

Relational aggression in emerging adulthood: Association with social intelligence and the moderating role of empathy

by

Della C. Loflin

A thesis submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Clinical Psychology, Master of Science

Auburn, Alabama
August 4, 2018

Keywords: relational aggression, social intelligence, empathy, moderation

Approved by

Christine Totura, Chair, Assistant Professor, Department of Psychology
Tracy Witte, Associate Professor, Department of Psychology
Stephen A. Erath, Associate Professor, Department of Psychology

Abstract

Relational aggression is intended to harm others through manipulating and damaging their relationships using traditionally indirect means (Crick & Grotpeter, 1995). Evidence has shown that social intelligence and empathy are related to indirect aggression (Björkvist, Österman, & Kaukiainen, 2000), and may also be similarly associated with relational aggression. Furthermore, emerging adulthood, a distinct developmental period between the ages of 18 and 25 (Arnett, 2000), may be a period in which developmental changes facilitate relational aggression use (Smits Doumen, Luyckx, Duriez, & Goossens, 2011). It was hypothesized that empathy would moderate the relationship between social intelligence and relational aggression. Constructs were assessed via self-report, and data was analyzed using multiple linear regression analyses in Mplus. Empathic concern was found to moderate the relationship between proactive relational aggression and social awareness and social information processing. Lower empathic concern was associated with greater proactive relational aggression in general. The relationship between social awareness and proactive relational aggression decreased at higher levels of empathic concern, whereas a positive relationship between social information processing and relational aggression was found at high levels of empathic concern. The results of this study can help guide future research aimed at understanding the conditions in which relational aggression is more likely to occur, such as to help another individual (Buffone & Poulin, 2014) or in conjunction with normative beliefs about the acceptability of relational aggression (You & Bellmore, 2014).

Acknowledgements

I would like to extend my great appreciation to Dr. Totura for her guidance and feedback throughout this project.

Table of Contents

Abstract.....	ii
Acknowledgments.....	iii
List of Tables	vi
List of Illustrations.....	vii
Introduction	1
Relational Aggression	2
Relational Aggression and Social Intelligence	5
Empathy’s Role in the Relationship Between Social Intelligence and Relational Aggression	10
The Present Study	13
Method	15
Participants	15
Procedure	15
Materials	15
Data Analysis	17
Results	21
Descriptives	21
Correlational Analyses	21
Moderator Analyses	21

Slope Analyses	22
Sensitivity Analyses	23
Discussion	26
Strengths and Limitations	32
Implications for Future Directions	35
References	39

List of Tables

Table 1	48
Table 2	48
Table 3	49
Table 4	50

List of Illustrations

Figure 1	51
Figure 2	52

Introduction

Relational aggression was first introduced by Crick and Grotpeter (1995) and is aimed at manipulating or harming others through damaging their relationships (e.g., gossiping, spreading rumors, peer exclusion), as opposed to physical aggression where the victim is targeted through more direct means (e.g., verbal, physical). Over the past two decades, numerous studies have sought to understand this construct, although the exact mechanisms behind the utilization of relational aggression are still not clearly understood. The majority of research conducted about relational aggression has focused on children and adolescence (Murray-Close, Ostrov, Nelson, Crick, & Coccaro, 2010). It is argued that developmental milestones, such as an increase in the importance of social relationships and a better ability to understand these social relationships, facilitate relational aggression use during this developmental period (Voulgaridou & Kokkinos, 2015). However, few studies have examined social development after adolescence (Arnett, 2000; Kosterman et al., 2014); consequently, there is little insight into the implications of social development on relational aggression beyond adolescence, such as emerging adulthood.

Although previous research has examined other contributors to relational aggression in emerging adulthood (e.g., hostile attribution biases, social anxiety; Bailey & Ostrov, 2008; Loudin, Loukas & Robinson, 2003, respectively), the association of constructs like social intelligence and empathy to relational aggression during this period has not been directly examined, despite evidence that these constructs are related to similar forms of aggression (i.e., indirect) in adolescents (Björkvist et al., 2000). Thus, there is still much to uncover about the unique association between relational aggression to other constructs (e.g., social intelligence,

empathy) and how these constructs may play into when and how often relational aggression is used, particularly in emerging adulthood. Furthermore, the research on emerging adults has highlighted the fact that this form of aggression persists into this age group (Goldstein, 2011; Murray-Close et al., 2010); therefore, attention focused on understanding why relational aggression continues to be utilized beyond adolescence is warranted.

Relational Aggression

Research on relational aggression has demonstrated that two functional differences of relational aggression exist. Whereas proactive relational aggression is viewed as premeditated and is goal-oriented, reactive relational aggression is more impulsive and in response to real or perceived threats (Bailey & Ostrov, 2008; Murray-Close, 2011), indicating that, the function of aggression used may correspond to desired social goals or outcomes (e.g., excluding a peer for personal gain or retaliation after a perceived slight). Therefore, an understanding of why others act in certain ways (i.e., social intelligence) and the ability to take their perspective and feel an emotional connection to their situation (i.e., empathy) are potentially key factors involved in the decision to use a certain function of relational aggression or relational aggression in general.

The contexts and factors that are associated with relational aggression in emerging adulthood are important considerations given the negative psychosocial consequences. This type of aggression has been linked to numerous problematic behaviors and maladjustment. The implications for relational aggression in children and adolescents has been established, including an association to internalizing problems for perpetrators (Murray-Close, Ostrov, Nelson, & Crick, 2007), such that these individuals may use relational aggression as a way to cope with

perceived negative social situations (Marshall, Arnold, Rolon-Arroyo, & Griffith, 2015). Other studies have found that this trend continues into emerging adulthood (Cleverley, Szatmari, Vaillancourt, Boyle, & Lipman, 2012; Gros, Gros, & Simms, 2010). Additionally, in a sample of college students ages 18 to 23, Werner and Crick (1999) also found an association between relational aggression and both current and future peer rejection for emerging adults.

Although the idea of emerging adulthood as a developmental period was only proposed within the last 16 years, it has proven to be a unique stage between adolescence and adulthood encompassing ages 18 to 25. It is a period characterized by marked changes in cognition and psychosocial development, in addition to opportunities to explore varying life directions and relationships (Arnett, 2000). An especially salient feature is an increase in the separation of emerging adults from their parents, both physically and socially. It follows then that individuals during this developmental period are also experiencing drastic changes in living situations (i.e., living on their own, moving frequently), how they view themselves as adults, and in identity development in areas such as relationships, work, and general worldview (Arnett, 2000). Given the desire for autonomy from parents and the importance of peer relationships in adolescence (Boisvert & Poulin, 2016), it is natural that greater attachments to peers, as well as more diverse peer groups, would continue to develop during the transition to emerging adulthood (Doumen et al., 2012). However, relationship development with a diverse range of peers in the context of continued cognitive and social development may come with an increase in conflict that has the potential to lead to aggression (Smits et al., 2011), including relational aggression.

Considering the significance of relationships for emerging adults as well as the need to achieve individual goals, it has been suggested that emerging adults may manipulate their interpersonal relationships using relationally aggressive techniques in order to achieve these personal goals (Nelson, Springer, Nelson, & Bean, 2008). In a recent study conducted by Cohen and colleagues (2016), young adults between the ages of 18 and 21 appeared to have lessened cognitive control in negative emotional situations compared to individuals over the age of 21. Subsequently, in light of other research, emerging adults may cognitively respond to certain situations more like adolescents (Cohen et al., 2016), which may be especially salient when dealing with negative emotional situations involving peers. In other words, emerging adults may be susceptible to the same negative interpersonal tactics as adolescents (e.g., relational aggression). Although emerging adults may appear more competent than adolescents in certain domains, their faculties in the areas of psychosocial and cognitive development are still evolving, which may have implications for other areas of functioning.

Given these findings, it is clear that the effects of relational aggression are ongoing from adolescence and could have potential implications into later developmental periods. However, in order to address the negative consequences of relational aggression, an understanding of what may motivate emerging adults to use this type of aggression and the factors that influence its use must first be better understood. Regarding the emerging adult literature, few studies were found that focused on the factors associated with relational aggression during this developmental period. This is also true for reactive and proactive aggression, with most studies using child or adolescent samples (Murray-Close et al., 2010). Therefore, the present study aims to not only

determine what constructs may correlate with the likelihood that relational aggression will occur, but also contribute to the understanding of what factors may be associated, either positively or negatively, with emerging adults' engagement in relational aggression and its different functions.

Relational Aggression and Social Intelligence

Social intelligence is a construct that encompasses one's ability to understand and navigate social situations. The concept of social intelligence as its own entity was first described by E.L. Thorndike in 1920 and was defined as the "ability to understand and manage people," (Thorndike & Stein, 1937, p. 275). Since then, there has been a growing body of research geared towards understanding social intelligence, the components that comprise this construct, and its applications and influences. Ford and Tisak (1983) summarized the varying conceptual definitions of social intelligence, asserting that previous research defined this construct using one of the following three criteria: social information processing skills (e.g., understanding of social situations, decoding nonverbal actions or cues), behavioral outcomes, or simply by what skills are being measured by a test of social intelligence. In this case, behavioral outcomes would be the achievement of specific social goals like making friends. In fact, Ford and Tisak (1983) argued that social intelligence could best be conceptualized by these behavioral outcomes. Other researchers have mirrored this view. Specifically, Kaukiainen et al., (1999) used behavioral criterion to define social intelligence via peer estimations. Björkvist and colleagues (2000) presented yet another alternative definition of social intelligence, asserting that it is comprised of both cognitive and behavioral components in addition to perception.

Despite varying definitions, social intelligence seems to be best explained as a multidimensional construct encompassing 1) social information processing, 2) social skills, and 3) social awareness (Silvera, Martinussen, & Dahl, 2001). Using confirmatory factor analysis (CFA) in two separate studies using a university sample, Silvera and colleagues (2001) were able to determine that this three-factor structure was valid in the assessment of social intelligence. Social information processing captures the cognitive processes that are responsible for encoding information and determining appropriate behavioral responses in a given situation (Li, Fraser, & Wike, 2013) and has been found to have a positive association with relational aggression (Andreou, 2006). Social skills capture an individual's ability to successfully engage in social behaviors, whereas social awareness is more specific to the engagement and understanding of what happens in social situations (Delič, Novak, Kovačič, & Avsec, 2011). Findings have been mixed concerning the exact relationship of these constructs with relational aggression. For instance, social information processing has been found to have a positive relationship with relational aggression (Andreou, 2006); it has also been proposed that individuals may engage in relational aggression because of deficits or biases, particularly related to social information processing (Baily & Ostrov, 2008; Crick & Dodge, 1996). Specifically, it has been found that reactive relational aggression is associated with hostile attribution biases and inadequate social skills (Arsenio & Lemerise, 2001), although other studies have failed to find that relational aggression predicts hostile attribution biases (Godleski & Ostrov, 2010). Moreover, in the child literature, research has indicated that proactive relationally aggressive children associate proactively aggressive tactics with positive outcomes or rewards (Crick & Dodge, 1996). A

study conducted by Werner and Hill (2010) also found support for the role social information processing plays in children's encoding and interpretation of others' actions and their subsequent response choice. Despite these findings, as Pettit, Lansford, Malone, Dodge, and Bates (2010) emphasize, there is minimal research concerning the contextual and developmental factors of social information processing in emerging adulthood. Additionally, research examining social information processing in the context of relational aggression is overall limited (Werner & Hill, 2010).

A positive association between social skills and relational aggression has also been found, such that higher social skills have been associated with individuals who use relational aggression. Also, these theories suggest that these individuals may in fact be more effective at using relational aggression (Puckett, Aikins, & Cillessen, 2008). However, as with social information processing, some theories have suggested that aggressive individuals may also possess social skills deficits (Arsenio & Lemerise, 2001), which could have implications for relational aggression. Lastly, findings are limited regarding specific examinations of social awareness and relational aggression. Nonetheless, individuals who have an ability to accurately understand social situations and additionally recognize their influence in them, may also be able to effectively manipulate these types of situations, perhaps through relationally aggressive means (Andreou, 2006; Loflin & Barry, 2016). Given their unique associations to relational aggression, these three constructs are expected to provide the multidimensional framework that appears to be necessary to adequately assess social intelligence.

When considering relational aggression and social intelligence, other studies have found an association between the latter construct and indirect aggression in adolescents (Björkvist et al., 2000; Kaukiainen et al., 1999). Indirect and relational aggression are similar in terms of the covert manipulative tactics employed (e.g., gossiping, peer exclusion). However, the term indirect aggression is used to emphasize strictly covert uses of aggression, like pretending to be hurt to make someone feel bad, whereas relational aggression is specifically used to harm or manipulate relationships, which is usually done through covert means as well (Archer & Coyne, 2005). Thus, it appears that the distinction between these forms of aggression lies within the goal or intent (e.g., specificity to relationships) behind the aggressive act, and that findings for indirect aggression could have applicability to relational aggression research.

Within the context of emerging adulthood, social intelligence and its components may still be an important factor. In order to successfully manipulate others in an advantageous way, one must first be able to understand the relationships themselves. Specifically, an individual must first develop the social and cognitive skills necessary to read social cues and to understand indirect, and most likely relationally, aggressive techniques in order to engage in these forms of aggression (Björkvist et al., 2000; Kaukiainen et al., 1999). This suggests, then, a developmental view of relational aggression wherein the development of relationally aggressive strategies is associated with older age groups (Björkvist, Lagerspetz, & Kaukiainen, 1992). Further support of this view has been found, with evidence demonstrating that social competence (i.e., intelligence) increases during the late teens and early twenties before becoming more stable (Hawkins, Letcher, Sanson, Smart, & Toumbourou, 2009). Hence, as emerging adults' social understanding

increases, their understanding of social and interpersonal relationships and how to manipulate these may also increase. Thus, the furthered development of social intelligence may facilitate relational aggression during this period.

Björkvist and colleagues (2000) suggested that adolescents who possess higher levels of social intelligence may choose behaviors, and consequently methods, to reduce conflicts that are based on the level of harm that these behaviors may cause (i.e., peaceful conflict resolution posing the least amount of risk or harm, then indirect aggression, with verbal and physical aggression carrying the highest risk or harm). Because it is aimed at damaging relationships through more indirect means, relational aggression may be more common in socially intelligent individuals because, similar to individuals who engage in indirect aggression, they have better capability to read social cues (Björkvist et al., 2000). However, because the relationship between social intelligence and relational aggression is imperfect, it is likely that additional mechanisms help explain this relationship. Social intelligence may not be the cause of relational aggression, rather it has been suggested that it is more of a tool that can be utilized to carry out aggressive as well as prosocial behaviors (Kaukiainen et al., 1999). Furthermore, studies have suggested that empathy may be an important factor in determining an individual's utilization of relational aggression in social situations. Evidence suggests that as age increases, empathy also increases (Björkvist et al., 2000). In fact, one study examining the development of social cognitive functioning from adolescence to young adulthood found that perspective taking, a key component of empathy, increased from one developmental period to the next (Eisenberg, Cumberland, Guthrie, Murphy, & Shepard, 2005). As with social intelligence, this supports the

concept of empathy as a developmental construct, which has implications for the likelihood that relational aggression is used among emerging adults.

Empathy's Role in the Relationship Between Social Intelligence and Relational Aggression

Broadly, empathy refers to the ability to understand and relate to the experiences of another person (Davis, 1980). This construct can be further divided into two distinct factors that encompass an affective aspect of empathy (i.e., empathic concern/distress) and a cognitive aspect (i.e., perspective taking). Whereas perspective taking is defined as the awareness and the ability to understand others' emotions, empathic concern is the vicarious experience of an emotion that is specific to another's emotional response (Van der Graaff et al., 2013).

Empathy has been of interest in the aggression literature, both for direct and indirect aggression. For instance, Mayberry and Espelage (2007) suggested that for physical aggression, the cognitive component of empathy may facilitate understanding another's perspective whereas affective empathy may play a role in the interpretation of social cues as significant. Previous research has also examined empathy's relationship to indirect aggression, with findings indicating a negative relationship between indirect aggression and overall empathy among adolescents (Björkvist et al., 2000; Kaukiainen et al., 1999). As previously stated, indirect and relational aggression are extremely similar constructs. In fact, in their review, Archer and Coyne (2005) used the term "indirect aggression" as a universal title for covert aggressive behaviors, even when these were applied to relationships. Based on the present overlap between indirect and relational aggression, these findings may also provide insight into the potential trajectory of relational aggression and empathy. Despite this, empathy's role in relational aggression is

unclear. Relational aggression is aimed at relationships, which connotes a level of intimacy between the aggressor and victim, as in the case with friendships. Given this potential level of intimacy, empathy may be especially influential for the use of relational aggression in that individuals would be even less likely to engage in this form of aggression because of their implied emotional connection with the target person. On the other hand, the picture becomes less clear when the components of empathy are examined separately. Specifically, findings are mixed for the contributions of perspective taking and empathic concern to relational aggression in both adolescents and emerging adults. For instance, Batanova and Loukas (2014) found no significant association between the components of empathy and relational aggression in adolescents. In the emerging adult literature, Loudin, Loukas, and Robinson (2003) found that only perspective taking was negatively associated with relational aggression.

When examining factors associated with the functions of aggression (i.e., proactive versus reactive), the picture becomes more complicated. Research conducted with adolescents involved in *physical* aggression has demonstrated that those who are more proactively aggressive possess better perspective taking abilities than their reactively aggressive peers (Sutton, Smith, & Swettenham, 1999). Additionally, reactive aggression has been linked to hostile attribution biases across age groups (i.e., children, adolescents, and emerging adults; Murray-Close et al., 2010; Polman, de Castro, Koops, van Boxtel, & Merk, 2007), and it has been proposed that empathy may help reduce these biases by aiding in the understanding of others' emotions (Mayberry & Espelage, 2007). With these findings that the components of empathy function uniquely based on the intention to use aggression, whether it be instrumental or in retaliation, it

is reasonable to suggest that the same pattern of associations would occur for relational aggression among emerging adults. Specifically, an individual's understanding of how his or her actions would affect another person (and potentially their responses) may be the influence in effectively executing premeditated attacks aimed at injuring another's social status.

It has been theorized that by emerging adulthood, individuals can reconcile multiple viewpoints on a societal level (i.e., outside of close relationships) and the understanding that successful interpersonal relationships require an appreciation for both the self and others' perspectives (Lapsley & Woodbury, 2016). As social cognition becomes more developed in emerging adulthood, and thus the cognitive capacity for perspective-taking and understanding others' emotional responses (Smits et al., 2011), empathy may become a more important factor in determining how relational aggression is utilized during this developmental period. Additionally, the components of empathy may not only be differentially associated with relational aggression, as other studies have found, but this relationship may also be dependent on the function of aggression. Thus, an aim of the present study is to further the understanding of the relationship between the factors of empathy and relational aggression as a whole and separately by the function of aggressive behaviors.

Social intelligence is a construct that has been connected to both indirect (Björkvist et al., 2000; Kaukiainen et al., 1999) and relational aggression (Loflin & Barry, 2016). Within the general aggression literature, research has examined the implications of social intelligence and empathy, particularly one's perceived ability to engage in accurate social information processing. Yet, few studies have examined this within the context of relational aggression (Werner & Hill,

2010), and those that have resulted in mixed findings concerning the role that social information processing plays (Godleski & Ostrov, 2010; Linder, Werner & Lyle, 2010). It may be that the components of empathy work together within social information processing to facilitate the reading and interpretation of social cues and an understanding of the perspective of others, which may also be the case for relational aggression. Illustratively, combined with social skills and social awareness, an individual who possesses perspective taking skills but who misinterprets social cues due to poorer empathy may react with relationally aggressive tactics. Accordingly, whether or not socially intelligent individuals engage in relational aggression may depend on their level of empathic functioning, such that individuals who have a lower capacity to consider others' emotions and/or take on others' perspectives, may be more likely to engage in relationally aggressive behaviors to manage peer relationships. Conversely, increased empathy may weaken the relationship between social intelligence and relational aggression. Given these potential associations, empathy may serve as a moderator to the social intelligence and relational aggression relationship.

The Present Study

Although studies have focused on potential causes and implications of relational aggression in emerging adulthood, no studies were found that focus explicitly on the relationship between social intelligence and relational aggression in this developmental period. In addition, more research is needed to better understand how the components of social intelligence and empathy individually predict relational aggression, particularly social awareness. Furthermore, despite previous findings supporting empathy's direct role in indirect aggression (Björkvist et al.,

2000; Kaukianen et al., 1999) and relational aggression in adolescence (Batanova & Loukas, 2014) and emerging adults (Loudin et al., 2003), no studies were found that uniquely examine the potential moderating role empathy and its respective components may play with social intelligence and relational aggression, specifically among emerging adults. The aim of the present study is to examine empathy's potential role as a moderator to the relationship between social intelligence and relational aggression, with the goal that this may help explain why not all socially intelligent emerging adults are relationally aggressive despite evidence of a positive association between these two constructs. First, it is hypothesized that all components of social intelligence will be positively associated with reactive and proactive relational aggression. Second, a negative relationship is expected between proactive and reactive relational aggression and both empathic concern and perspective taking. Lastly, it is anticipated that empathy will moderate this relationship such that at higher levels of empathic concern and perspective taking, the relationship between relational aggression and each social intelligence construct becomes weaker. When empathy is lower, it is expected this relationship will be stronger. Thus, it is proposed that lower reported empathy will be a predictor of the relationship between social intelligence and both proactive and reactive relational aggression.

Method

Participants

The sample consisted of 562 emerging adults (420 females, 138 males) ranging from ages 18 to 25 ($M = 19.74$ years, $SD = 1.49$) who were enrolled in undergraduate psychology classes at Auburn University. Two participants identified as transgender (0.4%). The sample was primarily White (89%), whereas 7.8% identified as Black or African American, 4.8% identified as Asian, and 2.1% identified as American Indian or Alaska Native. Only 3.7% ($n = 21$) identified as Hispanic or Latino. The majority of participants identified as heterosexual ($n = 527$, 93.8%).

Procedure

This study was approved by the Institutional Review Board at Auburn University. Questionnaires for this study were administered online via Qualtrics. Participants enrolled in the study via the Psychology Department Research Participation website. To participate, participants must have been between 18 and 25 years of age. Participants were presented with an information letter prior to answering survey questions, which included the age criteria and explained the proposed study, the voluntary nature of the study, and confidentiality. Participants then had to select whether they accepted the terms of the information letter and thereby agreed to participate in the study. Participants who declined were redirected out of the study.

Materials

Items and rating scales for each measure are listed in Appendix A.

Self-Report of Aggression and Social Behavior Measure (SRASBM; Linder, Crick, & Collins, 2002; Morales & Crick, 1988). The SRASBM is a self-report measure of relational

aggression and victimization developed to assess relational aggression in adulthood. The questionnaire consists of 56 items that are rated using a 7-point Likert scale (1 being “*not at all true*” and 7 being “*very true*”). Within the measure are 11 total relational aggression items assessing both peer-directed reactive (e.g., *When someone hurts my feelings, I intentionally ignore them*) and proactive (e.g., *I have threatened to share private information about my friends with other people in order to get them to comply with my wishes*) relational aggression (5 and 6 total items respectively). For the Proactive and Reactive subscales, mean scores were calculated by averaging the responses. For all scales, higher scores indicated higher levels of relational aggression. Consistent with previous studies (Murray-Close, 2011), two composites were created for this measure: Proactive Relational Aggression ($\alpha = .82$), and Reactive Relational Aggression ($\alpha = .80$).

Tromsø Social Intelligence Scale (TSIS; Silvera et al., 2001). The TSIS is a 21 item self-report measure assessing one’s effectiveness and ability to manage social situations and identify social cues. The English version of this scale has been shown to have the same three factor structure of the original Norwegian scale that appears to capture social intelligence (Grieve & Mahar, 2011). The TSIS consists of 3 subscales: Social Information Processing (SIP; e.g., *I can predict how others will react to my behavior*; $\alpha = .90$), Social Skills (SS; e.g., *I fit in easily in social situations*; $\alpha = .80$), and Social Awareness (SA; e.g., *People often surprise me with the things they do*; $\alpha = .82$). Respondents rated their perceived level of social intelligence on a 7-point Likert scale from “*Completely disagree*” to “*Completely agree*.” For each subscale,

composite scores were calculated by averaging scores across respondents, with higher scores indicating greater levels of social intelligence.

Interpersonal Reactivity Index (IRI; Davis, 1980). The IRI is a 28 item self-report measure of empathy and consists of four subscales that has been validated as a measure of empathy in adult samples (White, Gordon, & Guerra, 2015). Each subscale measures a different proposed factor of empathy. Consistent with previous research (Loudin et al., 2003; White et al., 2015), only the two subscales assessing empathic concern and perspective taking were used. Both subscales were measured using a 5-point Likert scale from “*Does not describe me well,*” to “*Describes me very well.*” The perspective taking subscale (PT; e.g., *I believe that there are two sides to every question and try to look at them both;* $\alpha = .81$) assesses the cognitive component of empathy, such as the ability to take on another’s point of view. The empathic concern subscale (EC; e.g., *I am often quite touched by things that I see happen;* $\alpha = .83$) taps into the emotional component of empathy in the form of feeling an emotional connection to another person. Mean scores for each subscale were calculated, with higher score indicating higher levels of perspective taking and empathic concern.

Data Analysis

Preliminary analyses included descriptive and correlational analyses conducted with each of the proposed constructs. Subscale scores were calculated by averaging scores across items that comprise each subscale. Based on this inability to calculate social intelligence and empathy composite scores, each subscale of the Tromsø Social Intelligence Scale and Interpersonal Reactivity Index was entered into the model as individual predictors. Correlations were also

examined for both the social intelligence and empathy subscales to test for significant relationships, as the literature indicates that the subscales of both the Tromsø Social Intelligence Scale and the Interpersonal Reactivity Index are not intercorrelated, and thus distinct indicators of the latent constructs these measures assess (Davis, 1980; Silvera et al., 2001). To test whether empathy moderates the relationship between social intelligence and each type of relational aggression, multiple regression analyses were conducted using Mplus (Version 8; Muthen & Muthen, 2018) with Maximum Likelihood (ML) as the estimator, as the data was not severely non-normally distributed (i.e., skewness less than ± 3 and kurtosis less than ± 10 ; Kline, 2016). Two separate models were run, with the proactive and reactive relational aggression subscales as criteria. For each model, the predictors and moderator interactions were entered as follows: Social Intelligence, Social Skills, Social Awareness, Perspective Taking, Empathic Concern, Social Intelligence x Perspective Taking, Social Intelligence x Empathic Concern, Social Skills x Perspective Taking, Social Skills x Empathic Concern, Social Awareness x Perspective Taking, and Social Awareness x Empathic Concern. All predictors were mean centered in SPSS after assessing for outliers and before computing the interaction terms. This was accomplished by subtracting a subscale's mean score from each of the respective subscale's raw values, thus resulting in means of zero for all predictors. Slope analyses were used to probe the significant moderator effects at low and high levels ($-/+1$ SD) of empathy to test the relationship between social intelligence and relational aggression at conditional degrees of empathy according to the procedure outlined in Holmbeck (2002). All subscales, moderator terms, and interactions terms were also created in SPSS prior to input into Mplus.

Missing data. Twenty participants were removed from analyses for missing over 50% of the data for the variables examined. To examine nature of missing data, a Missing Value Analysis (MVA) was conducted in SPSS for all variables and did not reveal any frequent missing data patterns. Additionally, Little's test comparing missingness across all subscale variables was not significant ($\chi^2 = 187929$, $df = 1777$, $p \geq .05$; Little, 1988), and the data was considered to be missing completely at random (MCAR). Further analysis did not identify any missing data for the variables of interest. Nonetheless, Full Information Maximum Likelihood (FIML) was used in Mplus to allow estimation of parameters for all cases (Newman, 2009).

Outliers. All participants were from the intended population (i.e., emerging adults between the ages of 18 and 25). In this study, univariate outliers were identified based on interquartile ranges. Specifically, the interquartile range (IQR) was defined as the difference between the 75th and 25th percentile, which was subsequently multiplied by two in order to calculate two interquartile ranges (2IQR) for each variable. High outliers were defined as values that exceeded 2IQR above the median for each subscale variable, whereas low outliers were values that fell 2IQR below the median for each subscale variable. This procedure identified high outliers for all relational aggression subscales and the Social Skills subscale of the TSIS. In order to retain all cases for subsequent analyses, high outlier values were recoded using the median plus 2IQR value, with all other values remaining the same.

Multivariate outliers were assessed using Mahalanobis distance. A linear regression was conducted with a dummy variable (i.e., participant ID) as the outcome variable and all subscales from the SRASBM, TSIS, and IRI as predictors. The maximum Mahalanobis distance value

($D^2_M = 68.25$) was compared to the chi-square critical value for eight degrees of freedom (i.e., the number of predictors) at $p < .001$ ($\chi^2 = 26.12$). Twelve cases met the criteria for multivariate outliers based on this analysis after fencing in univariate outliers. As these multivariate outliers were determined to be from the intended population (i.e., emerging adults) and were not due to error (e.g., incorrect data entry), these cases were left in for subsequent analyses (Cohen, Cohen, West, & Aiken, 2003).

Results

Descriptives

Descriptive statistics for uncentered variables are presented in Table 1 for the overall sample. The distribution of self-reported relational aggression was positively skewed on both the Proactive and Reactive subscales of the SRASBM and indicated relatively low levels of reported relational aggression in this sample. However, the skewness and kurtosis of these variables was not considered severely non-normal as each skewness value was not plus or minus three and kurtosis was not plus or minus eight (Kline, 2016).

Correlational Analyses

Correlations between variables are presented in Table 2. All subscales from the Tromsø Social Intelligence Scale and the Interpersonal Reactivity Index were positively related ($r = .26$ to $r = .50$). Moreover, the results indicated a moderate correlation between the Social Information Processing subscale of the Tromsø Social Intelligence Scale and the Perspective Taking subscale of the Interpersonal Reactivity Index ($r = .44, p = .01$). Thus, an expected similarity between these two subscales is present; yet, given the magnitude of the correlation is far less than perfect, they do appear to be tapping into different aspects of perspective taking. This is consistent with literature that indicates that these subscales are distinct constructs and are therefore considered unique predictors of relational aggression (Davis, 1980; Silvera et al., 2001). Additionally, both proactive and reactive relational aggression were negatively associated with the all the factors of social intelligence and empathy.

Moderator Analyses

To test the moderating effect of empathy on the relationship between social intelligence and relational aggression, multiple regression analyses were conducted for two separate models predicting to proactive relational aggression and reactive relational aggression using Mplus. Results of the regression analyses can be found in Tables 3 and 4. For reactive relational aggression (Table 3), negative main effects were evident for all subscales of the Tromsø Social Intelligence Scale and the Interpersonal Reactivity Index, with social information processing emerging as the only positive predictor. For proactive relational aggression, two significant interactions were found (Table 4). Social awareness was associated with a decrease in proactive relational aggression, with empathic concern moderating this relationship. A positive relationship between social information processing and proactive relational aggression was also evident, with empathic concern again moderating this association.

Slope Analyses

Post-hoc probing of the moderator effects was conducted in Mplus to assess the significant interactions between social awareness, social information processing, and proactive relational aggression at high and low levels of empathic concern. As Figure 1 demonstrates, there appears to be an overall negative association between social awareness and proactive relational aggression at both levels of empathic concern. In other words, the results indicate that the more socially aware an individual is, the less they report proactive relational aggression. In addition, this relationship is stronger at low levels of empathic concern. Figure 2 depicts the interaction between social information processing and proactive relational aggression at varying levels of empathic concern. In contrast to the previous relationship, there was a positive association

between social information processing and proactive relational aggression, but only at higher levels of empathic concern. At low levels of empathic concern, the slope was not significant despite there being a strong association between social information processing and proactive relational aggression.

Sensitivity Analyses

Since predictor variables were moderately correlated (see Table 2) and there were a large number of predictors entered into the regression models (i.e., 11 in total), difficulties can arise in interpreting beta weights (Courville & Thompson, 2001; Nimon, 2010). Furthermore, in the overall simultaneous entry regression models for proactive and reactive relational aggression, the main effect for social information processing was positive, contrary to the negative directionality of the bivariate correlation, which can indicate instances of multicollinearity (Kline, 2016). Given that collinearity between predictor variables was present, two values were obtained to determine if this was to an extreme degree: the variance inflation factor (VIF) and the tolerance (TOL) value. Extreme and problematic multicollinearity is present when the VIF is greater than 10 and the TOL value is less than .10 (Kline, 2016). For both the proactive and reactive relational aggression models, the VIF and TOL values were within these guidelines and therefore did not suggest extreme collinearity between predictors. Thus, while collinearity does exist, it is not to a degree that would yield inaccurate regression coefficients estimates or greatly compromise interpretability.

Although multicollinearity did not appear to pose a significant problem, sensitivity analyses were conducted to further examine the change in directionality between social

information processing and both forms of relational aggression (i.e., proactive and reactive) across the regression models and the correlations. The subscales of the Tromsø Social Intelligence Scale and the Interpersonal Reactivity Index, in addition to their respective interaction terms, were entered individually into separate simplified regression models. When only social information processing, empathic concern, and the interaction term were entered into a simplified regression model for both proactive and reactive relational aggression, the effects were contrary to those found in the models with all predictors entered simultaneously. Specifically, in the simplified model that examined empathic concern with social information processing and proactive relational aggression, the main effect for social information processing and proactive relational aggression became negative ($b = -.06, se = .03, p = .06$), which was consistent with the bivariate correlation. Additionally, the interaction between social information processing and empathic concern was no longer significant ($b = .06, se = .04, p = .09$). The effects found for the relationship between social awareness and proactive relational aggression with empathic concern as a moderator were consistent with the simultaneous entry model, with a significant negative main effect ($b = -.23, se = .03, p < .001$) and a significant interaction ($b = .13, se = .04, p = .001$).

Based on these results, when the predictors are examined in the sensitivity analyses, the individual subscales of social intelligence and empathy have a negative association with proactive relational aggression, consistent with the bivariate correlations. In addition, associations for social information processing and the interaction term with empathic concern were nonsignificant. However, when examined simultaneously with the other predictors, social

information processing had a positive and significant association with proactive relational aggression, and the interaction between social information processing and empathy was significant. Based on differences in the results from the overall simultaneous entry model to those of the simplified models with fewer predictors, it is likely that the predictors share variance in the overall regression model that is reflected in the differing directionality of associations; therefore, the overall results should be interpreted with caution (Nathans, Oswald, & Nimon, 2012).

Discussion

The present study examined the influence of empathy as a moderator of the relationship between relational aggression and social intelligence. Correlational analyses revealed that empathic concern and perspective taking were negatively associated with both forms of relational aggression. This is consistent with the hypotheses and existing literature, which support empathy as a mitigating factor in aggression use (Bjorkvist et al., 2000; Kaukiainen et al., 1999). On the other hand, correlations between components of social intelligence (i.e., social information processing, social awareness, and social skills) and relational aggression were contrary to what was expected, in that they were also negatively associated with both forms of aggression. Thus, increases in both social intelligence skills and empathy (i.e., empathic concern and perspective taking) appear to suggest a decrease in relational aggression overall for the current study.

The regression analyses also yielded expected main effects for most of the social intelligence and empathy constructs. Specifically, the relationships with social awareness, perspective taking, and empathic concern were all negatively associated with reactive and proactive relational aggression. Only for the proactive relational aggression model was the regression coefficient for social skills not significant; however, it was still negative. Thus, these findings again are consistent with prevailing literature that increases in factors associated with social intelligence and empathy are indicative of decreases in relational aggression. Further, a significant and positive main effect was found for social information processing on reactive relational aggression. Conversely, there was no significant main effect for social information

processing predicting proactive relational aggression. Thus, overall, empathy appears to play a protective role for relational aggression, especially at lower levels of social awareness.

As expected, the findings indicated that empathy did moderate the relationships between specific components of social intelligence (i.e., Social Awareness and Social Information Processing) and relational aggression, but only for the proactive relational aggression type. Furthermore, only the empathic concern subscale of empathy was found to be a significant moderator. Thus, the hypothesis that empathy would moderate the relationship between social intelligence and relational aggression was partially supported. Based on these results, it appears that some of the constructs comprising empathy may have a greater influence than others, as perspective taking was not found to be a significant moderator and empathic concern did not significantly moderate the associations between social intelligence constructs for all forms of relational aggression (e.g., reactive). However, perspective taking was found to have a significant negative main effect for both relational aggression scales, consistent with previous literature (Loudin, Loukas, & Robinson, 2003). Lastly, the Social Skills subscale was not found to be consistently associated with relational aggression in this study, which was again contrary to the expected significant relationship between all social intelligence subscales and relational aggression.

With respect to the specific moderating effects, empathic concern moderated the relationships between both social awareness and social information processing and proactive relational aggression. However, caution should be exercised in interpreting these moderating effects as they did not hold up in the sensitivity analyses, specifically for social information

processing. Social awareness was negatively associated with proactive relational aggression regardless of the level of the moderator, meaning as social awareness increased, reports of proactive relational aggression decreased at both high and low levels of empathic concern. In addition, based on the correlations and main effects, lower social awareness was more strongly associated with proactive relational aggression compared to higher social awareness. Thus, for this model, the hypotheses were partially supported. When the relationship between social information processing and proactive relational aggression was further examined, the results presented a different picture. Higher empathic concern was more strongly associated with lower proactive relational aggression, which again suggests a protective effect for empathic concern. However, the relationship between social information processing and proactive relational aggression was significantly positive at high levels of empathic concern. For this model, the hypotheses were again partially supported, as lower levels of empathetic concern yielded a stronger association with proactive relational aggression, but a significant and positive association between social information processing and proactive relational aggression was found at high levels of empathic concern.

Based on the results of the present study it appears that an ability to share others' affective experiences (i.e., empathetic concern; Davis, 1980) may be an important protective factor in reducing proactive relational aggression in some contexts. Social awareness was, in general, negatively associated with proactive relational aggression. However, social awareness was more strongly associated with proactive relational aggression at low levels of empathic concern. On the one hand, social awareness encompasses not only an understanding of another's

actions, but also and understanding of one's own actions in a given social situation (Delič et al., 2011; Silvera et al. 2001). On the other hand, social information processing is more representative of the *interpretation* of social actions and is involved in choosing behavioral responses (Crick & Dodge, 1996; Li, Fraser, & Wike, 2013). Therefore, social awareness may not reflect actual goal driven behaviors that are more typically associated with social information processing and proactive relational aggression. Additionally, the presence of empathy may help individuals avoid behaviors that cause harm to others, as they possess both a social and affective understanding of their actions and subsequent consequences. Interestingly, as the perception of one's ability to accurately interpret social situations increases (i.e., social information processing), so may the likelihood of engagement in proactive relational aggression, with higher empathic concern potentially facilitating this to some extent. Thus, in this situation, a better understanding of others' emotions may contribute to more accurate interpretations of social cues and allow one to be better able to determine behaviors that could cause others harm. Furthermore, the findings indicate that this may even be the case when social awareness is lower, further supporting empathy's role as an influential and potentially protective factor, even for individuals who may be more inclined to engage in aggressive behaviors (e.g., less socially adept).

Although a positive association between social information processing and relational aggression was found at high levels of empathic concern, further examination of the results of the current study impact the validity of these findings. Specifically, there were inconsistencies in the significance of the relationship between social information processing and relational

aggression in general between overall regressions and when these constructs were examined in more simplified models (i.e., significant versus nonsignificant, respectively). In addition, as previously noted, social information processing did not have a significant association with proactive relational aggression in the simplified model. Therefore, the applicability of the following conclusions should be taken with this in mind. Nonetheless, findings from numerous studies support the current finding for a positive association between social information processing and proactive relational aggression, in that social information processing has been found to predict relational aggression use across developmental periods (Goldstein, Chesir-Teran, & McFaul, 2008; Heilbron & Prinstein, 2008). However, it may be that this association is due to deficits or inaccuracy in interpreting social information. As Crick and Dodge (1996) theorized with their social information processing model, this relationship may occur because individuals associate proactively-aggressive tactics with positive outcomes or rewards, and thus engage in these behaviors. Furthermore, in the context of social information processing, children and young adults who believe that relational aggression is acceptable have been found to have an increase in future relational aggression use (You & Bellmore, 2014; Werner & Hill, 2010). In the context of empathy, there have been mixed theories regarding proactively aggressive youths' empathic abilities. Specifically, Arsenio and Lemerise (2001) discussed that some authors have proposed these individuals have a lack of empathic concern, but not perspective taking, whereas others have argued that proactively aggressive individuals have intact affective empathy but may consciously or unconsciously minimize their affective reactions. Although the results of the current study do in fact demonstrate that lower affective empathy is associated with increased

proactive relational aggression overall, increased social information processing combined with higher empathic concern yields a unique result. Thus, perhaps these findings are more consistent with studies that suggest that individuals who utilize proactive relational aggression do in fact have intact social information processing abilities and possess adequate affective empathy but may possess underlying cognitive biases that result in higher relational aggression (e.g., normative beliefs; Bailey & Ostrov, 2008; You & Bellmore, 2014).

Consistent with previous theories that suggest that emerging adults may employ relational aggression as a method of achieving personal goals via manipulation of their interpersonal relationships (Nelson, Springer, Nelson, & Bean, 2008), there are likely other situations in which empathy is associated with aggressive behavior. One such example may be situations in which the personal goal is protection and aggression is used to help another individual. Specifically, Buffone and Poulin (2014) found in both self-report and experimental studies of empathy and aggression that empathy was predictive of aggressive responding towards someone else on another's behalf when that person appeared to be or was reported to be in distress. More interestingly, this study found that this pattern of aggression occurred for both close others (e.g., loved ones) and strangers, with and without provocation. Although they did not examine relational aggression specifically, the findings of Buffone and Poulin (2014) are noteworthy when considering the contexts in which individuals may use aggressive tactics, particularly instrumentally, such as when they are deemed an appropriate response or perceived to be helpful (e.g., excluding one peer who was perceived to wrong another peer). Furthermore, this view seems to suggest that individuals are also able to interpret someone's behavior as

aggressive and then make decisions based on that interpretation (i.e., social information processing), particularly how to utilize aggression in a way that will still result in a perceived helpful outcome. Therefore, the results of the current study appear to be consistent with the findings of Buffone and Poulin (2014), in that there may be instances in which aggression used in a goal-directed, instrumental way (i.e., proactively) are in part facilitated by higher empathy and intact social information processing abilities.

Strengths and Limitations

There are several strengths of the present study. First, it is one of the few studies that examines social intelligence, empathy, and relational aggression together, and is the only known study to investigate these constructs within the developmental period of emerging adulthood. Second, it expands previous research that explores the association between empathy and relational aggression (e.g., Batanova & Loukas, 2014), to include the examination of the moderating role of empathy in the relationship between social intelligence and relational aggression. Given this, the current study was able to aid in furthering the understanding of relational aggression in emerging adulthood by demonstrating that empathy plays a role in explaining the relationship between some constructs of social intelligence and proactive relational aggression. By examining these relationships in emerging adulthood, these findings may provide guidance to researchers developing interventions in adolescence in order to decrease or limit the progression of relational aggression across developmental periods by focusing on associated factors (e.g., empathy) during a particularly sensitive developmental period. For example, if empathy does not reduce the use of relational aggression in emerging

adulthood under all circumstances, then adolescent interventions may need to incorporate other prosocial skills to mitigate future relational aggression. Lastly, this study consisted of a large sample and was able to utilize robust approaches for handling missing data and moderation analyses.

Despite its strengths, the present study had a number of limitations. First, the multiple regression analyses were conducted with a large number of correlated predictors. For instance, contrary to hypotheses, perspective taking was not found to be a significant moderator, potentially because it was highly correlated with empathic concern. Although subsequent analyses did not suggest extreme collinearity between the constructs, further examination of the predictors and outcomes from simpler models yielded additional discrepant results, specifically for the relationship between social information processing and proactive relational aggression and the moderation effect with empathy. Based on these differences, the interpretability of the current findings should be approached with caution. In addition, the sample was comprised of college students and was relatively homogeneous, in that the participants were predominately White and female. Although prior research has shown relational aggression to be more prevalent in females (Murray-Close et al., 2010), the generalizability of the present findings is unclear. In order to further ascertain the true nature of the effects found, this study should be replicated in a more representative sample. Participants also reported relatively low levels of relational aggression. One explanation for this could be that relational aggression, while still utilized in emerging adulthood, becomes a less preferred way of engaging with peers or is engaged in less frequently than in earlier developmental periods. Furthermore, participants may have attempted

to respond in a socially desirable way as to underreport the extent to which they utilize relationally aggressive tactics. An alternative explanation may be that respondents may not have viewed their behaviors as consistent with current conceptualizations of relational aggression or may not readily recall or recognize their aggressive behaviors. Heilborn and Prinstein (2008) highlight that socially aggressive behavior is more difficult to define, as what determines “aggression” is reliant upon the social context. In fact, they propose that behaviors traditionally identified as relationally aggressive (e.g., gossiping, peer exclusion) may demonstrate less malicious intents and are perhaps normative social methods of creating intimacy between friends or setting boundaries between social groups.

Methodology may have also contributed to the present findings. The present study used a cross-sectional design, and consequently could not examine the relationship between study variables over time to determine stability of associations or bi-directionality. Studies have found evidence for the stability and growth of empathic concern and perspective taking into late adolescence (Van der Graff et al., 2013) and emerging adulthood (Smits et al., 2011). Although the general trend is that empathy increases with age, the stability of empathy into adulthood is still debated, as most research is conducted with children and adolescence and findings beyond adolescence are mixed (O’Brien, Konrath, Grühn, & Hagan, 2013). Conversely, there is limited research on the trajectory of relational aggression beyond adolescence, but findings suggest that relational aggression is commonly used in peer interactions in young adults (Werner & Crick, 1999). Furthermore, one’s social understanding becomes more stable over time, with a growth occurring during the late teens and early twenties (Hawkins et al., 2009). Future research

utilizing longitudinal designs would allow for a more specific understanding the directionality and reciprocal effects of these constructs. For instance, engaging in or experiencing more relational aggression could lead to lower empathy over time. Examining how these constructs relate longitudinally would provide a more comprehensive picture of the nature of the associations included in the present study. Also, all data was obtained via self-report measures, which are more vulnerable to socially desirable responding and shared method variance (Vachon, Lynam, & Johnson, 2014). Peer nomination, in conjunction with self-reports, is an established method for gathering information about engagement in relational aggression (Crick & Grotpeter, 1995). However, it is common for college classrooms and social organizations to be comprised of a large number of students where the possibility for individuals to form meaningful peer relationships and meaningful appraisals of peers is limited. Therefore, the opportunity to obtain another's perspective about one's effectiveness in engaging in social situations and relational aggression use through peer nominations is likely not feasible. Integrating more real-time data collection methods (e.g., event sampling) for specific respondents and situations could potentially provide a more accurate measure of relational aggression use in a college sample, especially if there is a lag between behavior and report of behavior.

Implications for Future Directions

The present study identifies several areas of future exploration and emphasizes the need for further research on the factors that influence relational aggression in emerging adulthood. Although the results of the present study offer some insight into the role of empathy in relational aggression use, there are likely other constructs that contribute to this relationship. Results of the

current study concerning social awareness are interesting considering research that suggests that indirect aggression use is associated with more developed social intelligence (Björkvist et al., 2000; Kaukiainen et al., 1999), although this theory should be investigated further in relational aggression research. Future research should continue to explore the nuances that make social awareness distinct, particularly when combined with empathic concern. As previously stated, perhaps the nature of social awareness enables individuals to better understand how their actions affect others, with empathic concern further facilitating this understanding. In other words, social awareness may not be influenced by some of the biases consistent with social information processing and may help individuals high in empathic concern view relationally aggressive behaviors negatively (Batanova & Loukas, 2011).

A potentially important component that could not be addressed in the current study is intentions behind relational aggression use, particularly within the context of beliefs and biases associated with social information processing and engagement in more proactive tactics (Loudin, Loukas, & Robinson, 2003). A possible method for examining intentions behind relational aggression use is incorporating vignettes of victimization scenarios into a research design, wherein emerging adults are presented with scenarios and asked questions about how they would respond in hypothesized situations and why they would respond in that manner. Additionally, more research is needed examining the relationship between the different components of relational aggression, as this study suggests that it may differ depending on the type of aggression measured. Along these lines, there are certain situations in which empathy has been positively associated with aggression (e.g., empathy-induced aggressive responses; Buffone &

Poulin, 2014). In light of the current findings, the context in which relational aggression occurs may also provide beneficial information about individuals' motives in using this tactic, such as when aggression is intended to help on someone else's behalf (Buffone & Poulin, 2014). Thus, another future direction for this line of research would be to incorporate situational contexts that are potentially prone to differing levels of aggressive responding.

Moreover, findings of Vachon and colleagues (2014) highlight the need for the distinction between empathic feelings versus empathic responding (e.g., behaviors) and the need for more encompassing definitions and measurements of empathy that include other contributing factors to reducing aggressive responding that may not always involve a *vicarious* affective experience (i.e., empathic concern). For instance, compassion is closely associated with empathy, but is defined as involving a desire or motivation to alleviate another's suffering through action (Goetz, Keltner, Simon-Thomas, 2010). In other words, empathic concern entails an emotional response via someone else's affective experience, whereas compassion encompasses a general desire to engage in behaviors that may reduce another person's distress without necessarily taking on his or her suffering. More specifically, research should continue to examine the relationship between an affective response to someone else's emotional state, either positive or negative, and how this affects one's motivation to act empathetically or compassionately towards others (Singer & Klimecki, 2014), in addition to fleshing out how these factors differ in predictability. Lastly, as highly visible peers (i.e., popular peers) and relational aggression have been found to be positively related in emerging adults (Lansu & Cillessen, 2012), this may provide yet another context in which individuals are motivated to use relational

aggression despite reportedly high empathy, particularly in groups that are extremely socially oriented (e.g., sororities and fraternities).

Another construct that has been examined in the emerging adult literature and found to be associated to relational aggression is normative beliefs (Nelson, Springer, Nelson & Bean, 2008; You & Bellmore, 2014), which have been shown to be positively associated with relationally aggressive behaviors (Bailey & Ostrov, 2008). Specifically, previous research has found connections between normative beliefs of relational aggression and social information processing, such as the belief that relational aggression is an appropriate response in a given social situation (Crick & Dodge, 1996; Goldstein, Chesir-Teran, & McFaul, 2008; You & Bellmore, 2014). However, given the present findings regarding the potential role of empathic concern in relational aggression, future research should also focus on potential relationships between normative beliefs and affective experiences as well. Overall, the current study underscores empathy's role in relational aggression use and provides support for previous theories that relationally aggressive individuals, particularly those that utilize proactive methods, can in fact be socially skilled. Furthermore, when examined specifically with social information processing, empathy may in fact facilitate engagement in proactive relational aggression, perhaps through underlying biases related to normative beliefs and expectancy of positive outcomes. This is an area for future research to extend knowledge of the contextual influences for relational aggression in emerging adulthood.

References

- Andreou, E. (2006). Social preference, perceived popularity and social intelligence: Relations to overt and relational aggression. *School Psychology International, 27*, 339-351.
- Archer, J., & Coyne, S. M. (2005). An integrated view of indirect, relational, and social aggression. *Personality and Social Psychology Review, 9*(3), 212-230.
- Arnett, J.J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469-480.
- Arsenio, W.F., & Lemerise, E.A. (2001). Varieties of childhood bullying: Values, emotion processes, and social competence. *Social Development, 10*(1), 59-73.
- Bailey, C.A., & Ostrov, J.M. (2008). Differentiating forms and functions of aggression in emerging adults: Associations with hostile attribution biases and normative beliefs. *Journal of Youth and Adolescence, 37*(6), 713-722.
- Batanova, M., & Loukas, A. (2014). Unique and interactive effects of empathy, family, and school factors' on early adolescents' aggression. *Journal of Youth and Adolescence, 43*(11), 1890-1902.
- Björkqvist, K., Lagerspetz, K.M.J., & Kaukiainen, A. (1992). Do girls manipulate and boys fight? Developmental trends in regard to direct and indirect aggression. *Aggressive Behavior, 18*(2), 117-127.
- Björkqvist, K., Österman, K., & Kaukiainen, A. (2000). Social intelligence – empathy = aggression?. *Aggression and Violent Behavior, 5*(2), 191-200.

- Boisvert, S., & Poulin, F. (2016). Romantic relationship patterns from adolescence to emerging adulthood: Associations with family and peer experiences in early adolescence. *Journal of Youth and Adolescence*, *45*(5), 945-958.
- Buffone, A.E.K., & Poulin, M.J. (2014). Empathy, target distress, and neurohormone genes interact to predict aggression for others-even without provocation, *Personality and Social Psychology Bulletin*, *40*(11), 1406-1422.
- Cohen, A.O., Breiner, K., Steinberg, L., Bonnie, R. J., Scott, E.S., Taylor-Thompson, K.A.,...Casey, B.J. (2016). When is an adolescent and adult? Assessing cognitive control in emotional and nonemotional contexts. *Psychological Science*, *27*(4), 549-562.
doi:10.1177/0956797615627625.
- Cohen, J., Cohen, P., West, S.G., & Aiken, L.S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahway, NJ: Lawrence Erlbaum Associates, Inc.
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and socio-psychological adjustment. *Child Development*, *66*(3), 710-722.
- Crick, N.R., & Dodge, K.A. (1996). Social information-processing mechanisms in reactive and proactive aggression. *Child Development*, *67*, 993-1002.
- Davis, M.H. (1980) A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, *10*, 85-103.
- Delič, L., Novak, P., Kovačič, J., & Avsec, A. (2011). Self-reported emotional and social intelligence and empathy as distinctive predictors of narcissism. *Psychological Topics*,

20(3), 477–488.

Doumen, S., Smits, I., Luyckx, K., Duriez, B., Vanhalst, J., Verschueren, K., & Goossens, L. (2012). Identity and perceived peer relationship quality in emerging adulthood: The mediating role of attachment-related emotions. *Journal of Adolescence*, 35(6), 1417-1425.

Eisenberg, N., Cumberland, A., Guthrie, I.K., Murphy, B.C., & Shepard, S.A. (2005). Age changes in prosocial responding and moral reasoning in adolescence and early adulthood. *Journal of Research on Adolescence*, 15(3), 325-260.

Ford, M.E., & Tisak, M.S. (1983). A further search for social intelligence. *Journal of Educational Psychology*, 75(2), 196-206.

Godleski, S.A. & Ostrov, J.M. (2010). Relational aggression and hostile attribution biases: testing multiple statistical methods and models. *Journal of Abnormal Child Psychology*, 38, 447-458.

Goetz, J.L., Keltner, D., Simon-Thomas, E. (2010). Compassion: An evolutionary analysis and empirical review. *Psychological Bulletin*, 136(3), 351-374. Goldstein, S. E. (2011). Relational aggression in young adult's friendships and romantic relationships. *Personal Relationships*, 18(4), 645-656.

Goldstein, S.E., Chesir-Teran, D., & McFaul, A. (2008). Profiles and correlates of relational aggression in young adults' romantic relationships. *Journal of Youth and Adolescence*, 37(3), 251-265.

Grieve, R., & Mahar, D. (2011). Can social intelligence be measure? Psychometric properties of

- the tromsø social intelligence scale – English version. *The Irish Journal of Psychology*, *34(1)*, 1-12.
- Gros, D. F., Gros, K. S., & Simms, L. J. (2010). Relations between anxiety symptoms and relational aggression and victimization in emerging adults. *Cognitive Therapy and Research*, *34(2)*, 134–143.
- Hawkins, M. T., Letcher, P., Sanson, A., Smart, D., & Toumbourou, J. W. (2009). Positive development in emerging adulthood. *Australian Journal of Psychology*, *61(2)*, 89-99.
- Heilborn, N., & Prinstein, M.J. (2008). A review and reconceptualization of social aggression: Adaptive and maladaptive correlates. *Clinical Child and Family Psychology Review*, *11(4)*, 176-271. doi: 10.1007/s10567-008-0037-9
- Holmbeck, G.N. (2002). Post-hoc probing of significant moderational and mediational effects in studies of pediatric populations. *Journal of Pediatric Psychology*, *27(1)*, (87-96).
- Kaukiainen, A., Björkqvist, K., Lagerspetz, K. Österman, K., Salmivalli, C. Rothberg, S., & Ahlbom, A. (1999). The relationships between social intelligence, empathy, and three types of aggression. *Aggressive Behavior*, *25(2)*, 81-89.
- Kline, R.B. (2016). *Principles and practice of structural equation modeling* (4th Ed.). New York, NY: The Guilford Press.
- Kosterman, R., Hill, K.G., Lee, J.O., Meacham, M.C., Abbott, R.D., Catalano, R.F., & Hawkins, J.D. (2014). Young adult social development as a mediator of alcohol use disorder symptoms from ages 21 to 30. *Psychology of Addictive Behaviors*, *28(2)*, 348-358.

- Lansu, T.A.M., & Cillessen, A.H.N. (2012). Peer status in emerging adulthood: Associations of popularity and preference with social roles and behaviors. *Journal of Adolescent Research, 27*(1), 132-150.
- Lapsley, D., & Woodbury, R.D. (2016). Social cognitive development in emerging adulthood. In J. J. Arnett (Ed.), *The oxford handbook of emerging adulthood* (pp. 142-159). New York, NY: Oxford University Press.
- Li, J., Fraser, M. W., & Wike, T. L. (2013). Promoting social competence and preventing childhood aggression: A framework for applying social information processing theory in intervention research. *Aggression and Violent Behavior, 18*(3), 357-364.
- Linder, J.R., Crick, N.R., & Collins, W.A. (2002). Relational aggression and victimization in young adults' romantic relationships: Associations with perceptions of parent, peer, and romantic relationship quality. *Social Development, 11*(1), 71-86.
- Loflin, D.C., & Barry, C.T. (2016). "You can't sit with us:" Gender and the differential roles of social intelligence and peer status in adolescent relational aggression. *Personality and Individual Differences, 91*, 22-26.
- Little, R.J.A. (1988) A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association, 83*(404), 1198-1202.
- Loudin, J.L., Loukas, A., & Robinson, S. (2003). Relational aggression in college students: Examining the roles of social anxiety and empathy. *Aggressive Behavior, 29*(5), 430-439.
- Mayberry, M.L., & Espelage, D.L. (2007). Associations among empathy, social competence, & reactive/proactive aggression subtypes. *Journal of Youth Adolescence, 36*(6), 787-798.

- Morales JR, Crick NR. (1998). Self-report measure of aggression and victimization. Unpublished measure. Twin Cities Campus: University of Minnesota.
- Murray-Close, D., Ostrov, J.M., Nelson, D.A., Crick, N.R. (2007). A short-term longitudinal study of growth of relational aggression during middle childhood: Associations with gender, friendship intimacy, and internalizing problems. *Development and Psychopathology, 19(1)*, 187-203.
- Murray-Close, D., Ostrov, J.M., Nelson, D.A., Crick, N.R., & Coccaro, E.F. (2010). Proactive, reactive, and romantic relational aggression in adulthood: Measurement, predictive validity, gender differences, and association with Intermittent explosive disorder. *Journal of Psychiatric Research, 44(6)*, 393-404.
- Murray-Close, D. (2011). Autonomic reactivity and romantic relational aggression among female emerging adults: Moderating roles of social and cognitive risk. *International Journal of Psychophysiology, 80(1)*, 28-35.
- Muthén, L. K., & Muthén, B. O. (1998-2018). Mplus User's Guide. Eighth Edition. Los Angeles, CA: Muthén & Muthén.
- Nelson, D.A., Springer, M.M., Nelson, L.J., & Bean, N.H. (2008). Normative beliefs regarding aggression in emerging adulthood. *Social Development, 17(3)*, 630-660.
- Newman, D. A. (2009). Missing data techniques and low response rates: The role of systematic nonresponse parameters. In Lance, C. E., Vandenberg, R. J. (Eds.), *Statistical and methodological myths and urban legends: Doctrine, verity, and fable in the organizational and social sciences* (pp. 7–36). New York, NY: Routledge.

- O'Brien Ed., Konrath S.H., Gruhn D., & Hagen A.L. (2013). Empathic concern and perspective taking: Linear and quadratic effects of age across the adult life span. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 68(2), 168–175
doi:10.1093/geronb/gbs055.
- Ostrov, J.M. & Houston, R.J. (2008). The utility of forms and functions of aggression in emerging adulthood: Associations with personality disorder symptomatology. *Journal of Youth and Adolescence*, 37(9), 1147-1158. <https://doi.org/10.1007/s10964-008-9289-4>
- Pettit, G.S., Lansford, J.E., Malone, P.S., Dodge, K.A., & Bates, J.E. (2010). Domain specificity in relationship history, social-information processing, and violent behavior in early adulthood. *Journal of Personality and Social Psychology*, 98(2), 190-200.
- Polman, H., de Castro, B. O., Koops, W., van Boxtel, H. W., & Merk, W. W. (2007). A meta-analysis of the distinction between reactive and proactive aggression in children and adolescents. *Journal of Abnormal Child Psychology*, 35(4), 522-535.
- Puckett, M. B., Aikins, J. W., & Cillessen, A. H. (2008). Moderators of the association between relational aggression and perceived popularity. *Aggressive Behavior*, 34(6), 563-576.
- Silvera, D.H., Martinussen, M., & Dahl, T.I. (2001). The tromsø social intelligence scale, a self-report measure of social intelligence. *Scandinavian Journal of Psychology*, 42(4), 313-319.
- Singer, T., & Klimecki, O. M. (2014). Empathy and compassion. *Current Biology*, 24(18), R875-R878.

- Smits, I., Doumen, S., Luyckx, K., Duriez, B., & Goossens, L. (2011). Identity styles and interpersonal behavior in emerging adulthood: The intervening role of empathy. *Social Development, 20*(4), 664-684.
- Sutton, J., Smith, P.K., & Swettenham, J. (1999). Social cognition and bullying: Social inadequacy or skilled manipulation?. *British Journal of Developmental Psychology, 17*(3), 435-450.
- Thorndike, R.L., & Stein, S. (1937). An evaluation of the attempts to measure social intelligence. *The Psychological Bulletin, 34*(5), 275-285.
- Van der Graaff, J., Branje, S., De Wied, Hawk, S., Van Lier, P., & Meeus, W. (2013). Perspective taking and empathic concern in adolescence: Gender differences in developmental change. *Developmental Psychology, 50*(3), 881-888.
- Vachon, D.D., Lynam, D.R., & Johnson, J.A. (2014). The (non) relation between empathy and aggression: Surprising results from a meta-analysis. *Psychological Bulletin, 140*(3), 751-773. doi: 10.1037/a0035236
- Voulgaridou, I., & Kokkinos, C. M. (2015). Relational aggression in adolescents: A review of theoretical and empirical research. *Aggression and Violent Behavior, 23*, 87-97.
- Werner, N.E., & Crick, N.R. (1999). Relational aggression and social-psychological adjustment in a college sample. *Journal of Abnormal Psychology, 108*(4), 615-623.
- Werner, N.E., & Hill, L.G. (2010). Individual and peer group normative beliefs about relational aggression. *Child Development, 81*(3), 826-836.
- White, B.A., Gordon, H., & Guerra, R.C. (2015). Callous-unemotional traits and empathy in

proactive and reactive relational aggression in young women. *Personality and Individual Differences*, 75, (185-189).

You, J. & Bellmore, A. (2014). College students' behavioral reactions upon witnessing relational peer aggression. *Aggressive Behavior*, 40(5), 397-408.

Table 1
Descriptive statistics

Variable	M	SD	Skew	Kurtosis
Reactive Relational Aggression	2.01	.87	.93	.06
Proactive Relational Aggression	1.66	.74	1.15	.22
Social Information Processing	5.29	1.01	-.44	.27
Social Skills	4.63	.97	-.01	-.46
Social Awareness	5.03	.99	-.45	.26
Perspective Taking	2.68	.69	-.11	-.28
Empathic Concern	3.01	.69	-.48	-.29

Note. All subscales are based on mean-item ratings. Statistics for the Reactive Relational Aggression, Proactive Relational Aggression, and Social Skills reflect fenced subscales and are shown for the overall sample.

Table 2
Correlations among study variables

	1.	2.	3.	4.	5.	6.	7.
1. Reactive Relational Aggression							
2. Proactive Relational Aggression	.75**						
3. Social Information Processing	-.21**	-.25**					
4. Social Skills	-.22**	-.20**	.30**				
5. Social Awareness	-.35**	-.39**	.36**	.19**			
6. Perspective Taking	-.38**	-.39**	.44**	.27**	.28**		
7. Empathic Concern	-.34**	-.42**	.43**	.35**	.26**	.50**	

N = 562

Note. Correlations for the Reactive Relational Aggression, Proactive Relational Aggression, and Social Skills reflect fenced subscales.

**Significant at the .01 level (2-tailed)

Table 3
Regression output for Reactive Relational Aggression

	<i>B (SE B)</i>	β	<i>p</i>
Reactive Relational Aggression			
Constant	1.99 (.04)	2.29	.000
SIP	0.08 (.04)	.05	.04
Social Skills	-0.09 (.04)	-.10	.02
Social Awareness	-0.21 (.04)	-.24	.000
Perspective Taking	-0.30 (.06)	-.24	.000
Empathic Concern	-0.21 (.06)	-.17	.003
SIP x Perspective Taking	-0.07 (.06)	-.06	.23
SIP x Empathic Concern	0.07 (.06)	.06	.18
Social Skills x Perspective Taking	0.01 (.05)	.01	.87
Social Skills x Empathic Concern	-0.02 (.06)	-.01	.79
Social Awareness x Perspective Taking	0.07 (.06)	.06	.22
Social Awareness x Empathic Concern	0.06 (.05)	.05	.29

Note. SIP = Social Information Processing

Table 4
Regression output for Proactive Relational Aggression

	<i>B(SE B)</i>	β	<i>p</i>
Proactive Relational Aggression			
Constant	1.62 (.03)	2.18	.000
SIP	0.05 (.03)	.07	.11
Social Skills	-0.01 (.03)	-.02	.70
Social Awareness	-0.21 (.03)	-.29	.000
Perspective Taking	-0.23 (.05)	-.21	.000
Empathic Concern	-0.28 (.05)	-.26	.000
SIP x Perspective Taking	-0.03 (.05)	-.03	.57
SIP x Empathic Concern	0.10 (.05)	.01	.03
Social Skills x Perspective Taking	0.01 (.04)	.01	.81
Social Skills x Empathic Concern	-0.02 (.05)	-.02	.61
Social Awareness x Perspective Taking	0.04 (.05)	.04	.42
Social Awareness x Empathic Concern	0.10 (.04)	.10	.02

Note. SIP = Social Information Processing

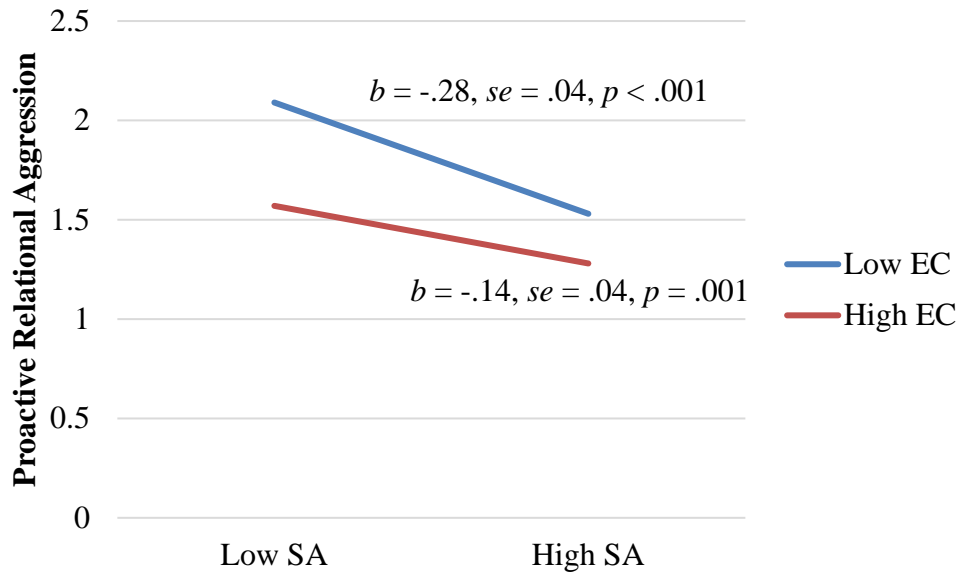


Figure 1. Interaction between social awareness (SA) and empathic concern (EC) in predicting proactive relational aggression

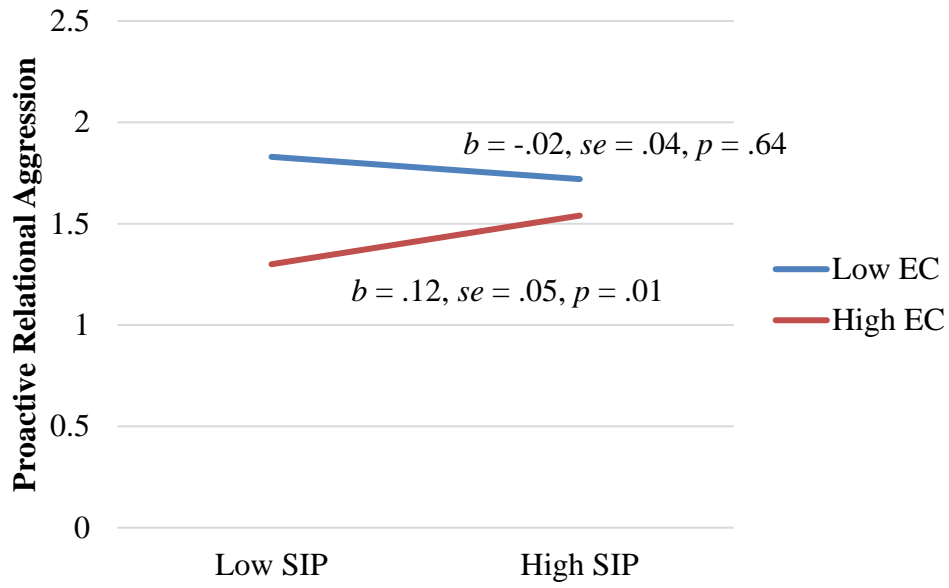


Figure 2. Interaction between social information processing (SIP) and empathic concern (EC) in predicting proactive relational aggression