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The Role of Emotion Regulation in the Relationship between Trait Anger and Relational
Aggression

by

Skylar Hicks

A Thesis

Submitted to the Graduate School,
the College of “Education & Psychology”
and the Department/ School of “Psychology/Counseling Psychology”
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Master of Arts

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ABSTRACT

Relational aggression (RA) has been linked to a number of serious problems for all age ranges, especially in young children, adolescents, and emerging adults. Elevated trait anger appears to be positively related to both peer and romantic RA, and there is some evidence that difficulties with emotion regulation are positively associated with RA as well. The present study investigated the role of emotion regulation as a potential moderator of the relationship between trait anger and RA in a college student sample ($N = 307$) while taking general negative affect into account. As expected, trait anger was a positive predictor of peer RA after accounting for general negative affect. Also, as predicted, difficulties in emotion regulation were positively related to peer RA. Contrary to what was expected, difficulties in emotion regulation did not moderate the relationship between trait anger and peer RA while accounting for general negative affect. Additional research is needed to better understand why emotion regulation did not help to specify the conditions under which trait anger is related to RA.

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CHAPTER I - INTRODUCTION

Relational aggression (RA) is a form of aggressive behavior in which the aggressor aims to deliberately cause harm to a victim by damaging his or her relationships, social status or reputation, self-esteem, or sense of belonging and acceptance (Crick, Werner, Casas, O'Brien, Nelson, Grotmeter, & Markon, 1999). Examples include behaviors such as purposely ignoring someone in a social context, spreading malicious rumors or gossip, and excluding the victim from group activities, (Crick, 1996; Crick & Grotmeter, 1995; Crick, Ostrov, & Werner, 2006). RA can begin as early as the preschool years and plays an important role in the peer interactions of children and early adolescents (Bonica, Arnold, Fisher, Zeljo, & Yershova, 2003; Crick et al., 2006).

RA has been linked to a number of serious problems for all age ranges, especially in young children, adolescents, and emerging adults (Crick et al., 2006; Crick, 2004). For example, the perpetration of RA has been associated with negative peer relationships and poor social adjustment, physical aggression, reduced prosocial behavior, and delinquency (Crick et al., 2006; Ostrov, Woods, Jansen, Casas, & Crick, 2004). Relational victimization (RV) has also been associated with wide-ranging negative psychosocial correlates, including isolation, depressive symptoms, low self-esteem, and peer rejection (Bresin & Robinson, 2013; Crick & Bigbee, 1998; Cullerton-Sen & Crick, 2005; Prinstein, Boergers, & Vernberg, 2001).

Although most of the literature on RA has focused on children and early adolescents, the relevance of RA in emerging adulthood is becoming increasingly clear. For example, a number of studies have identified adverse correlates of RA among college

students. This should not be surprising when one considers the importance of identity development, increased reliance on peer networks to provide social support, and importance of social status in this population (Bowie, 2007; Lansu & Cillessen, 2012; Remillard & Lamb, 2005). As one example of the impact of relational aggression among emerging adults, research shows that increased exposure to RA is positively correlated with social anxiety and social phobia due to fear of re-experiencing RA in social situations (McCabe, Miller, Laugesen, Antony, & Young, 2009; Miers, Blöte, & Westenberg, 2009; Pina, Little, Wynne, & Beidel, 2013). Relational aggression has been connected with depression, adjustment difficulties, substance use, peer rejection, maladaptive personality traits, and self-defeating behaviors (Linder et al., 2002; Ostrov & Houston, 2008; Twenge, Catanese, & Baumeister, 2002; Werner & Crick, 1999). There is also evidence that students who experience RV report feeling less safe in their college environments (Goldstein, Chesir-Teran, & McFaul, 2008).

Relational aggression among emerging adults also arises in the framework of intimate partnerships (i.e., romantic RA). Examples include flirting with another individual to provoke jealousy, withholding physical affection, or infidelity (Linder, Crick, & Collins, 2002; Prather, Dahlen, Nicholson, Bullock-Yowell, 2012). Romantic RA has been linked to psychosocial maladjustment, anger, problem behaviors, loneliness, impulsivity, hostile attribution biases, lower levels of relationship quality, emotional sensitivity to relational provocations, and history of abuse (Leadbeater, Banister, Ellis, & Yeung, 2008; Murray-Close, Ostrov, Nelson, Crick, & Coccaro, 2010; Prather et. al., 2012).

In spite of the increasing body of research on RA, the reasons for and mechanisms by which it occurs are not sufficiently clear. For example, research has shown that trait anger (i.e., one's general propensity to experience angry feelings) is positively related to RA (Bresin & Robinson, 2013; Rubio-Garay, Carrasco, & Amor, 2016; Sullivan, Helms, Kliewer, & Goodman, 2010); however, it remains unclear whether this relationship is affected by variables such as emotion regulation, differences in anger expression, or other personality traits. The present study aimed to determine whether the relationship between trait anger and peer relational aggression is moderated by emotion regulation while taking general negative affect into account.

Trait Anger and Relational Aggression

Trait anger is one's tendency to experience angry feelings. Individual differences on measures of trait anger are often interpreted as providing an index of anger proneness (Spielberger, 1999). Thus, someone with elevated scores on a measure of trait anger is expected to experience angry feelings (i.e., state anger) more frequently, intensely, and for longer durations than someone lower on trait anger. Along with how the individual expresses angry feelings and whether he or she experiences adverse consequences associated with anger, elevated trait anger is widely considered one marker of clinically dysfunctional anger (Spielberger, 1999).

Trait anger is related to overt aggression, the perpetration of peer and romantic relational aggression, reduced social support, binge eating, substance or alcohol abuse, hazardous driving, gambling problems, smoking relapse, victimization, and suicidal ideation (Bresin & Robinson, 2013; Dahlen, Czar, Prather, & Dyess, 2013; Dahlen & Martin, 2005; Deffenbacher, Richards, Filetti, & Lynch, 2005; Eftekhari, Turner, &

Larimer, 2004; Patterson, Kerrin, Wileyto, & Lerman, 2008; Prather et. al., 2012; Zhang, Roberts, Liu, Meng, Tang, Sun, & Yu, 2012). Elevated trait anger has even been linked to financial risk taking and decreased motor control (Bresin & Robinson, 2013; Gambetti & Giusberti, 2014). In a recent study conducted by Agaoglu and Esen (2014) on a college student sample, results demonstrated an inverse relationship between wellness and trait anger. Thus, it is evident that elevated trait anger has a number of adverse correlates.

Despite clear evidence that trait anger is positively correlated with overt aggression, relatively few studies have investigated the potential role of trait anger in relational aggression (Rubio-Garay et al., 2016; Sullivan et al., 2010). Prather and colleagues (2012) found that trait anger predicted the perpetration of romantic RA among college students. In another study using a college student sample, Dahlen and colleagues (2013) found that trait anger was positively related to both peer and romantic RA and that trait anger predicted peer and romantic RA while accounting for participant gender, race, and reported level of relational victimization. Thus, there is some basis for expecting that college students higher in trait anger will be more likely to engage in relationally aggressive behaviors.

Two important next steps in better understanding the role of trait anger in relational aggression were addressed in the current study. First, we sought to determine whether the relationship between trait anger and relational aggression persists while taking general negative affect into account. In other words, is there something unique about trait anger that predicts relational aggression beyond the influence of general negative affect, which can be better in upcoming details. If so, this would make a stronger

case for its utility. Second, we sought to determine whether emotion regulation moderates the predicted relationship between trait anger and relational aggression.

Emotion Regulation

Emotion regulation (ER) can be described as a process in which emotions are controlled, which in turn regulates behaviors as well (Cole, Michel, & Teti, 1994; Lopes et. al., 2005; Tamir, 2011). The ability to regulate emotions can play a key role in determining behavioral responses across situations in which anger is experienced (John & Gross, 2007). Perspectives of ER have evolved, and it is now widely regarded as a multifaceted process which is necessary to communicate efficiently, cope with stress, and interact with others (Gross, 1998; Keltner & Haidt, 2001; Lopes, Salovey, Cote & Beers, 2005; Thompson, 2009). For this study, we drew from Thompson's (2009) definition of emotion regulation as the "extrinsic or intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals" (p. 124-131).

Emotion regulation starts to develop during infancy, as children and parents interact in everyday situations (e.g., a parent allowing a child to explore seemingly threatening situations) which allow the child to create the cognitive tools to reduce emotional distress in reaction to the situation (Rimé, 2009; Stifter, 2002). Results from a recent study suggests that well-regulated preschoolers are more capable of dismissing sympathetic responding after a provocation of anger has ended rather than continuing to be physiologically primed for fight-or-flight responding, which suggests some of the same skill utilization as we age (Kahle, Miller, Lopez, & Hastings, 2016). Responding to

internal or external stimuli in order to maintain goal-oriented functioning depending on the situational demands is one of the key factors in ER (Gross, 1998; Tamir, 2011).

Over the years, it has become evident in research that during adolescence and into emerging adulthood, the ability to cope with anger or sadness reflects certain aspects of ER and that individuals' ability to cope can be affected by social influences (Gross, 1998; Tamir, 2011). Results from a recent study revealed that "sadness regulation coping moderated the association between expressive reluctance (i.e., lack of emotional expression) and relational aggression. Conversely, anger regulation coping moderated the relation between expressive reluctance and physical aggression" (Sullivan et al., 2010). Evidence from another study indicated that participants endorsing trouble attending to their emotions had more wide-ranging histories of aggression than those who did not report difficulties, which supports the idea that difficulties attending to or regulating emotions can lead to aggression. This relationship remained significant even after controlling for trait anger (Robertson, Daffern, & Bucks, 2015).

Emotion Regulation and Relational Aggression

Difficulties in ER have been associated with overt aggression (Dodge & Coie, 1987; Sullivan et al., 2010). Although there has been far less research on the possible role of ER in relational aggression, there is some evidence that difficulties with ER are associated with relationally aggressive behavior. For example, children's capacity to efficiently control their feelings of anger and sadness influence the relations among peer victimization and forms of aggression over time (Cooley & Fite, 2015). In a study conducted to investigate gender differences associated with RA and ER, girls with lower ER were more likely to engage in RA (Bowie, 2010).

There is some evidence that overregulating emotions, as well as under regulating emotions may be associated with increased aggression (Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996). Researchers have found that individuals who tend to be more aggressive fail to deal with information appropriately or accurately, that is obtained during interactions with peers. They may misconstrue information received during this interaction and because they do not have the appropriate ER coping skills, they may react by committing more relationally aggressive acts (Dodge & Rabiner, 2004; Erdley, Rivera, Shepherd, & Holleb, 2009). Among college students, a recent study suggests that perpetrators of RA may be at jeopardy for adverse alcohol-related penalties when they act unwarily in response to negative emotions (Grimaldi, Napper, & Labrie, 2014).

A study conducted on urban adolescents showed that participants who had higher rates of sadness regulation coping skills (i.e., youth who were better able to regulate feelings of sadness) engaged in relational aggression less often than their peers. Participants with less developed sadness regulation reported higher frequencies of RA. Expressive reluctance, a forced pattern of social interaction contingent on the unwillingness to express emotion, was positively linked to relational aggression (Sullivan et al., 2010). Given that ER can involve the regulation of any emotion, it is imperative to note that lack of regulation of negative emotions can result in RA.

General Negative Affect

General negative affect refers to “a personality variable that involves the experience of negative emotions and poor self-concept” (Watson, Clark, & Tellegen, 1988, p. 1063–1070). It includes many negative emotions, such as anger, contempt, disgust, guilt, and fear. Research has suggested that some adaptive emotion regulation

strategies like reappraisal, are related to lower levels of negative affect (NA). A recent study found that NA played an important role in the association between trait emotional intelligence and distress. Specifically, individuals with higher levels of trait EI experienced fewer negative emotions, which had a positive effect on their health (Kong, Zhao, & You, 2012). In another study, findings included data that indicate a relationship between maternal experiences of child abuse, later child abuse potential, and negative affect (Smith, Cross, Winkler, Jovanovic, & Bradley, 2014).

In the present study, NA is included as a control variable to provide a more stringent test of the relationship between trait anger and relational aggression. That is, we wanted to determine whether there is something unique about trait anger in predicting relational aggression beyond the variance accounted for by NA.

The Present Study

Individual differences in the propensity to experience feelings of anger (i.e., trait anger) are positively associated with relational aggression (RA) in the peer and romantic relationships of college students (Dahlen et al., 2013; Prather et al., 2012); however, it seems unlikely that the relationship between trait anger and RA would not be affected by other variables. The ability to regulate emotions can play a key role in many aspects of life, including day-to-day tasks, relationships, career responsibilities, and social interactions (Gross, 1998; Keltner & Haidt, 2001; Lopes, Salovey, Cote & Beers, 2005; Thompson, 2009), and difficulty regulating emotions can lead to many dysfunctional behaviors. The present study aimed to investigate whether emotion regulation would moderate the relationship between trait anger and RA while taking general negative affect into account.

First, we predicted that trait anger will be a positive predictor of peer RA after accounting for general negative affect (H1). That is, participants higher in trait anger are expected to report being more likely to engage in relationally aggressive behaviors even after accounting for individual differences in general negative affect. By accounting for general negative affect, we were able to determine whether trait anger makes an additional contribution beyond negative emotionality in understanding RA. Thus, this provided a more stringent test of the relationship between trait anger and RA than has been reported in previous studies. Second, we predicted that difficulties in emotion regulation would be positively correlated with peer RA (H2). Participants with better developed emotion regulation strategies will be less relationally aggressive, while those who have difficulty regulating emotions will report more RA. Third, we predicted that emotion regulation will moderate the relationship between trait anger and RA while accounting for general negative affect (H3). In a study investigating victimization and biological stress responses, ER moderated cortisol responses suggesting that ER strategies could reduce harm related to victimization (Kliewer, 2016). Our expectation was that emotion regulation would help to specify the conditions under which trait anger is related to RA (i.e., trait anger will predict RA for people low in emotion regulation, but that this relationship would be weaker for people high in emotion regulation).

CHAPTER II – METHOD

Participants

A final sample of 307 college student participants recruited from the University of Southern Mississippi were used for all analyses. In order to increase the balance percentage of male participants, 110 women were dropped randomly, which allowed the number of final participants to remain above 300, a targeted goal, while increasing the balance. After randomly dropping the 110 women from the original participant pool which consisted of 417 participants, of the final 307 participants, 17% were male and 83% were female (male=52.19; female= 254.81). Participants' mean age was 21.05 ($SD = 4.23$), and 34.8% identified themselves as freshman, 22.5% as sophomores, 21.3% as juniors, and 21.3% as seniors. Regarding race/ethnicity, 26.9% of the participants identified as African American/Black, 65.9% as White, 2.6% as Hispanic/Latino, .5% as American Indian/Alaskan, 1.9% as Asian, and 2.2% as other. The listed demographic breakdown is a representation of the final sample of 307 participants.

Instruments

All study instruments can be found in Appendix A.

Demographic Questionnaire

A brief demographic questionnaire was included to assess participant gender, age, and race.

Difficulties in Emotion Regulation Scale (DERS)

The DERS is a 36-item self-report questionnaire used to assess the different components of emotion regulation developed by Gratz and Roemer (2004). Items are rated from 1 (“Almost never”) to 5 (“Almost always”) as to the degree to which they

apply to the respondent. The DERS produces a total score and 6 subscale scores: nonacceptance of emotional responses, difficulties engaging in goal directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity. According to Gratz and Roemer (2004) internal consistencies were acceptable for both the total score ($\alpha = .89$) and the subscales ($\alpha = .77$) in college student samples and have demonstrated evidence of content, convergent and discriminant validity from relationships with different measures of emotion regulation, emotion expressivity, and other related constructs. The DERS total score was of primary interest in the present study.

Self-Report of Aggression and Social Behavior Measure (SRASBM)

Created by Morales and Crick (1998), the SRASBM is an instrument that has been used mainly on college students to measure relational and romantic aggression. Respondents rate each item on the degree to which they are descriptive of them from 1 (“Not at all true”) to 7 (“Very true”), and higher scores on each subscale reflect higher levels of the construct assessed. The complete SRASMB includes 56 items and 12 subscales, and a condensed 42-item version is also available (Linder et al., 2002). For the present study, we omitted the 17 items assessing various aspects of participants’ romantic relationships (i.e., romantic RA, romantic RV, and cross-gender exclusivity) from the 56-item version. Of the subscales formed by the remaining 39 items, we are most interested in the 7-item peer/general RA subscale. The SRASBM scales have demonstrated adequate internal consistencies ($\alpha = .69 - .88$) in college student samples and have shown evidence of construct validity from relationships with different measures of

relational aggression and other related constructs (Clark, Dahlen, & Nicholson, 2015; Czar et al., 2011; Linder et al., 2002).

Buss-Perry Aggression Questionnaire

The Buss-Perry Aggression Questionnaire (AQ) is a 29-item self-report scale created by Buss and Perry (1992) to assess trait aggressiveness. Respondents rate the degree to which each item is descriptive of them from 1 (“Extremely uncharacteristic of me”) to 5 (“Extremely characteristic of me”). In addition to the total score, the measure produces four subscale scores: physical aggression, verbal aggression, anger, and hostility. Internal consistencies of .93 for the total score and from .73 to .85 were reported for the subscales in studies using college student samples (Gerevich, Bácskai, & Czobor, 2007). Moreover, the AQ has shown evidence of construct validity from relationships with different measures of aggression and other related constructs (Gerevich et al., 2007). In the present study, we used the anger subscale as a measure of trait anger.

Positive and Negative Affect Schedule (PANAS)

The PANAS was developed by Watson, Clark, and Tellegen (1988) and consists of two 10-item mood scales: positive affect (PA) and negative affect (NA). There are 20 listed emotions. Half of the items concern negative affect (guilty, upset, ashamed, hostile, jealousy, nervous), and the other half concern positive affect (proud, inspired, excited, alert, attentive). Respondents rate the extent to which each item relates to the experience they have with each emotion from 1 (“Not at all”) to 5 (“Very much”). High PA represents the extent to which an individual experiences pleasurable engagement with the environment, and high NA represents distress and unpleasurable engagement (Watson et al., 1988). Reliability and validity reported by Watson and colleagues (1988) was .86 to

.90 for the PA and .84 to .87 for NA. Evidence in support of the construct validity of the PANAS comes from comparisons with measures of general distress and dysfunction, depression, and state anxiety. Only the NA subscale was examined in the current study.

Procedure

The online research system used by the Department of Psychology, Sona Systems, Ltd., was used to recruit undergraduate participants from the University of Southern Mississippi. Participants visiting Sona saw a brief description of the study and the eligibility requirements (i.e., must be at least 18 years old). Those who signed up for the study in Sona were provided with a URL directing them to the consent form (see Appendix B), which was hosted through Qualtrics. Participants who provided consent to participate were asked to complete the study measures online through Qualtrics, beginning with the demographic questionnaire followed by the rest of the measures in random order. Consistent with published recommendations for online survey research (Huang, Curran, Keeney, Poposki, & DeShon, 2011; Meade & Craig, 2012), two approaches were used to detect careless responding. First, two directed response items (i.e., items that instruct participants to answer them in a particular way) was blended into two of the study questionnaires. Participants who failed either the directed response items were eliminated from the study. Second, survey completion time was recorded so that the data from participants who completed the study much faster than expected could be examined for other indicators of careless responding.

CHAPTER III - RESULTS

The initial data file contained at least partial responses from 494 undergraduate students who were at least 18 years of age. Nine cases containing only missing data on the key variables of interest were manually removed, and data from 38 participants who failed one or both of the two directed response items were removed. The amount of time participants spent completing the survey was examined, and a cutoff score corresponding to half the sample median was selected to eliminate the data from participants who completed the survey too quickly. Data from 30 participants who completed the survey in less than six minutes were eliminated, resulting in a sample size of 417. Last, to achieve an improved gender balance (i.e., 17% male, 83% female), 110 women were dropped at random, resulting in a final sample size of 307. The presence of missing data was minimal. Two participants were each missing one item on the key variables of interest. These missing data points were filled in with each participant's average item score for the subscale containing the missing item.

Alpha coefficients, means, standard deviations, and tests for univariate gender differences for all variables of interest are presented in Table 1. One-way (gender) Analyses of Variance (ANOVAs) did not reveal significant mean gender differences on any of the variables. An examination of the distributions of the variables revealed significant positive skewness for each. Logarithmic transformations were applied to the DERS, PANAS NA scale, and AQ Anger scale. An inverse transformation was necessary to reduce the skewness of the General/Peer RA scale of the SRASBM. Unless otherwise noted, all subsequent analyses were completed using transformed scores. Bivariate correlations were computed separately for women and men, and tests for the difference

between independent correlations were conducted. The strength of the correlations was not significantly different by gender; therefore, intercorrelations among variables are presented in Table 2 for the full sample. Scores on the Buss-Perry Anger scale, PANAS Negative Affect scale, and DERS total score were positively related to RA Peer/General, indicating that participants with higher scores on measures of these characteristics were more likely to report engaging in relational aggression.

Table 1 *Scale Reliabilities, Means, Standard Deviations, and Gender Differences*

Variable	α	Men		Women		$F(1,305)$	d
		M	SD	M	SD		
RA Peer/General	.87	13.38	7.26	11.45	6.21	3.95	.29
Buss-Perry Anger	.92	15.02	6.45	14.13	5.18	1.19	.15
PANAS Negative Affect	.83	20.79	7.89	20.00	7.38	.49	.10
DERS Total Score	.94	79.72	22.07	80.16	22.89	.02	.02

Note. RA = Relational Aggression; PANAS= Positive and Negative Affect Schedule; DERS = Difficulties in Emotion Regulation Scale.

Table 2 *Intercorrelations Among Variables*

	1	2	3
1. Buss-Perry Anger	--		
2. RA Peer/General	.49*	--	
3. DERS Total Score	.41*	.41*	--
4. PANAS Negative Affect	.45*	.27*	.61*

Note. RA = Relational Aggression; PANAS= Positive and Negative Affect Schedule; DERS = Difficulties in Emotion Regulation Scale.
 * $p < .001$

To test the hypothesis that trait anger would predict peer RA (positively) while taking general negative affect into account (H1), scores on the general/peer RA subscale of the SRASBM were regressed on the NA subscale of the PANAS and the Anger subscale of the AQ. The NA subscale of the PANAS was entered on Step 1, and the Anger subscale of the AQ was entered on Step 2 (see Table 3). As predicted, trait anger was a positive predictor of general/peer RA while taking general negative affect into account. Participants who reported higher levels of trait anger were more likely to report engaging in relationally aggressive behavior. Thus, anger appeared to provide incremental validity in the prediction of relational aggression over and above general negative affect.

Table 3 *Hierarchical Regression Analysis Summary for the PANAS Negative Affect and Buss-Perry Anger Scales Predicting Relational Aggression- Peer/General*

Variable	<i>B</i>	95% CI	<i>SE B</i>	β	<i>R</i> ²	ΔR^2
Step 1					.07	
PANAS Negative Affect	.06	[.04, .09]	.01	.27*		
Step 2					.24	.17*
Buss-Perry Anger	.11	[.08, .13]	.01	.46*		

Note. PANAS= Positive and Negative Affect Schedule.
* $p < .001$

To test the hypothesis that difficulties in emotion regulation would be positively related to peer RA (H2), the bivariate relationship between the total score on the DERS and the general/peer RA subscale of the SRASBM was computed. This relationship was significant, $r = .41$, $p < .001$ (one-tailed), supporting this hypothesis. Participants with greater difficulties regulating their emotions were more likely to report engaging in relationally aggressive behaviors.

After centering the predictor variables to reduce multicollinearity and facilitate interpretation, the hypothesis that difficulties in emotion regulation would moderate the relationship between trait anger and peer RA while accounting for general negative affect (H3) was tested using moderated multiple regression. Scores on the general/peer RA subscale of the SRASBM were regressed on the NA subscale of the PANAS, Anger subscale of the AQ, DERS total score, and the interaction between the Anger subscale of the AQ and the DERS total score. The NA subscale from the PANAS was entered on

Step 1, the Anger subscale of the AQ and the DERS total score were entered on Step 2, and the Anger x DERS interaction was entered on Step 3 (see Table 4). Scores on both the Anger subscale of the AQ and the DERS total score were positive predictors of relational aggression on Step 2; however, the Anger x DERS interaction did not produce a significant improvement in R^2 on Step 3, indicating that difficulties in emotion regulation did not moderate the relationship between anger and relational aggression. Thus, while trait anger and difficulties in emotion regulation both predicted relational aggression while taking general negative affect into account, the prediction that difficulties in emotion regulation would moderate the relationship between trait anger and relational aggression was not supported. The analysis was re-run without the NA subscale of the PANAS as a covariate, but the results did not change (i.e., difficulties in emotion regulation did not moderate the relationship between trait anger and relational aggression).

Table 4 *Hierarchical Regression Analysis Summary for the DERS Total Score Moderating Buss-Perry Anger Scales and Relational Aggression- Peer/General, Accounting for PANAS Negative Affect*

Variable	<i>B</i>	95% CI	<i>SE B</i>	β	R^2	ΔR^2
Step 1					.07	
PANAS Negative Affect	.06	[.04, .09]	.01	.27*		
Step 2					.29	.23*
Buss-Perry Anger	.10	[.07, .12]	.01	.41*		
DERS Total Score	.09	[.06, .13]	.02	.31*		
Step 3					.30	.00
Anger X DERS Total Score	.05	[-.12, .22]	.03	.03		

Note. PANAS= Positive and Negative Affect Schedule; DERS = Difficulties in Emotion Regulation Scale.
 * $p < .001$

CHAPTER IV – DISCUSSION

Previous research has found a positive relationship between trait anger and relational aggression (RA) among college students (e.g., Dahlen et al., 2013; Prather et al., 2012). The present study sought to determine whether this relationship would be present while taking general negative affect into account. That is, would trait anger continue to be a positive predictor of relational aggression over and above general negative affect? If so, this would provide additional support for the utility of trait anger in understanding RA. If not, this would suggest that the broader construct of general negative affect adequately accounted for the relationship between trait anger and RA and that little would be gained by assessing the narrower construct of trait anger. Next, the present study examined the relationship between difficulties in emotion regulation and RA, predicting a positive relationship where participants with greater difficulties regulating emotions would be more likely to report engaging in RA. Finally, the present study tested emotion regulation as a potential moderator of the predicted relationship between trait anger and RA while taking general negative affect into account.

As expected, trait anger was a positive predictor of RA while taking general negative affect into account. Participants who reported higher levels of trait anger were more likely to report engaging in relationally aggressive behavior even after accounting for general negative affect. Additionally, difficulties in emotion regulation were positively correlated with RA, such that participants with greater difficulties regulating their emotions were more likely to report engaging in relationally aggressive behaviors. In contrast to what was expected, difficulties in emotion regulation did not moderate the

relationship between trait anger and RA. Thus, while trait anger and difficulties in emotion regulation both predicted relational aggression while taking general negative affect into account, the present study found no evidence that difficulties in emotion regulation moderated the relationship between trait anger and RA. Although no moderation was found, a main effect was found showing that the relationship between trait anger and RA is consistent across all levels of ER. Despite participants' levels of ER, there is a relationship between trait anger and RA.

Trait Anger and Relational Aggression

Much of what is known about the relationship of trait anger to aggressive behavior comes from studies of overt aggression, which emphasize physical aggression; however, there is evidence that trait anger is relevant to RA as well (Rubio-Garay et al., 2016; Sullivan et al., 2010). Among college students, individuals who are more likely to experience feelings of anger are also more likely to report engaging in relationally aggressive behaviors in their peer and romantic relationships (Dahlen et al., 2013; Prather et al., 2012). The present study examined the relationship between trait anger and RA, while accounting for individual differences in general negative affect. Negative affect, as it was assessed in this study, is a much broader construct than trait anger. It includes not only anger but many other negative emotions (e.g., guilt, fear, disgust). Negative affect was used here to provide a more stringent test of trait anger as a possible predictor of RA. The present findings indicate that trait anger is positively related to RA even after accounting for general negative affect, providing additional support for the relevance of trait anger in understanding the relationally aggressive behavior of college students.

While the correlational design of the present study does not provide direct evidence of a causal pathway from trait anger to RA, our findings are consistent with this possibility. Individuals with a heightened propensity to experience angry feelings (i.e., elevated trait anger) are more likely to report engaging in a variety of aggressive behaviors, including RA. Moreover, both the experience and expression of anger are associated with the preparedness and perpetuation of aggression (i.e., increased levels of testosterone; engagement or continuation of aggression; Ramirez and Andreu, 2006). Such findings align with the present study's results, such that higher levels of trait anger are associated with relational aggression.

Emotion Regulation and Relational Aggression

There has been some evidence that difficulties with emotion regulation are associated with relationally aggressive behavior and other problematic behaviors (Cole, et.al., 1996; Cooley & Fite, 2015; Dodge & Rabiner, 2004; Erdley, et.al., 2009; Sullivan et al., 2010). A study conducted among urban adolescents showed that there was a unique relationship between relational aggression and sadness regulation coping (Sullivan, 2010). Furthermore, in a study investigating peer victimization and forms of aggression, the researchers found that children's capacity to successfully regulate their feelings of anger and sadness influenced the relations among peer victimization and forms of aggression over time, such that higher levels of regulation decreased aggression and victimization (Cooley & Fite, 2015). The present findings were consistent with these studies. Although many of the cited studies had younger participants the current study's results aligned using emerging adults. As expected, we found that difficulties in emotion regulation were positively correlated with RA. That is, participants with greater

difficulties regulating their emotions were more likely to report engaging in relationally aggressive behaviors.

Emotion regulation strategies utilized in different social settings and context have implications for affect, well-being, and social relationships (Gross, 1998; Tamir, 2011). Recent studies revealed that sadness regulation coping (ER strategy) moderated the association between the constrained patterns of social interactions (i.e., expressive reluctance) and RA among African American youth (Sullivan, 2010). On the other hand, when assessing anger regulation coping, the relationship between constrained patterns of social interactions and physical aggression was moderated, within the same study. For this reason, we predicted that difficulties in emotion regulation would moderate the relationship between trait anger and RA while accounting for general negative affect.

Contrary to what was expected, difficulties in emotion regulation did not moderate the relationship between trait anger and RA. Trait anger seems to be a useful predictor of RA, regardless of one's ability to regulate emotions. Although a previous study conducted on African American youth found that sadness regulation coping moderated the association between expressive reluctance and relational aggression (Sullivan et al., 2010), the current study's results differed. One reason for this difference could be due to the focus on sadness regulation in that study and the use of a more general measure of emotion regulation in the present study. The use of a more general measure of emotion regulation in the present study may have limited the assessment of ER in different situations. Of course, the present study also focused on trait anger instead of expressive reluctance and used a college student sample instead of a sample of African

American youth in urban settings. Thus, there are too many differences in the variables and sample to permit direct comparisons.

The present findings also differed from those of Cooley and Fite (2015) who found that children's ability to effectively regulate certain emotions influenced the relations among peer victimization and forms of aggression over time. The large age difference between that sample and the present sample makes direct comparisons difficult. Perhaps emerging adults differ in meaningful ways from children with regard to emotion regulation or the other variables. Some of this difference could be due to emerging adults experiencing a wider range of emotions due to more exposure to life scenarios. Further, emerging adults may have developed more strategies to utilize as they aged. It is also worth noting that differences in the measures used to assess the constructs under study can complicate comparisons. For example, some studies have assessed emotion regulation in the context of intimate partner aggression using "Emotion Regulation Manipulation" strategies to measure college students' emotion regulation abilities and understanding. This procedure only assesses two components of emotion regulation, cognitive reappraisal and expressive suppression (Cisler & Olatunji, 2012; Maldonado, DiLillo & Hoffman, 2015). In comparison, the measure of emotion regulation utilized in the present study (i.e., the DERS) is a comprehensive measure that adequately assesses emotional arousal, awareness, understanding, and acceptance of emotions, and the ability behave desirably regardless of emotional state. However, if one of the mentioned subscales is of particular interest, it may make sense to focus on that specific one. It may be useful for future studies to investigate the difference between information gathered regarding these different measures.

Limitations and Future Directions

The present study had some limitations that should be considered when interpreting the findings. First, the correlational design used in the present study does not permit us to determine if trait anger and/or difficulties in emotion regulation lead to RA. While our findings are consistent with such a possibility, it could also be the case that engaging in RA leads people to experience problems with emotion regulation and/or increased trait anger. Second, the present study utilized single self-report measures of each construct. This may be most limiting when it comes to difficulties in emotion regulation because emotion regulation is a multi-faceted process that may be expected to vary across situations. To more fully capture the process of emotion regulation, one would need to assess participant reactions and behaviors in person-environment transactions or scenarios. The previously mentioned “Emotion Regulation Manipulation” strategies could be one way to do this. The use of self-report measures to assess socially undesirable attitudes and behaviors also raises concerns about the degree to which scores could have been impacted by participants’ desire to appear socially appropriate or positive (i.e., social desirability). Third, the use of a sample from a single university restricts the degree to which findings can be expected to be representative of college students in general, not to mention the larger emerging adult population. It is also worth noting that the overrepresentation of women in the present sample limits the degree to which the findings can be assumed to generalize to men.

Given that the current study utilized data from a university located in the southern region of the country, it will be important for future research to consider how these contexts and cultural implications may exert differential or additive effects on the

relationships between emotion regulation, anger, and aggression. Future research should consider broadening the sample to different regions of the country to assess potential cultural differences, such as the way anger is expressed (i.e.; physically, verbally, relationally). Such examination would allow researchers to take into consideration that relational aggression may not be as prevalent in some cultures compared to physical aggression or lack of aggression expression overall. As mentioned previously, future research should consider utilizing different ways to assess emotion regulation, as to capture the construct from different aspects (i.e., Emotion Regulation Manipulation). Another way to assess emotion regulation would be to possibly conduct a shorter longitudinal study that utilizes diary designs. This could allow participants to track their emotion regulation skills over a period of time, with more variability, situationally. Although this study examined how emotion regulation, as a general construct, relates to trait anger and aggression, individuals utilize other emotion regulation strategies, such as cognitive reappraisal and expressive suppression. Future research should consider examining those strategies in order to test this hypothesis. Finally, because much research has been focused on the regulation of negative emotions, investigating the regulation of positive emotions may be useful to consider.

Overall, the present study adds to our understanding of relational aggression among emerging adults by providing additional support for the utility of trait anger and difficulties in emotion regulation in understanding relational aggression among college students. Future studies utilizing more complex designs and more diverse samples are needed to advance this literature; however, it appears that trait anger and emotion regulation will be useful variables to include in studies of relational aggression.

APPENDIX A – STUDY QUESTIONNAIRES

Participant Demographic Questionnaire

The following questions was used to gather information about participants in this study. Please answer the questions accordingly.

Gender: ___ Male ___ Female ___ Other

Age: _____

Race/Ethnicity:

___ African American/Black

___ Caucasian/White

___ Hispanic/Latino

___ Native Hawaiian/Pacific Islander

___ American Indian/Alaska Native

___ Asian

_____ Other (specify)

College Status:

___ Freshman

___ Sophomore

___ Junior

___ Senior

Difficulties in Emotion Regulation Scale

Please indicate how often the following 36 statements apply to you by writing the appropriate number from the scale above (1 – 5) in the box alongside each item.

1	2	3	4	5
Almost Never (0 – 10%)	Sometimes (11 – 35%)	About Half the Time (36 – 65%)	Most of the Time (66 – 90%)	Almost Always (91 – 100%)

1. I am clear about my feelings.
2. I pay attention to how I feel.
3. I experience my emotions as overwhelming and out of control.
4. I have no idea how I am feeling.
5. I have difficulty making sense out of my feelings.
6. I am attentive to my feelings.
7. I know exactly how I am feeling.

8. I care about what I am feeling.
9. I am confused about how I feel.
10. When I'm upset, I acknowledge my emotions.
11. When I'm upset, I become angry with myself for feeling that way.
12. When I'm upset, I become embarrassed for feeling that way.
13. When I'm upset, I have difficulty getting work done.
14. When I'm upset, I become out of control.
15. When I'm upset, I believe that I will remain that way for a long time.
16. When I'm upset, I believe that I will end up feeling very depressed.
17. When I'm upset, I believe that my feelings are valid and important.
18. When I'm upset, I have difficulty focusing on other things.
19. When I'm upset, I feel out of control.
20. When I'm upset, I can still get things done.
21. When I'm upset, I feel ashamed at myself for feeling that way.
22. When I'm upset, I know that I can find a way to eventually feel better.
23. When I'm upset, I feel like I am weak.
24. When I'm upset, I feel like I can remain in control of my behaviors.
25. When I'm upset, I feel guilty for feeling that way.
26. When I'm upset, I have difficulty concentrating.
27. When I'm upset, I have difficulty controlling my behaviors.
28. When I'm upset, I believe there is nothing I can do to make myself feel better.
29. When I'm upset, I become irritated at myself for feeling that way.
30. When I'm upset, I start to feel very bad about myself.
31. When I'm upset, I believe that wallowing in it is all I can do.
32. When I'm upset, I lose control over my behavior.
33. When I'm upset, I have difficulty thinking about anything else.
34. When I'm upset, I take time to figure out what I'm really feeling.
35. When I'm upset, it takes me a long time to feel better.
36. When I'm upset, my emotions feel overwhelming.

Self-Report Measure of Aggression and Social Behavior Measure

Directions: This questionnaire is designed to measure qualities of adult social interaction and close relationships. Please read each statement and indicate how true each is for you, **now and during the last year**, using the scale below. Write the appropriate number in the blank provided. Remember that your answers to these questions are completely anonymous, so please answer them as honestly as possible!

Not at All True			Sometimes True			Very True
1	2	3	4	5	6	7

1. I usually follow through with my commitments.
2. I try to get my own way by physically intimidating others.
3. I have a friend who ignores me or gives me the “cold shoulder” when s/he is angry with me.
4. I am willing to lend money to other people if they have a good reason for needing it.
5. My friends know that I will think less of them if they do not do what I want them to do.
6. I get jealous if one of my friends spends time with his/her other friends even when I am busy.
7. When I am not invited to do something with a group of people, I will exclude those people from future activities.
8. I have been pushed or shoved by people when they are mad at me.
9. I am usually kind to other people.
10. I am usually willing to help out others.
11. When I want something from a friend of mine, I act “cold” or indifferent towards them until I get what I want.
12. I would rather spend time alone with a friend than be with other friends too.
13. A friend of mine has gone “behind my back” and shared private information about me with other people.
14. I try to make sure that other people get invited to participate in group activities.
15. When someone makes me really angry, I push or shove the person.
16. I get mad or upset if a friend wants to be close friends with someone else.
17. When I have been angry at, or jealous of someone, I have tried to damage that person’s reputation by gossiping about him/her or by passing on negative information about him/her to other people.
18. When someone does something that makes me angry, I try to embarrass that person or make them look stupid in front of his/her friends.
19. I am willing to give advice to others when asked for it.
20. When I have been mad at a friend, I have flirted with his/her romantic partner.
21. When I am mad at a person, I try to make sure s/he is excluded from group activities (going to the movies or to a bar).
22. I have a friend who tries to get her/his own way with me through physical intimidation.
23. I make an effort to include other people in my conversations.
24. When I have been provoked by something a person has said or done, I have retaliated by threatening to physically harm that person.
25. It bothers me if a friend wants to spend time with his/her other friends, instead of just being alone with me.
26. I have threatened to share private information about my friends with other people in order to get them to comply with my wishes.
27. I make other people feel welcome.

28. When someone has angered or provoked me in some way, I have reacted by hitting that person.
29. I have a friend who excludes me from doing things with her/him and her/his other friends when s/he is mad at me.
30. I am usually willing to lend my belongings (car, clothes, etc.) to other people.
31. I have threatened to physically harm other people in order to control them.
32. I have spread rumors about a person just to be mean.
33. When a friend of mine has been mad at me, other people have “taken sides” with her/him and been mad at me too.
34. I have a friend who has threatened to physically harm me in order to get his/her own way.
35. I am a good listener when someone has a problem to deal with.
36. When someone hurts my feelings, I intentionally ignore them.
37. I try to help others out when they need it.
38. I have intentionally ignored a person until they gave me my way about something.
39. I have pushed and shoved others around in order to get things that I want.

Buss-Perry Aggression Questionnaire

Please rate each of the following items in terms of how characteristic they are of you. Use the following scale for answering these items.

Extremely uncharac- teristic	Somewhat uncharac- teristic	Neither uncharac- teristic nor charac- teristic	Somewhat charac- teristic	Extremely charac- teristic
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1. Once in a while I can't control the urge to strike another person.
2. Given enough provocation, I may hit another person.
3. If somebody hits me, I hit back.
4. I get into fights a little more than the average person.
5. If I have to resort to violence to protect my rights, I will.
6. There are people who pushed me so far that we came to blows.
7. I can think of no good reason for ever hitting a person.
8. I have threatened people I know.
9. I have become so mad that I have broken things.
10. I tell my friends openly when I disagree with them.
11. I often find myself disagreeing with people.
12. When people annoy me, I may tell them what I think of them.
13. I can't help getting into arguments when people disagree with me.
14. My friends say that I'm somewhat argumentative.
15. I flare up quickly but get over it quickly.
16. When frustrated, I let my irritation show.

17. I sometimes feel like a powder keg ready to explode.
18. I am an even-tempered person.
19. Some of my friends think I'm a hothead.
20. Sometimes I fly off the handle for no good reason.
21. I have trouble controlling my temper.
22. I am sometimes eaten up with jealousy.
23. At times I feel I have gotten a raw deal out of life.
24. Other people always seem to get the breaks.
25. I wonder why sometimes I feel so bitter about things.
26. I know that "friends" talk about me behind my back.
27. I am suspicious of overly friendly strangers.
28. I sometimes feel that people are laughing at me behind me back.
29. When people are especially nice, I wonder what they want.

The Positive and Negative Affect Schedule

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you generally feel this way, that is, how you feel on the average. Use the following scale to record your answers.

1	2	3	4	5
Very Slightly or Not at All	A Little	Moderately	Quite a Bit	Extremely
_____ 1. Interested	_____ 11. Irritable			
_____ 2. Distressed	_____ 12. Alert			
_____ 3. Excited	_____ 13. Ashamed			
_____ 4. Upset	_____ 14. Inspired			
_____ 5. Strong	_____ 15. Nervous			
_____ 6. Guilty	_____ 16. Determined			
_____ 7. Scared	_____ 17. Attentive			
_____ 8. Hostile	_____ 18. Jittery			
_____ 9. Enthusiastic	_____ 19. Active			
_____ 10. Proud	_____ 20. Afraid			

APPENDIX B – IRB CONSENT FORM

INSTITUTIONAL REVIEW BOARD CONSENT FORM

PROJECT INFORMATION

Project Title: Emotion Regulation and Social Behavior
Principal Investigator: Skylar Hicks, B.S.
Phone: 337-781-3069
Email: skylar.hicks@usm.edu
College: Education and Psychology
Department: Psychology

RESEARCH DESCRIPTION

Purpose: The purpose of this study is to assess how various aspects of emotion regulation and the experience of various emotions relate to social behavior among college students.

Description of Study: Participants will be asked to complete online questionnaires about commonly experienced emotions, how they cope with these emotions, and various forms of social behavior. The study is fully online, will take no more than 30 minutes to complete, and must be completed within one session (i.e., starting the study and trying to finish it later will not work). Participants who complete the study will receive 0.5 research credits. Quality assurance checks will be used to make sure that participants read each question carefully and answer thoughtfully. Participants who do not pass these checks will NOT receive credit for completing the study.

Benefits: Participants who complete the study will earn 0.5 research credits; those who do not complete the study or who do not pass the quality assurance checks will not receive research credit. Participants will receive no other direct benefits from participation; however, the information provided will enable researchers to better understand the possible role of emotion regulation in common social and interpersonal problems.

Risks: There are no foreseeable risks to participating in this study. If you feel that completing these questionnaires has resulted in emotional distress, please stop and notify the researcher (Skylar Hicks at skylar.hicks@usm.edu). If you should decide at a later date that you would like to discuss your concerns, please contact the research supervisor, Dr. Eric Dahlen (Eric.Dahlen@usm.edu). Alternatively, you may contact one of several local agencies, such as:

Student Counseling Services
Clinic
Phone: (601) 266-4829

Community Counseling and Assessment
Phone: (601) 266-4601

Pine Belt Mental Healthcare Resources
Phone: (601) 544-4641

Confidentiality: The online questionnaires are intended to be anonymous, and the information you provide will be kept strictly confidential. Any potentially identifying information will not be retained with your responses.

Alternate Procedures: Students who do not wish to participate in this study may sign up for another study instead or talk with their instructor(s) about non-research options.

Participant's Assurance: This project has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board at 601-266-5997. Participation in this study is completely voluntary, and participants may withdraw at any time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to Skylar Hicks (skylar.hicks@usm.edu).

CONSENT TO PARTICIPATE IN RESEARCH

Consent is hereby given to participate in this research project. All procedures and/or investigations to be followed and their purpose, including any experimental procedures, were explained to me. Information was given about all benefits, risks, inconveniences, or discomforts that might be expected.

The opportunity to ask questions regarding the research and procedures was given. I understand that participation in this project is completely voluntary and that participants may withdraw at any time without penalty, prejudice, or loss of benefits. All personal information is strictly confidential, and no names will be disclosed. Any new information that develops during the project will be provided if that information may affect my willingness to continue participation in the project.

Questions concerning the research, at any time during or after the project, should be directed to Skylar Hicks (skylar.hicks@usm.edu).

This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-5997.

A copy of this form can be printed from your browser window.

I have read and understood the above consent form and desire of my own free will to participate in this study.

- Yes
- No

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