accomplish; friendship selection is based at least partly on who is nearby (Laursen, 2017). A particular difficulty would present itself if both friends were in the same friendship clique – a group of individuals who frequently associate with one another and identify each other as friends (Rubin, Bukowski, & Parker, 1998) – which peaks during early adolescence (Thompson, O'Neill Grace, & Cohen, 2001). If one friend is ostracized from the clique through a complete dissolution, either friend may lose the friend group entirely, probably dependent on their individual dominance rank within the clique (Closson, 2009). Moreover, the emotional response may be more complicated as well, as the former friends would see each other every day in a different capacity, especially if they have a new best friend. Therefore, it is likely that downgrade dissolutions are more prevalent than complete dissolutions in adolescence.

In contrast, for college students, complete dissolutions may be more common because the physical space between friends is larger and important identity changes occur during emerging adulthood, such as shifting focus on the self and developing independence (Arnett, 2015; Arnett, 2000). Arnett (2012) described emerging adulthood as a time in life characterized by few social commitments, therefore allowing individuals to develop independence in the "age of

possibilities". Moreover, on a college campus there are more alternative others as options for friendships and may make a complete dissolution less daunting. Emerging adults have the capacities for a stronger sense of self due to the advances in identity formation throughout college (Waterman, 1982). This heightened sense of self may encourage emerging adults to cut ties with friends who are no longer on the same life path, particularly if there is a change in how relationships are viewed and conflict resolved (Arnett, Grusec, & Hastings, 2007).Therefore, a clean break might occur more often as emerging adults might be less likely to compromise their sense of self to cater to a friend's desires on the path of identity exploration (Arnett, 2000).

Relational Aggression

Relational aggression is an umbrella term for behaviors that harm, or threaten to harm, an individual's peer relationships, friendships, or feelings of inclusion within the peer group (Crick & Grotpeter, 1995). Relational aggression has been linked to peer rejection (Newcomb, Bukowski, & Pattee, 1993; Coie & Dodge, 1998) and has associations with poor emotion regulation (Roberton, Daffern, & Bucks, 2011). In fact, relational aggression predicts decreasing social acceptance across adolescence (Cillessen & Borch, 2006).

In early adolescence, researchers have found relational aggression to be prevalent among both boys and girls, and is not simply a "female form" of aggression (Prinstein, Boergers, & Vernberg, 2001; Card, Stucky, Sawalani, & Little, 2008). While aggressive females reported higher levels of intimacy (e.g. self-disclosure) within their friendships than their nonaggressive peers, they also reported more instability through conflict, betrayal, and higher levels of exclusivity (Grotpeter & Crick, 1996). Additionally, in the past dyadic relationships have been reported as a buffer against social maladjustment (Parker & Asher, 1993), but in relationally aggressive friendships, that buffer is nonexistent (Grotpeter & Crick, 1996). Furthermore, the

high levels of intimacy are reportedly one-sided and may be indicative of manipulating control over friends through their secrets (1996). Interestingly though, research has found that relationally aggressive adolescents reported the same level of positive friendship qualities (e.g., companionship and recreation, validating and caring) as their nonaggressive peers (1996).

In emerging adulthood, relational aggression has been associated with social anxiety, loneliness, and depressive symptoms (Loudin, Loukas, Robinson, 2003; Storch, Bagner, Geffken, & Baumeister, 2004), as well as symptoms of borderline personality disorder (Werner & Crick, 1999). Additionally, Storch and Masia-Warner found in this period of development, relational aggression is uniquely associated with psychopathology (e.g. anxiety) (2004). Research has found that holding aggression supporting beliefs leads to aggressive behavior (Crick & Dodge, 1994). In the case of emerging adults, specifically, this social cognition predicted relationally aggressive behavior as well (Goldstein, 2011). Women in particular may utilize relational aggression towards group members and nongroup members to solidify belonging within a group (Mayo, 2007). However, research has found that while relational aggression in early adolescence is more commonly reported in females, this discrepancy is not found in college men and women (Weber & Kurpius, 2011). Regarding friendships, individuals in early adulthood, who self-reported they mattered to their friends endorsed fewer relationally aggressive behaviors (2011).

Relational Aggression as a Response to Friendship Instability

Adolescence

Adolescents who experience a friendship dissolution or downgrade may engage in relational aggression in response, due to the painful and anxiety-inducing nature of friendship loss (Bowker, 2011). Friendships are voluntary in nature and individuals are free to leave

whenever they choose (Hartl, Laursen, Cillessen, 2015). Therefore, friendship loss that is not caused by physical separation would seem personal rather than situational. Combine hurt feelings with the emotional volatility of adolescence, characterized by cognitive and emotional changes, friendship loss is that much more difficult, as adolescents are relying more and more on friends for social and emotional support and less on their parents (Laursen & Collins, 2009). In addition to initial feelings of sadness (Bowker, 2011), adolescents may feel embarrassed losing a friend in front of their peers, and have concerns about the potential social consequences (Gilbert, 2000). As individuals monitor their self-in-relation-to-others, their social behavior and self-evaluation are influenced (Baldwin, 2005). If the adolescent blames themselves, research has found increased proneness to anger and hostile attitudes (Gilbert & Miles, 2000).

Emerging Adulthood

In emerging adulthood, relational aggression may also be predicted by a friendship loss. According to Leary, Tambor, Terdal, and Downs (1995), self-esteem functions as a sociometer that monitors inclusion versus exclusion and encourages people to behave in ways that minimizes rejection probabilities. Changes in self-esteem, particularly losses, are associated with feelings of inadequacy or awkwardness (Scheff, Retzinger, & Ryan,1989). Research found that individual's self-esteem is less damaged if they can convince themselves that those who rejected them were socially undesirable people (Leary et al., 1995). Relational aggression may be the platform individuals stand upon after losing a friend as a tactic to derogate others (Leary et al., 1995).

Both age groups may express feelings of vulnerability and aggression after experiencing the loss of a friendship. Especially if a friend is replaced by a new friend, the "interloper," and that excites feelings of jealousy (Parker et al., 2005). La Gaipa (1979), deemed this friendship

breakup as the third-party termination, when the split is caused by an interference in a third person. The relationship between dissolutions and aggression may therefore be impacted by individuals' jealousy. In a study on adolescents, stronger feelings of jealousy were related to greater conflict with friends and a heightened vulnerability to emotional maladjustment (Lavallee & Parker, 2009).

Importantly, there is evidence that the reverse path (that friendship instability is a consequence of relational aggression) is also a possibility. Relational aggression can be a driving force in friendship instability and friendship quality (Banny, Ames, Heilbron, & Prinstein, 2011), particularly if there is dissimilarity in relational aggression between dyad participants (Ellis & Zarbatany, 2007). However, relationally aggressive friendships are also associated with higher levels of friendship intimacy and friendship quality (Grotpeter & Crick, 1996; Banny et al., 2011). Therefore, due to the transitional time periods of the sample populations, relational aggression in response to friendship instability is the focus of this research. If instability is present through a new location of home and moving, a new job with novel pressures, or new school with more rigorous academic expectations, friendship instability may be the breaking point that leads to an emotional response such as relational aggression. Also, if there is a new friendship forming in the midst of transition, friendship jealousy can overwhelm an individual to behave and respond in impractical or relationally harmful ways (Culotta & Goldstein, 2008).

Friendship Jealousy

Friendship does not take place isolated within a single dyad, but often times is nested within a larger peer group and with other friends involved. Parker, Low, Walker, and Gamm (2005) describe friendship jealousy as a negative emotional, cognitive, and behavioral reaction triggered by a partner's real or anticipated interest in a relationship with another person.

Therefore, friendship jealousy can lead to feelings of loneliness, impact self-worth, and result in subtle forms of aggression, such as gossiping about peers (Parker et al., 2005; Kuttler, Parker, and La Greca, 2002). Moreover, it is important to note that jealousy does not impact just individual self-factors, but other social features as well. For example, friendship jealousy was associated with an overall dissatisfaction with peer experiences, as well as being less liked and more victimized by peers (Parker & Gamm, 2003; Roth & Parker, 2001). Thus, the associations between friendship jealousy and relational aggression dimensions are strong (Culotta & Goldstein, 2008), particularly when aggression is used following the threat of an interloper (Deutz, Lansu, & Cillessen, 2015).

Adolescents with multiple friends must coordinate old and new friends within the same school, which can lead to feelings of exclusion and jealousy if friends feel that they are not receiving the attention from one another that they deserve or want (Azmitia, Kamprath, and Linnet, 1998). Research has found that those high in friendship jealousy also engage in negative friendship behaviors like surveillance, report more conflict, and express greater feelings of depression (Parker et al., 2005). These behaviors may also be responsible for associations between friendship jealousy and feelings of low self-worth (Lavallee & Parker, 2009). A key finding associated with friendship jealousy is responses involving relational aggression (Kraft & Mayeux, 2017). Associations between friendship jealousy and relational aggression were only positive for certain social characteristics, indicating that further research is necessary to piece together this relationship. Less is known about friendship jealousy in emerging adulthood as the primary focus in the literature is romantic jealousy (Sharpsteen, 1993), however reports of the college transition on retaining hometown friends and the competition between old and new friends offers up unique challenges (Azmitia, Ittel, & Radmacher, 2005).

In past research, jealousy has been found to mediate the relationship between low levels of openness and relational aggression (Kokkinos, Kountouraki, Voulgaridou, & Markos, 2020). With this study, I was interested in how friendship jealousy might mediate the relationship between experiencing a friendship complete downgrade or downgrade dissolution and responses of relational aggression. If individuals are high in jealousy, it makes sense that their response to a friendship dissolution, both complete and a downgrade, would be aggressive. That jealousy makes them feel threatened and vulnerable (Parker et al., 2005). If individuals are low in jealousy, it makes sense that their response would be lower in aggression because they may have other options in friends or recognize that individuals can have more than one best friend.

Friendship jealousy research has also shown consistent results regarding gender differences. According to Maccoby (1998) girls, more than boys, are heavily invested in dyadic relationships and therefore are more sensitive to threats and more susceptible to jealousy. Research regularly finds girls reporting greater friendship jealousy than their male counterparts, across multiple time points in adolescence (Parker et al., 2005; Kraft & Mayeux 2018; Deutz, Lansu, & Cillessen, 2015). Friendship jealousy differences favoring girls has been explained by cultural norms, heightened emphasis on emotional support in close same-sex friendships, and that female friendships are more unstable and fragile (Deutz, Lansu, & Cillessen, 2015; Benenson & Christakos, 2003). Girls also reported higher friendship jealousy in a study of friend dyads, but interestingly there was no differences in friendship satisfaction (Deutz, Lansu, & Cillessen, 2015). Worth noting is the feminine skew of the word “jealous,” which may lead to boys underreporting their feelings of jealousy due to social stigma (Parker et al., 2005).

Research Questions and Hypotheses

In summary, research question one (RQ1) sought to address the prevalence of complete dissolution and downgrade dissolutions in adolescent and emerging adult friendships. I hypothesize that in adolescence, due to the proximity of the peer group and a smaller pool of available alternatives, downgrade dissolutions will be more prevalent than complete dissolutions. If adolescents are unable to "escape" their old friend because they share classes, extracurricular activities, or they remain within the same friend group, a downgrade dissolution may keep the peace at the group level and preserve other important friendships. The opposite should be true for emerging adults, in that complete dissolutions will be more common than downgrade dissolutions because autonomy is greater and physical separation from the former friend is much easier. College students also have more options for other friendships. Because college students have more autonomy in their day, they are not confined within the same walls as their former friends at school, as they are in adolescence. Therefore, they are able to make a clean break and find other friendships through other social connections, workplaces, and campus organizations (e.g. group activities, clubs, campus activities).

The second research question (RQ2) of this study is to investigate associations among friendship dissolutions and downgrade dissolutions, friendship jealousy, and relational aggression. I expect there to be strong positive correlations between complete dissolutions and downgrades and relational aggression, with more significant correlations in adolescence compared to early adulthood, due to the greater emotional instability and difficulties in regulating behavior in adolescence (Hare, Tottenham, Galvan, Voss, Glover, & Casey, 2008). Furthermore, for research question three (RQ3), I propose that friendship jealousy will mediate the association between a friendship dissolution and relational aggression, and that these associations will be moderated by sex. Specifically, friendship jealousy is expected to mediate

the association between friendship *downgrade* dissolution and relational aggression in adolescence, and mediate the relationship between friendship *complete* dissolution and relational aggression in emerging adulthood. Keeping in line with previous research, I hypothesize that these mediations will be significant for females, but not for males (Parker, Walker, Low, & Gamm, 2005). Friendship dissolutions take place within dyadic friendships, which are prioritized and maintained more by girls (Maccoby, 1998). If boys prefer participating in larger friend groups (Gabriel & Gardner, 1999), they may experience less feelings of jealousy within a clique. There is also the possibility that boys are less likely to report their feelings due to stigma (Parker et al., 2005). Therefore, I anticipate feelings of jealousy to be stronger within same-sex friendships of girls than of boys.

These hypotheses will be investigated in a study involving one sample of middle school students and one sample of emerging adults enrolled in college. By utilizing a cross-sectional design, this study adds to the literature through a comparison of responses to friendship dissolutions at two transitional time points. A better understanding of how individuals respond to the loss of a friend can provide strategies on how to handle friendship dissolutions during already challenging and transitional phases of life.

Methods

Middle School Sample

Participants

Participants were 131 middle school students (80 female), 55 seventh graders and 71 eighth graders who participated in a larger study of adolescent social and emotional development.

Procedure

Parent consent was obtained during school functions, such as “Back to School Night” and parent-teacher conference events. Participants also provided their own assent before data collection began. Participants completed the surveys in a group testing format in the school cafeteria under the guidance of several researchers. The survey took approximately 30 minutes to complete. Participants were given a small candy and debriefed as a group once all participants had completed the survey.

College Sample

Participants

Participants for the emerging adult sample were 274 college students (209 female) who participated in a larger study at a large midwestern University in return for class credit in their Introductory Psychology course. Participants were asked to identify their classification; 227 were freshmen, 33 sophomores, 11 juniors, and 3 were seniors. The majority of participants (261) were 18-, 19-, or 20-years-old, with an age range of 17-years-old to 24-years-old (M = 18.56-years-old*).*

Procedure

Participants were recruited through the department-wide SONA system. Consent was obtained and an online Qualtrics survey link was provided. Participants were removed if their survey completion time was under 10 minutes or if they failed basic attention check items. Additionally, two participants (16-years-old and 34-years-old) were removed for their reported age not falling within emerging adulthood.

Measures*Complete Dissolution and Downgrade Dissolution*

Participants are asked three questions regarding complete and downgrading dissolutions. First, yes/no questions about their complete dissolutions (*Have you had a close best friend of the*

same sex with whom you are no longer friends?) and downgrade dissolutions (*Have you had a close best friend of the same sex with you are now not as close to as you used to be?*) within the past six months (Bowker, 2011). Similar to Bowker (2011), no adolescent participant asked for clarification about these questions, indicating they understood the differences between dissolutions.

Friendship Jealousy

Dispositional friendship jealousy is measured using the Friendship Jealousy Questionnaire (FJQ; Parker, Low, Walker, & Gamm, 2005), which asks participants to rate their responses to jealousy-inducing scenarios on a five-point Likert scale from 0 (*would never be jealous over that*) to 4 (*would definitely be jealous;* $\alpha = .92$ for the adolescent sample). The FJQ covers a range of topics from social exclusion to a friendship interloper across 15 short vignettes (e.g., *How jealous would you be if you found out that your best friend went to a new store with another kid from your group, when you and your best friend had made plans to go there together?).* For the college-aged participants, some of the scenarios were adapted to fit their maturity level and typical social situations. For example, in the question "how jealous would you be if your teacher made everyone pick a study partner for this year, and another kid in your group picked your best friend first?," we replaced *teacher* with *professor*. Friendship jealousy scores were calculated by averaging across all items. Higher mean scores indicate higher friendship jealousy. The entire set of scenarios is presented in Appendix B.

Relational Aggression

Relational aggression is measured using the Peer Experiences Questionnaire (PEQ; Vernberg, Jacobs, & Hershberger, 1999). Participants rate the frequency of their involvement in aggressive situations over the past year on a five-point Likert scale from 1 (*almost never*) to 5 (*a*

few times a week). Examples include *I left another kid out of what I was doing* and *I gave another kid the silent treatment (did not talk to the kid on purpose)*. Internal consistency for the adolescent sample was α = .77. For the college sample, the word "kid" is replaced by "person" to more appropriately fit their demographic (α = .77). The overall score is calculated by taking the average of the 13-item responses, with higher scores indiciating more self reported relational aggression (Appendix C).

Results

Age and Gender Differences in the Prevalence of Dissolutions and Downgrades

Among adolescents, 56.7% of participants experienced a dissolution, while 66.9% experienced a downgrade dissolution. In the emerging adult sample, 39.8% of participants reported a dissolution, while 75.9% reported experiencing a downgrade dissolution. Paired samples t-tests found there to be a significant difference between the prevalence of dissolutions and downgrades for adolescents $t(124) = -2.11$, $p = .037$), as well as a significant difference between dissolutions and downgrades among young adults $t(273) = -9.920$, $p = .000$). Therefore, Hypothesis 1 was partially supported in that downgrades were more prevalent than complete dissolutions in adolescence, but dissolutions were not more prevalent than downgrades in emerging adults. A chi-square analysis indicated that the proportion of adolescents reporting dissolutions was significantly higher compared to the proportion of emerging adults who reported a dissolution ($x^2(1, N = 400) = 10.5$, $p = .001$), but no difference was found in the proportion of downgrades reported between samples ($x^2(1, N = 396) = 3.51$, $p = .067$).

In the adolescent sample, 71.3% of girls reported a complete dissolution and 75.6% reported a downgrade dissolution. For boys, 32.6% reported a complete dissolution and 55.3% reported a downgrade dissolution. Chi square analyses showed that the gender differences in

both dissolutions (x^2(2, N = 127) = 19.42, p = .001) and downgrades (x^2 (2, N = 127) = 6.80, p = .03) were significant in adolescence. In the emerging adult sample, 45.5% of women reported complete dissolutions, and 79.4% reported downgrade dissolutions. For men, 20.3% reported complete dissolutions and 64.1% reported downgrade dissolutions. Chi square analyses showed that the gender differences in experiencing both dissolutions (x^2(2, N = 274) = 14.448, p = .001) and downgrades (x^2 (2, N = 272) = 7.378, p = .025) were significant. Thus, girls were more likely than boys to report a complete or downgrade dissolution in both developmental periods.

Associations Among Dissolutions, Downgrades, Friendship Jealousy, and Relational Aggression

Correlations between complete dissolutions, downgrade dissolutions, friendship jealousy, and relational aggression for both age groups can be found in Table 1. Significant positive associations were found between complete dissolutions, friendship jealousy, and relational aggression for the emerging adulthood sample, but not the adolescent sample. Downgrade dissolutions, friendship jealousy, and relational aggression had significant positive associations for the adolescent sample. Only downgrade dissolutions and friendship jealousy were correlated in the emerging adult group. Relational aggression was not significantly correlated with downgrade dissolutions for emerging adults.

To test significant differences in the magnitude of the correlations between age groups and genders, Fisher r-to-z transformations were calculated. Developmental differences were tested first. Correlations between dissolution and downgrading (z = -1,97, p = .03), downgrading and relational aggression (z = -2.132, p = .02), and friendship jealousy and downgrading (z = -1.604, p = .05) across age groups were significantly different, with the adolescent correlations being larger in magnitude than those in the emerging adult sample. Gender differences in the

magnitude of the correlations within each sample were calculated next. For the emerging adults, the correlations between relational aggression and dissolution were significantly different ($z = -1.676$, $p = .05$) between males and females. There were no significant differences found between correlations for males and females in adolescence.

Finally, a three stage hierarchical linear regression was run to test whether friendship dissolution or downgrade predicted relational aggression, and the impact of age and gender on that relationship (Table 4). Gender and age were entered in Step 1. Friendship dissolution variables (complete dissolution and downgrade dissolution, dummy coded as 0 = no, and 1 = yes) were added in Step 2. Interactions between dissolution and age, downgrade and age, dissolution and gender, downgrade and gender, and age and gender were entered in Step 3. Age was also dummy coded, 0 for adolescents and 1 for emerging adults. Relational aggression was set as the dependent variable.

The hierarchical multiple regression revealed that at Step 1, gender contributed significantly to the regression model ($\beta = .130$, $p = .01$), and age did not ($\beta = .070$, $p = .166$). Girls reported more relational aggression than boys. Together, age and gender significantly accounted for 2.4% of the variance in relational aggression, $p = .008$. When friendship dissolution and downgrade were added in Step 2, the variance accounted for significantly increased to 4.1%, $p = .035$, which indicates that above and beyond gender and age, experiencing a friendship breakup accounted for additional variance in relational aggression. Downgrading significantly predicted relational aggression ($\beta = .100$, $p = .05$), but dissolution was found to be nonsignificant ($\beta = .073$, $p = .172$). Step 3 included both dissolution and downgrade by age and by gender interactions, as well as an age by gender interaction. The variance explained increased by 7%, making the total variance in relational aggression explained by these predictors 11.2%, *p*

< .001. Both downgrade by age and dissolution by age significantly predicted relational aggression (β = -.445, p < .001 and β = .296, p = .006, respectively). Additionally, age x gender had a significant interaction (β = -.459, p < .001). This regression indicates a small, but significant amount of variance in relational aggression explained by gender, friendship dissolutions, and the age difference in adolescence and emerging adults.

The significant interactions were investigated further using prototypical plots (Aiken and West, 1991). Prototypical plots revealed a positive association between dissolution and relational aggression for emerging adults (simple slopes: β=.27, t = 6.10, p < .001), but a negative association between dissolution and relational aggression for adolescents (β=-.12, t = -1.87, p = .063; see Figure 1). Another positive association was found between downgrade and relational aggression for adolescents (β=.49, t = 6.97, p < .001), with an nonsignificant negative association for emerging adults (β= -.03, t = -.738, p = .461; see Figure 2). The final prototypical plot revealed a positive association between females and relational aggression for adolescents (β=.53, t = 8.364, p < .001; see Figure 3), but no association between gender and relational aggression for adults.

Friendship Jealousy as a Mediator

The Process macro for SPSS (Hayes, 2013) was used to test whether friendship jealousy mediated the relationship between friendship dissolution downgrades and relational aggression in adolescence, and between friendship complete dissolution and relational aggression in emerging adulthood. The level of confidence was set for 95 with 5000 bootstrap samples for percentile bootstrap confidence intervals for all models.

To address the mediating role of friendship jealousy in the association between downgrades and relational aggression in adolescence, relational aggression was set as the

outcome variable, and friendship downgrade dissolution was the predictor variable. Originally, the direct effect of downgrade dissolution on relational aggression was significant, B = .27, SE = .11, $p < .05$. When friendship jealousy was added as the mediator, the association between friendship downgrading and friendship jealousy, B = .55, SE = .17, $p < .01$, and that of friendship jealousy with relational aggression, B = .17, SE = .06, $p < .01$, were significant. However, with the addition of friendship jealousy as a mediator, friendship downgrading was no longer a significant predictor of relational aggression, B = .17, SE = .11, ns. These results indicate a full mediation with a significant main effect of friendship jealousy on relational aggression and non-significant direct effect of a friendship downgrade (Figure 4).

To address the mediation of the link between dissolutions and relational aggression by friendship jealousy in emerging adulthood, relational aggression was set as the outcome variable, friendship complete dissolution as the predictor, and friendship jealousy as the mediator. Originally, the direct effect of complete dissolution on relational aggression was significant, B = .14, SE = .05, $p = .004$. When friendship jealousy was added as the mediator, the association between friendship dissolution and friendship jealousy, B = .29, SE = .10, $p = .003$, and that of friendship jealousy with relational aggression, B = .12, SE = .03, $p < .001$, were significant. However, with the addition of friendship jealousy as the mediator, the direct effect of friendship dissolution on relational aggression remained significant but was attenuated, B = .10, SE = .05, $p = .03$. These results indicate a partial mediation with a significant main effect of friendship jealousy on relational aggression and a remaining significant effect of friendship dissolution on relational aggression (Figure 5).

To test whether these mediation effects were similar for both genders, the same analyses were run for male and female participants separately. For the adolescent sample, when separated

by gender, the mediation effects were no longer significant for either boys or girls. For the emerging adult sample, when separated by gender, the pattern was one of full mediation for females, but no mediation effect at all for males. For the emerging adult women, the initial direct effect of complete dissolution on relational aggression was significant, B = .11, SE = .05, p = .05. When friendship jealousy was added as the mediator, the association between friendship dissolution and friendship jealousy, B = .23, SE = .11, p = .037, and that of friendship jealousy with relational aggression, B = .14, SE = .03, $p < .001$ were significant. However, the direct effect of friendship dissolution on relational aggression was no longer significant, B = .07, SE = .05, ns. These results indicate a full mediation with a significant main effect of friendship jealousy on relational aggression and non-significant direct effect of a friendship dissolution for emerging adult females (Figure 6).

Finally, a moderated mediation was run to test if the indirect effect of a friendship dissolution (downgrade in adolescence and dissolution in emerging adults) on relational aggression via friendship jealousy was moderated by gender in adolescence. No significance was found, which indicates the association of a friendship breakup with friendship jealousy does not vary by gender.

Discussion

The current study investigated the prevalence of friendship dissolutions and downgrades in two transitional developmental periods - adolescence and emerging adulthood. Additionally, this study identified the associations among friendship dissolutions and downgrades, friendship jealousy, and relational aggression, and investigated the mediating role of friendship jealousy in the link between friendship instability and relational aggression. Research on friendship dissolutions and downgrades is relatively rare. However, given the associations between

friendship instability and depressive symptoms (Chan & Poulin, 2009; Lapierre & Poulin, 2020), anxious rejection sensitivity (Croft & Zimmber-Gembeck, 2014), and other internalizing problems like anxiety symptoms (Guimond et al., 2019), understanding the prevalence and emotional responses to friendship instability is crucial.

Friendship Instability: Prevalence by Age

In partial support of the first hypothesis, I found that within both developmental periods, downgrades were more prevalent than complete dissolutions over the previous six-month time frame. For the adolescent sample, a friendship downgrade may be more common than a dissolution due to the proximity of the peer group and a smaller pool of available alternatives in middle school. If adolescents are unable to "escape" their former friend because they share classes, extracurricular activities, or they remain within the same friend group, it may be easier to downgrade friends than to completely break up the friendship. Friendship downgrades can involve nuanced ambiguities in the new roles that the two former best friends play in each other's lives, something that does not occur with dissolutions, where the "clean break" makes the end to the friendship clear. With more than half of the adolescent sample reporting a downgrade in friendship, more research is clearly needed to understand the intricacies of these shifting friendship hierarchies. Research has found that friendships actually become more stable as adolescents get older (Poulin & Chan, 2010). Moreover, the commitment and satisfaction adolescents reported in their friendships, coupled with lower quality alternative friendships, even predicted a lower tendency to switch friends (Branje, Frijns, Finkenauer, Engels, & Meeus, 2007). The current study results provide a basis to speculate that another wave of instability may accompany the transition into emerging adulthood.

Emerging adults also reported more friendship downgrades than dissolutions, in spite of having more alternative peers with whom to form friendships. While this finding was not consistent with my prediction, upon reflection it is not surprising. Emerging adulthood has been described as a time of prominent identity issues, with higher levels of agency and exploration (Schqartz, Cote, & Arnett, 2005). This could indicate that individuals routinely spend time with new acquaintances, making new friends through college courses and extracurricular activities. For example, while individuals may become friends in the first term of college because they share a class together, as they learn more about each other as well as continue to meet new people, each of them may find more compatible peers with whom to spend time. Therefore, downgrades would not be uncommon because friendship dyads and groups are constantly evolving (with no hard feelings) as individuals gain a better sense of each other and of their own identity. In a study of college students, Dunbar (1998) found different levels of contact frequencies among friends, with the closest five friends making up the *support clique,* or ‘‘individuals from whom one would seek advice, support, or help in times of severe emotional or financial distress.” This was followed by the *sympathy group* made up of 15 friends (Hill & Dunbar, 2003, p. 67). Early in the college experience, support clique hierarchies may change or even get downgraded from a support clique friend into a sympathy group friend. Additionally, as emerging adults make this transition to college, friendship downgrades reported by the students in this sample could have occurred between old high school friends. Research has found that nearly half of high school “best friendships” become “close friends” after the transition to college, with attendant declines in relationship satisfaction, commitment, rewards, and investment (Oswald & Clark, 2003). The high percentage of downgrades reported in the previous

six months by this sample could be explained by high school friendships being downgraded as new college friendships are formed.

The formation of intimate relationships has been considered a key developmental task during this period, as individuals leave their families and rely on friends for support and companionship (Arnett, 2000). Moreover, trust and loyalty between college friends predicted first semester GPAs in one study (Swenson Goguen, Hiester, & Nordstrom, 2010). Therefore, perhaps emerging adults are more experienced in making new friends and have a better "selection process" for long term friendship. College is a new environment and emotional support impacts college retention, so to maximize one's network of support by minimizing complete dissolutions would be beneficial (Wilcox, Winn, & Fyvie-Gauld, 2005). While a downgrade may happen, a complete dissolution may be less likely.

Friendship Instability: Prevalence by Gender

Across both developmental periods, girls reported more friendship instability than boys. This could be explained by girls' higher ratings of friendship importance (Furman & Buhrmester, 1985) and higher expectations of their intimate friendships, which are often unmet in terms of understanding, loyalty, and commitment (Clark & Ayers, 1993). Across a thirty-seven study meta-analysis, female friendship expectations were greater in terms of symmetrical reciprocity, communion, and solidarity compared to males', while males had higher expectations of agency (Hall, 2011). Higher expectations could be responsible for more friendship breakups because satisfaction in one's friendship becomes harder to obtain, and transgressions are viewed more harshly. Girls also consistently report stable negative interactions with friends across adolescence, while boys' negative interactions decrease over time (De Goede, Branje, & Meeus,

2009). This is consistent with the current study's findings for men regarding complete dissolutions, in that adult men reported fewer dissolutions than did adolescent boys.

Correlations Between Key Study Variables

The associations among friendship dissolution, downgrading, friendship jealousy, and relational aggression also tell a compelling story. First, friendship downgrades and dissolutions were significantly correlated within both age groups. Friendship instability is not an isolated event, and experiencing both dissolutions and downgrades throughout these transitional time periods is not surprising given the emotional, environmental, and social changes also taking place. Interestingly, the magnitude of the correlation between the two was stronger for adolescents than emerging adults, which suggests it was more common for adolescents to experience both types of friendship instability, while adults were more likely to experience only one type of instability.

Gender differences in the magnitude of the correlations among relational aggression and friendship instability were stronger for males in both samples. For the adolescent boys, the correlation between relational aggression and a friendship downgrade was stronger than for adolescent girls. Emerging adult males also had a stronger correlation than emerging adult females for complete dissolutions and relational aggression. These results add to the current literature because relational aggression is often assumed to be a female behavior (Crick & Gropeter, 1995; Lagerspetz, Björkqvist, & Peltonen, 1988; Smith, Rose, & Schwartz-Mette, 2009). These gender differences regarding relational aggression are less pronounced when other developmental factors are considered (i.e. response decision processes, Crick & Werner, 1998; perceived popularity, Rose, Swenson, & Waller, 2004; parent control and punishment, Kuppens, Grietens, Onghena, & Michiels, 2009). For the males in this study, both in adolescence and

emerging adulthood, there must be something about friendship instability, specifically, that is strongly associated with relational aggression. Perhaps due to the region of data collection, honor culture could play a role (Vandello, Cohen, & Ransom, 2008). Honor cultures are built on individual's reputation, and people high in honor ideology will defend their reputation even if retaliation is risky (Nisbett & Cohen, 1996). Men in this study also reported losing a friend less often than their female counterparts. Perhaps friendship instability is more hurtful for males because the instability happens less frequently and is therefore perceived as less masculine, a slur and threat to "real men" (Saucier, Till, Miller, O'Dea, & Andres, 2015). Lastly, emerging adult males may be losing friends due to competition for romantic partners. Taylor (2013) found reduced romantic confidence in participants who were primed with potential romantic partner scarcity. If both participants in a male friend dyad are competing for the same romantic partner, it may be reason enough to end the friendship, especially if one of the friend "wins".

Associations Among Friendship Instability and Relational Aggression Among Adolescents

Adolescence is a time of heightened self-consciousness (Rankin, Lane, Gibbons, & Gerrard, 2004), and if an adolescent is concerned with how their peers perceive them, being downgraded could feel like social destruction. Regardless of whether the adolescent did the downgrading or was downgraded, still being around the previous friend would be challenging to handle. When adolescents feel a third-party threat, particularly to same-sex friendships, they engage in more "friend-guarding" behaviors such as possession displays and commitment enhancement (Krems, Williams, Aktipis, & Kenrick, 2020). Moreover, one study found friendship retention is only at 45% when the third-party threat is a friend, rather than an acquaintance, of the downgrading friend (Krems et al., 2020). Therefore, the disappointment of being downgraded after trying to hold on to the friendship may explain why relational aggression

was correlated with downgrades but not dissolutions. Individuals who experience social exclusion judge people who leave them out as less human and believe they are viewed as less human by their perpetrator compared to when they are included (Bastian & Haslam, 2010). For example, the anger and hurt the downgraded friend feels could play out as relational aggression because they are jealous and feel left out. Alternatively, perhaps the friend who did the downgrading is annoyed by the downgraded friend's presence and responds to the frustration by engaging in relational aggression. In some adolescent friendships, a friendship breakup may be predictable due to ongoing conflict, while for others the breakup may be less foreseeable (Berndt, Hawkins, & Hoyle, 1986). Perhaps downgrades feel "out of the blue" and relational aggression is used as a coping mechanism to deal with the surprise and disappointment. Furthermore, dyadic friendships are rarely separate from the larger friend group. Therefore, from the group perspective, other friends in the group may not know how to manage the fact that the group friendship structure has changed. To ensure membership, the group may exclude the downgraded friend from certain gatherings or events out of an attempt to be respectful of the other friend's feelings.

Associations Among Friendship Instability and Relational Aggression Among Emerging Adults

For emerging adults, downgrades were more common, but complete dissolutions were associated with relational aggression. College students are separated from their high school friends and report lower satisfaction and friendship quality as they transition to college (Shaver, Furman, & Buhrmester, 1985). Adding the experience of losing a friend, whether new or old, would be difficult to handle, as some emerging adults are preoccupied with maintaining precollege friends (Paul & Brier, 2001). Moreover, entering college is an opportunity to establish

new social groups, but is also described by young adults as the most stressful adjustment of their lives so far (Shaver et al, 1985). Losing a friend during the college transition, a time with more psychosocial dependencies, may lead to relational aggression as a response, adding to heightened personal-emotional adjustment problems (Lapsley, Rice, & Shadid, 1989).

Friendship Interactions and the Mediating Role of Jealousy

The two-way interaction between gender and age in the prediction of relational aggression was consistent with prior studies (Crick & Grotpeter, 1995; McNeilly-Choque, Hart, Robinson, Nelson, & Olsen, 1996). Among adolescents, girls reported more relational aggression than boys did; this was not the case in the adult sample. Interestingly, females reported similar levels of relational aggression at both time points, while male adults reported significantly higher relational aggression than adolescent boys. This could be explained by the nature of female friendships, as girls value social relationships more than boys and perceive aggression as being more harmful than boys, and yet still report more social aggression than boys (Coyne et al., 2006).

Perhaps there is another component that is responsible for higher relational aggression in females than males in adolescence – friendship jealousy. Friendship jealousy fully mediated the relationship between friendship downgrade and relational aggression in adolescence and partially mediated the relationship between friendship dissolution and relational aggression in emerging adults. These results corroborate previous research indicating that adolescent's most jealous friends were also the most aggressive (Parker, Low, Walker, & Gamm, 2005). Furthermore, moderated mediation analysis showed that friendship jealousy fully mediated the relationship between friendship dissolution and relational aggression for young adult females, but not males. Previous research has suggested that friendship jealousy lessens in older adolescence, but

perhaps that happens due to the nature of being comfortable and familiar within a peer group and network (Selmon 1980; Parker et al, 2005). With the changes that accompany college transitions and new friend opportunities, friendship jealousy has an opportunity to rise again. If an individual experiences a dissolution or downgrade, there are many emotional and behavioral responses that could potentially take place, or even come in waves. It is possible that individuals who are high in jealousy are then motivated to be relationally aggressive in response to their jealous feelings.

For adolescents experiencing a downgrade, it would be hard to be in the same school every day, or even in the same clique, and watch as a former best friend has a new best friend. Add in the inescapable presence of social media (71% of teens use more than one social media site; Pew Research Center, 2015), and there is no safe haven from being constantly reminded of the downgrade, only fueling the growing feelings of jealousy for those who are prone to it. Jealousy leads to threatened feelings of vulnerability (Parker et al., 2005), and if adolescents are balancing their new friends with their old friends, exclusion is bound to happen that would exacerbate jealous feelings (Azmitia, Kamprath, and Linnet, 1998). Jealous emerging adult women may experience relational aggression after a dissolution because a high school friendship has broken up. College is full of alternative others – threats to friendship stability – and in turn security (Azmitia, Ittel, & Radmacher, 2005). As new friends help remedy the loss of an old friend and serve as a rebound for friendship heartbreak (effective and beneficial for romantic relationship recovery; Brumbaugh & Fraley, 2015), the faster recovery the greater potential for more jealousy and relationally aggressive behavior. Therefore, behaving relationally aggressive after a dissolution could potentially seal the deal on the friendship breakup for good.

Limitations and Future Directions

Though this study had important strengths, the findings must be interpreted in light of certain limitations. One limitation of this study is that the data are cross-sectional, and thus the direction of effect between friendship instability and relational aggression cannot be determined. Though relational aggression is likely to be an outcome associated with friendship instability, it is also possible that adolescents and young adults experience friendship instability because they are relationally aggressive. While offering a comparison of friendship instability at two transitional time periods, addressing these questions longitudinally would provide the opportunity to see direct responses to a downgrade or dissolution. The female-to-male ratio in the emerging adult sample was disproportionately high, providing relatively low power with which to explore gender differences. The measures used were also dispositional, trait measures of friendship jealousy and relational aggression. It is hard to know with certainty then if the reports of friendship jealousy and relational aggression were directly linked with the friendship instability reported. A final limitation can be found in data collection differences. The adolescent sample was surveyed at school with paper and pencil, and the emerging adult sample was able to take their survey online where ever was most convenient for them. This is a limitation because the school environment may play a role in memory accessibility and have an emotional influence on adolescents as they complete the survey in the same room as their friends.

Future directions to take this research include using measures specifically designed to tap into friendship jealousy and relational aggression as they specifically related to a friendship breakup. Another option is to investigate other emotional and behavioral responses after adolescents and emerging adults experience a dissolution or downgrade, such as guilt or relief. Further, is the response moderated by which friend initiated the breakup? Also, adolescent peer nominations for best friendship rankings and friendship instability should be considered. By

collecting friendship ranking nominations over multiple waves, I would capture changes in friendships as mutually reciprocated or not, particularly friendship downgrades. If an individual was downgraded, do they still consider the friend who downgraded them as a close friend? If another individual did the downgrading, do they still consider the friend who they downgraded as a top friend? Who took the downgraded friend's place in the rankings? Does the downgraded friend nominate the interloper as a top friend? Finally, why the friendship instability takes place is important to the magnitude of relational and behavioral responses. For example, if a friend simply moves away, the breakup is less likely to result in relational aggression because it was not due to conflict, betrayal, or another challenging social experience.

In conclusion, this study adds to the literature on friendship instability throughout two transitional time periods. Adolescent friendships help with emotional coping, self-worth, and self-esteem during physical, mental, and emotional transitions with a heightened self-consciousness (Gauze et al., 1996; Buhrmester, 1990; Rankin et al., 2004). In emerging adulthood, a developmental period characterized by changes in jobs, social support, and relationships, friendships play a supportive role for individuals' emotional and mental health (Erikson, 1968; Rindfuss, 1991; Lapierre & Poulin, 2020), the high percentage of friendship downgrades in adolescence and emerging adulthood indicate that friendship instabilities are prevalent and worthy of further investigation. If transitional time periods impact friendship stability, then understanding how to better equip individuals in friendship maintenance may serve as a protective function against the socioemotional outcomes associated with friendship loss.

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Table 1.
Correlations Among Key Study Variables for Two Age Groups

	Dissolution	Downgrade	Jealousy	Rel. Agg
Dissolution	1	**.135***	.177**	.174**
Downgrade	**.358****	1	**.117***	**-.015**
Jealousy	.072	**.285****	1	.282**
Rel. Agg	.081	**.215***	.260**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Note. Emerging adult sample above the diagonal, adolescent sample below the diagonal. Correlations in boldface are significantly different between age groups according to Fisher's r-to-z tests.

Table 2.
Emerging Adult Correlations Among Key Study Variables By Gender

	Dissolution	Downgrade	Jealousy	Rel. Agg
Dissolution	1	.117	.144*	**.135***
Downgrade	.054	1	.088	.042
Jealousy	.022	.037	1	.312**
Rel. Agg	**.363****	-.161	.230	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Note. Females above the diagonal, males below the diagonal.
Correlations in boldface are significantly different according to Fisher's r-to-z tests.

Table 3.
Adolescent Correlations Among Key Study Variables By Gender

	Dissolution	Downgrade	Jealousy	Rel. Agg
Dissolution	1	.329**	-.026	.194
Downgrade	.265	1	.143	.174
Jealousy	-.042	.398**	1	.306**
Rel. Agg	-.034	.292*	.300*	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Note. Females above the diagonal, males below the diagonal.

Table 4.
*Predicting Relational Aggression: Age, Gender, Dissolution, and Downgrade (*N = 396)

	β	*t*	*p*	Adj. R^2	ΔR^2
Step 1.				.019**	.024**
Age	.07	1.39	.166		
Gender	.13	2.59	.010		
Step 2.				.031*	.017*
Dissolution	.07	1.37	.172		
Downgrade	.10	1.96	.051		
Step 3.				.092**	.071**
Dissolution x Age	.30	2.77	.006		
Downgrade x Age	-.45	-3.66	.000		
Dissolution x Gender	-.12	-1.02	.307		
Downgrade x Gender	.003	.023	.982		
Age x Gender	-.459	-3.696	.000		

Note.
**p < .01. *p < .05.

Figure 1. Age moderates the association between friendship dissolution and relational aggression.

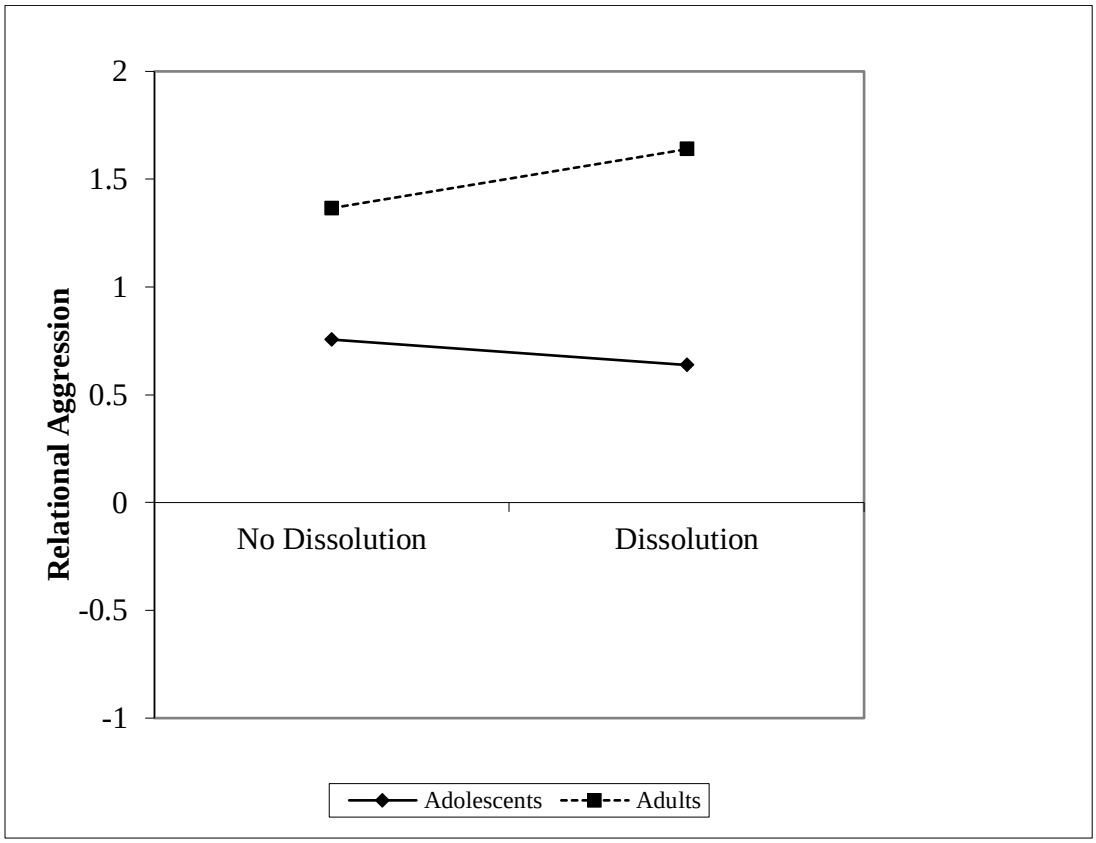


Figure 2. Age moderates the association between friendship downgrades and relational aggression

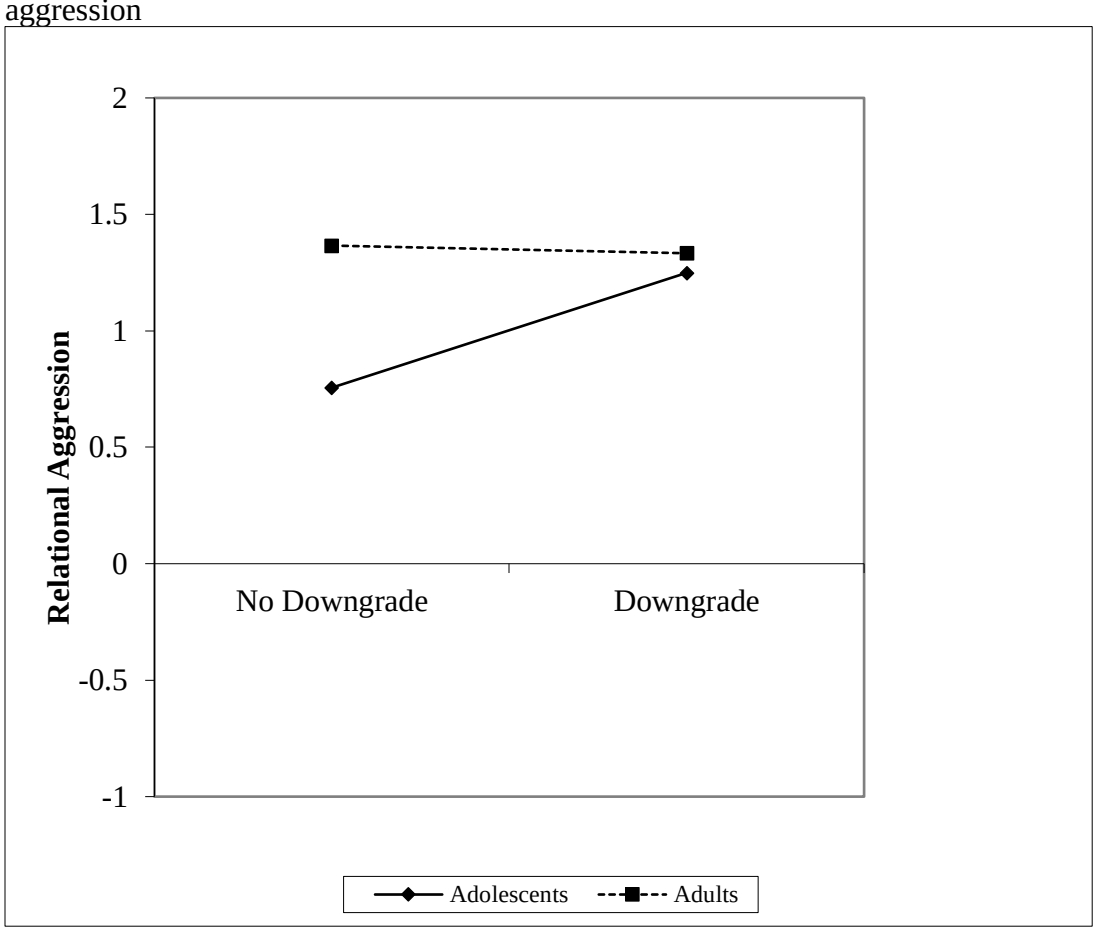


Figure 3. Two-way interaction between gender and age in the prediction of relational aggression

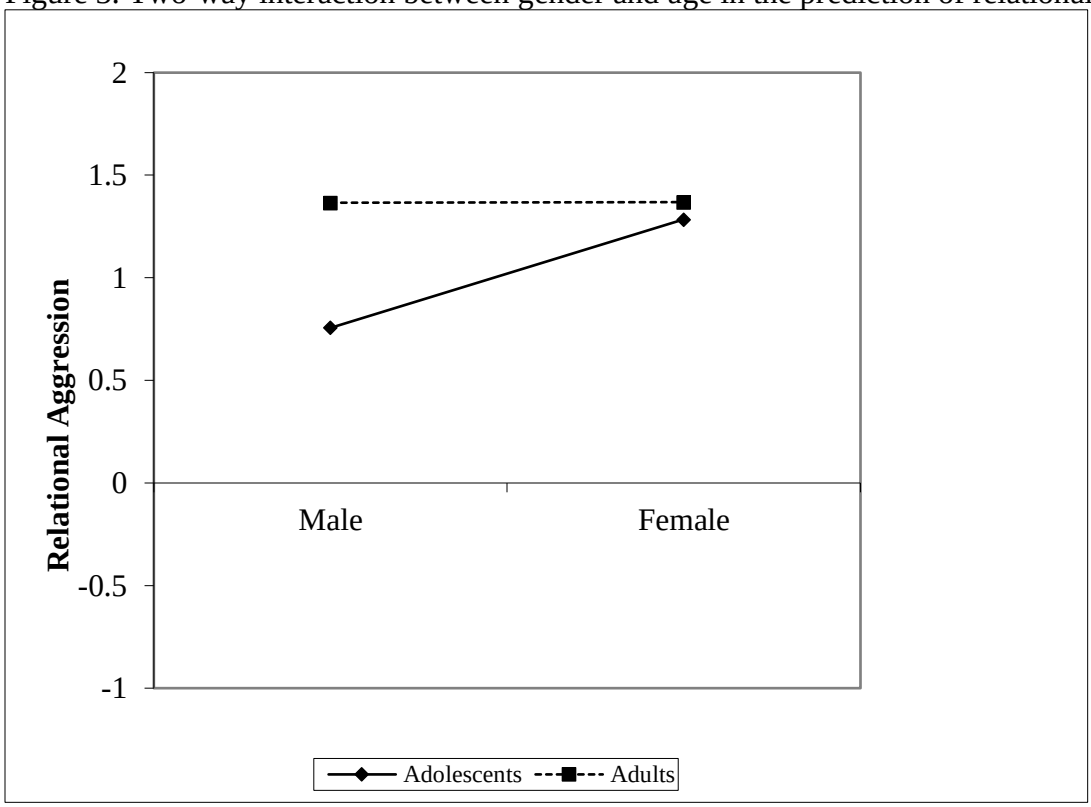
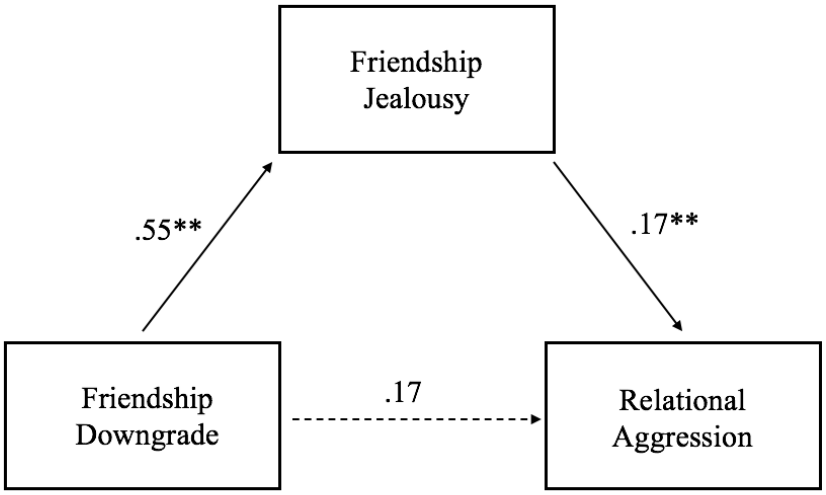
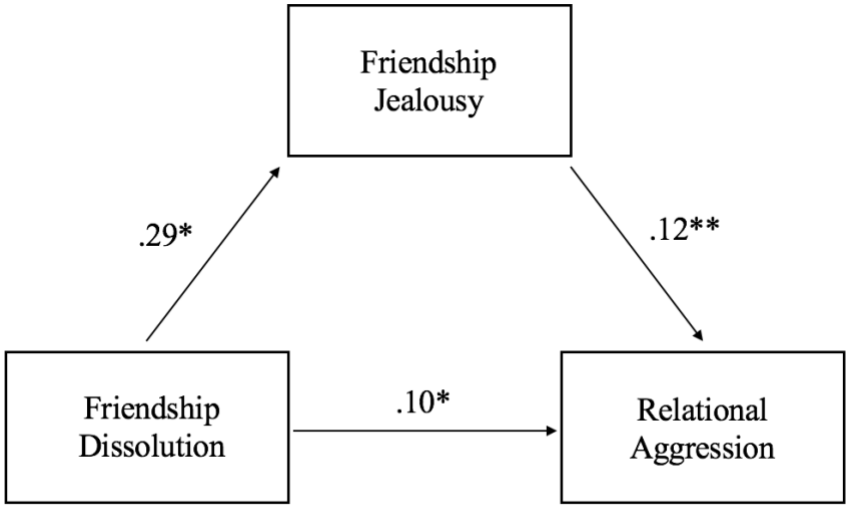


Figure 4. Friendship Jealousy Mediates the Association Between Friendship Downgrades and Relational Aggression in Adolescence



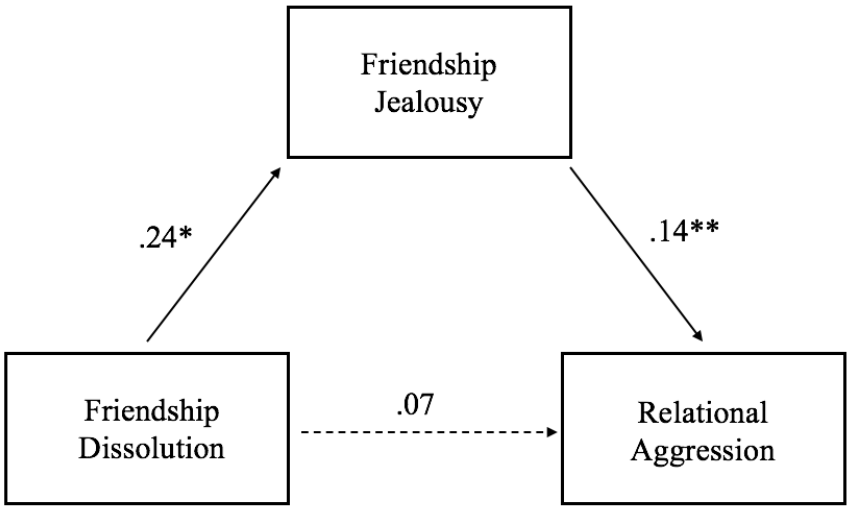
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Figure 5. Friendship Jealousy Mediates the Association Between Friendship Dissolutions and Relational Aggression in Emerging Adulthood



**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Figure 6. Friendship Jealousy Mediates the Association Between Friendship Dissolutions and Relational Aggression in Emerging Adult Females



**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Appendix A

Complete and Downgrade Dissolutions

The following questions ask you about your friendships. Please make sure you read the questions fully as some questions have some further instructions.

1. Have you had a close best friend of the same sex **with whom you are no longer friends?** *(If you select "b. No" then skip questions 2 and 3).*
    a. Yes
    b. No

2. Have you had a close best friend of the same sex **with whom you are now not as close to as you used to be?** (If you select "b. No" then skip questions 5 and 6)
    a. Yes
    b. No

Appendix B

Friendship Jealousy

We are interested in situations that make people your age feel jealous when their friends do things with other students without them. Below we have listed some situations that other students have told us make them feel jealous about their friends. Imagine that each of these situations happened to you and your closest friend and tell us whether the situation would upset you or make you feel jealous if it happened. People differ. Maybe these make you feel really jealous; maybe just somewhat jealous, or maybe not jealous at all. Be honest.

1. How jealous would you be if you invited your best friend to go see a movie, but he or she was already going with another kid from your group?

0	**1**	**2**	**3**	**4**
Would never be jealous over that	**Might be a little jealous**	**Would be somewhat jealous**	**Would probably be pretty jealous**	**Would definitely be really jealous**

2. How jealous would you be if a teacher made everyone pick study partners for this year, and another kid in your group picked your best friend first?

0	1	2	3	4
Would never be jealous over that	Might be a little jealous	Would be somewhat jealous	Would probably be pretty jealous	Would definitely be really jealous

3. How jealous would you be if you and your best friend used to walk to school together by yourselves and talk, but a new kid moved into the neighborhood and began walking with your friend every day?

0	**1**	**2**	**3**	**4**
Would never be jealous over that	**Might be a little jealous**	**Would be somewhat jealous**	**Would probably be pretty jealous**	**Would definitely be really jealous**

4. How jealous would you be if you walked into the library and saw your best friend and another kid from your group talking, joking, and making plans to walk home together after school?

0	1	2	3	4
Would never be jealous over that	Might be a little jealous	Would be somewhat jealous	Would probably be pretty jealous	Would definitely be really jealous

5. How jealous would you be if you found out that your best friend went to a new store with another kid from your group, when you and your best friend had made plans to go there together?

0	**1**	**2**	**3**	**4**
Would never be jealous over that	**Might be a little jealous**	**Would be somewhat jealous**	**Would probably be pretty jealous**	**Would definitely be really jealous**

6. How jealous would you be if you found out that your best friend got into a fight with his or her parents, and called or texted another kid from your group for advice and didn't talk to you about it?

0	1	2	3	4
Would never be jealous over that	Might be a little jealous	Would be somewhat jealous	Would probably be pretty jealous	Would definitely be really jealous

7. How jealous would you be if you be if your best friend was assigned to work on a project with another kid in your group, and they started spending a lot of time together?

0	**1**	**2**	**3**	**4**
Would never be jealous over that	**Might be a little jealous**	**Would be somewhat jealous**	**Would probably be pretty jealous**	**Would definitely be really jealous**

8. How jealous would you be if you found out that another kid in your group was planning a cool birthday surprise for your best friend?

0	1	2	3	4
Would never be jealous over that	Might be a little jealous	Would be somewhat jealous	Would probably be pretty jealous	Would definitely be really jealous

9. How jealous would you be if your best friend joined a team or club without you, and started spending a lot of time with the other kids in that group?

0	**1**	**2**	**3**	**4**
Would never be jealous over that	**Might be a little jealous**	**Would be somewhat jealous**	**Would probably be pretty jealous**	**Would definitely be really jealous**

10. How jealous would you be if your best friend had a secret and didn't tell you first?

0	1	2	3	4
Would never be	Might be a	Would be somewhat	Would probably be	Would definitely be

jealous over that	little jealous	jealous	pretty jealous	really jealous

11. How jealous would you be if you gave your best friend a birthday present, and he or she got an even better one from another kid in your group?

0	**1**	**2**	**3**	**4**
Would never be jealous over that	**Might be a little jealous**	**Would be somewhat jealous**	**Would probably be pretty jealous**	**Would definitely be really jealous**

12. How jealous would you be if your best friend and you used to check each other's homework together, but another kid in your group started checking it with your best friend instead?

0	1	2	3	4
Would never be jealous over that	Might be a little jealous	Would be somewhat jealous	Would probably be pretty jealous	Would definitely be really jealous

13. How jealous would you be if you overheard two kids from your group talking and one of them told the other one that they were best friends with your best friend?

0	**1**	**2**	**3**	**4**
Would never be jealous over that	**Might be a little jealous**	**Would be somewhat jealous**	**Would probably be pretty jealous**	**Would definitely be really jealous**

14. How jealous would you be if you called your best friend to talk and he or she couldn't talk because another kid from your group was waiting and they were going to hang out together?

0	1	2	3	4
Would never be jealous over that	Might be a little jealous	Would be somewhat jealous	Would probably be pretty jealous	Would definitely be really jealous

Appendix C

Relational Aggression for Adolescence

These questions ask about some things that often happen between people. Please rate, on a scale from 1 (never) to 5 (a few times a week), how often you have done these things to others and how often these things have happened to you in the past year.

	Almost never	**Once or twice a week**	**A few times a week**
1A. I left another kid out of an activity or conversation they really wanted to be included in.	1---------2----------3----------4----------5		
1B. Some kids left me out of an activity or conversation I really wanted to be included in.	1---------2----------3----------4----------5		
2A. I chased a kid like I was really trying to hurt him or her.	1---------2----------3----------4----------5		
2B. A kid chased me like he or she was really trying to hurt me.	1---------2----------3----------4----------5		
3A. I would not sit near another kid who wanted to be with me at lunch or in class.	1---------2----------3----------4----------5		
3B. A kid I wanted to be with would not sit near me at lunch or in class.	1---------2----------3----------4----------5		
4A. I tried to damage another kids' social reputation by spreading rumors about them.	1---------2----------3----------4----------5		
4B. A kid tried to damage my social reputation by spreading rumors about me.	1---------2----------3----------4----------5		

	Almost Never	**Once or twice a week**	**A few times a week**
5A. I did not invite a kid to a party or other social event even though I knew the kid wanted to go.	1	2	3---4---5
5B. A kid did not invite me to a party or social event even though they knew that I wanted to go.	1	2	3---4---5
6A. I left another kid out of what I was doing.	1	2	3---4---5
6B. A kid left me out of what they were doing.	1	2	3---4---5
7A. I told another kid that I would not be friends with them anymore to get back at them.	1	2	3---4---5
7B. To get back at me, another kid told me that he or she would not be friends with me anymore.	1	2	3---4---5
8A. I gossiped about another kid so others would not like him or her.	1	2	3---4---5
8B. Another kid gossiped about me so others would not like me.	1	2	3---4---5
9A. I threatened to hurt or beat up another kid.	1	2	3---4---5
9B. A kid threatened to hurt or beat me up.	1	2	3---4---5

	Almost Never	**Once or twice a week**	**A few times a week**
10A. I gave another kid the silent treatment (did not talk to the kid on purpose).	1---------2---------3---------4---------5		
10B. A kid gave me the silent treatment (did not talk to me on purpose).	1---------2---------3---------4---------5		
11A. I said mean things about a kid so that people would think he or she was a loser.	1---------2---------3---------4---------5		
11B. Another kid said mean things about me so that people would think I was a loser.	1---------2---------3---------4---------5		
12A. I hit, kicked, or pushed another kid in a mean way.	1---------2---------3---------4---------5		
12B. A kid hit, kicked, or pushed me in a mean way.	1---------2---------3---------4---------5		
13A. I teased another kid in a mean way, by saying rude things or calling him or her bad names.	1---------2---------3---------4---------5		
13B. A kid teased me in a mean way, by saying rude things or calling me bad names.	1---------2---------3---------4---------5		

Relational Aggression for Emerging Adulthood

These questions ask about some things that often happen between people. Please rate, on a scale from 1 (never) to 5 (a few times a week), how often you have done these things to others and how often these things have happened to you in the past year.

	Almost never	**Once or twice a week**	**A few times a week**
1A. I left someone out of an activity or conversation they really wanted to be included in.	1---------2----------3----------4----------5		
1B. Someone left me out of an activity or conversation I really wanted to be included in.	1---------2----------3----------4----------5		
2A. I pursued someone like I was really trying to hurt him or her.	1---------2----------3----------4----------5		
2B. Someone pursued me like he or she was really trying to hurt me.	1---------2----------3----------4----------5		
3A. I would not sit near someone who wanted to be with me at lunch or in class.	1---------2----------3----------4----------5		
3B. Someone I wanted to be with would not sit near me at lunch or in class.	1---------2----------3----------4----------5		
4A. I tried to damage another someone's social reputation by spreading rumors about them.	1---------2----------3----------4----------5		
4B. Someone tried to damage my social reputation by spreading rumors about me.	1---------2----------3----------4----------5		

	Almost Never	Once or twice a week	A few times a week
5A. I did not invite someone to a party or other social event even though I knew the kid wanted to go.	1	2	3 4 5
5B. Someone did not invite me to a party or social event even though they knew that I wanted to go.	1	2	3 4 5
6A. I left someone out of what I was doing.	1	2	3 4 5
6B. Someone left me out of what they were doing.	1	2	3 4 5
7A. I told someone that I would not be friends with them anymore to get back at them.	1	2	3 4 5
7B. To get back at me, someone told me that he or she would not be friends with me anymore.	1	2	3 4 5
8A. I gossiped about another person so others would not like him or her.	1	2	3 4 5
8B. Another person gossiped about me so others would not like me.	1	2	3 4 5
9A. I threatened to hurt or beat up another person.	1	2	3 4 5
9B. A person threatened to hurt or beat me up.	1	2	3 4 5

	Almost Never	**Once or twice a week**	**A few times a week**
10A. I gave someone the silent treatment (did not talk to the kid on purpose).	1	2	3	4	5
10B. Someone gave me the silent treatment (did not talk to me on purpose).	1	2	3	4	5
11A. I said mean things about someone so that people would think he or she was a loser.	1	2	3	4	5
11B. Someone said mean things about me so that people would think I was a loser.	1	2	3	4	5
12A. I hit, kicked, or pushed someone in a mean way.	1	2	3	4	5
12B. Someone hit, kicked, or pushed me in a mean way.	1	2	3	4	5
13A. I teased someone in a mean way, by saying rude things or calling him or her bad names.	1	2	3	4	5
13B. Someone teased me in a mean way, by saying rude things or calling me bad names.	1	2	3	4	5