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**Emotional Competence and Co-rumination within Early Adolescent Friendships:  
Implications for Emotion Socialization**

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**A Thesis presented to the Graduate Faculty  
of the College of William and Mary in Candidacy for the Degree of  
Master of Arts**

**Department of Psychology**

**The College of William and Mary  
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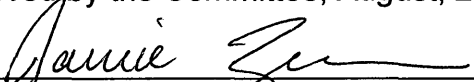
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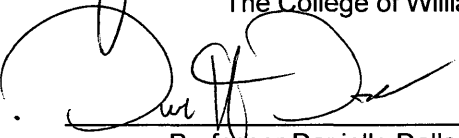
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the requirements for the degree of


Master of Arts

  
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## ABSTRACT

Through emotion socialization, children learn the norms for emotional expression within various social contexts. Although many researchers have proposed that close friends become important socializing agents as youth enter adolescence, little research has directly considered peer emotion socialization processes or how youths' emotion skills influence their friendships (Zeman et al., 2013). Co-rumination, referring to repetitive problem discussions with negative emotional tones, has been linked to various psychosocial outcomes (Rose, 2002; Rose et al., 2007). However, researchers have not yet considered how friends' emotional competencies might relate to this process. The current study examines the link between emotional competence and co-rumination within a sample of 168 early adolescents (56.0% female;  $M_{age} = 12.69$  years; 73.7% white) who participated with a best friend (84 dyads). Friends reported on their emotional competencies (e.g., emotion regulation, emotional awareness, expressive reluctance), co-rumination within their friendship, and participated in problem discussion task with their friend that was coded for observed co-rumination and dwelling on negative affect. Analyses were conducted using the Actor Partner Interdependence Model which allows for consideration of friends' influences on one another (Kenny et al., 2006). Results indicate that best friends' emotional competencies influence co-rumination within their friendship with several differences emerging as a function of emotion type and gender. For boys, having a friend who suppresses negative emotions relates to lower co-rumination, particularly if both friends inhibit sad feelings. Emotion management styles that involve overt, under-controlled expressions (i.e., dysregulation) of negative feelings relate to greater co-rumination. Youths' anger dysregulation had a direct effect on their reports of co-rumination. However, for sadness, youths' dysregulation only related to greater co-rumination when they had a friend who was dysregulated. When both members of a dyad reported adaptive sadness coping skills, this related to lower co-rumination within their friendship. Finally, poor emotional awareness was linked to greater co-rumination, particularly for girls. Results emphasize the importance of considering the role of emotional competence within youths' friendships. It appears that emotional competences influence how problems are discussed within early adolescents' friendships with implications for how emotions might be further socialized within these conversations.

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## CHAPTER 1

### Introduction

Developing and maintaining close friendships is a central task of late childhood and early adolescence (Hartup, 1996; Rubin, Coplan, Chen, Buskirk, & Wojslawowicz, 2005) with critical implications for later psychosocial adaptation, including both externalizing and internalizing behaviors (Prinstein, 2007). An important but understudied aspect of close friendship is the expression and management of emotion within such relationships (Hubbard & Dearing, 2004; Klimes-Dougan et al., 2013). One friendship process that has at its core the discussion of negative affect is co-rumination. Co-rumination, defined as a dyad's mutual engagement in frequent, repetitive problem discussion with negative emotional tones, has been primarily investigated in relation to its adjustment correlates which are both positive (e.g., friendship intimacy) and negative (e.g., depression) in nature (Rose, 2002; Rose, Carlson, & Waller, 2007). Researchers have long recognized the presence of socialization effects between friends that emphasize the influential nature of friendships during children and adolescents' development (Kandel, 1978; Prinstein, 2007) and are increasingly investigating the processes that drive these effects (Prinstein, 2007; Brechwald & Prinstein, 2011). Considering that participating in co-rumination has been linked to the socialization of depressive symptoms between close friends, this process

has been posited to reinforce negative emotional expressivity (Schwartz-Mette & Rose, 2012).

It is likely that emotion plays a central role in co-rumination, but research has not yet considered how various facets of youths' emotional competencies might relate to this process. Emotional competence refers to a variety of skills including the building blocks of emotion regulation and emotional awareness that develop through childhood and adolescence (Saarni, 1999). Emotional and social functioning are thought to be inextricably intertwined (Halberstadt, Denham, & Dunsmore, 2001; Hubbard & Dearing, 2004; Saarni, 1999) and, thus, the peer context is an important source of feedback on emotion management as children enter adolescence and spend increasing amounts of time with peers (Klimes-Dougan et al., 2013; Zeman, Cassano, & Adrian, 2013). It is likely that youths' emotional competencies influence friendship processes such as co-rumination, and friendship processes likewise influence emotional development. Somewhat surprisingly, there is a dearth of research examining the relations between these constructs despite ample evidence indicating the importance of emotion within social relationships. The present study addresses this gap in the literature through the use of self-report and observational methods to examine the role of emotional competence in co-rumination within close, same-sex friendships of early adolescents.

Understanding the relation between emotional development and behaviors such as co-rumination within close friendships is important for several reasons. First, previous research implies the role of emotion in co-rumination (e.g., Schwartz-Mette & Rose, 2012), but the current study is the first to explicitly link emotion-related skills to this process. Second, although parents initially have the greatest influence on their children's development, peers later become important in shaping youths' socioemotional competencies and subsequent adjustment (Morris, Silk, Steinberg, Myers, & Robinson, 2007; Zeman et al., 2013). As such, examining friends' emotion regulation abilities in conjunction with friendship behaviors that have socializing potential (i.e., co-rumination) could help elucidate the processes of peer influence in emotional development. Finally, the majority of research linking emotional and social adjustment has examined emotional competence in relation to the peer group rather than friendships. Beginning in early adolescence, youth place increased importance on their intimate friendships compared to overall peer acceptance (Buhrmester, 1996; Hartup & Stevens, 1999; Rubin et al., 2005) making it important to understand how emotional competence affects these relationships. For example, sadness suppression is associated with greater peer acceptance for boys (Perry-Parrish & Zeman, 2011) but it could have a detrimental effect on friendships because behaviors involving emotional disclosure, such as intimate exchange, are considered components of positive friendships quality (Burhmester, 1996; Parker & Asher, 1993).

### **Emotional Development and Peer Relations**

Emotional competence is composed of many different skills, including emotion understanding, display rule knowledge, and emotion regulation (Saarni 1999). Emotion regulation may be especially important for social competence and has been defined as the ability to modulate the internal emotional experience (by increasing or decreasing arousal) to meet external goals (Thompson, 1994). For example, a child may feel very angry during a fight with a friend. An emotionally competent child who is able to adaptively manage his emotions will adjust his level of anger so that he is able to talk about and resolve the issue with his friend. It is important to note that it may not be adaptive for the child to completely suppress his feeling of anger as a certain level of anger is necessary for the child to have motivation to resolve the argument. Learning to adapt one's emotional expression to a variety of social contexts in order to meet different social goals is a fundamental task of emotional development and a central aspect of emotion socialization (Denham, Bassett, & Wyatt, 2007; Hubbard & Dearing, 2004; Saarni, 1999).

Emotion socialization is the process through which children learn the acceptable forms of emotional expression and the appropriate social context for these expressions. The norms for emotional expression are learned through various processes such as by observing how others manage emotions and by receiving positive and negative feedback from others on their own emotion.

management efforts. Reinforcement contingencies are a direct way that children learn about the appropriateness of their emotional expressions (Morris et al., 2007; Saarni, 1999). For example, an angry child who yells and stomps her feet in front of friends might be excluded from later activities. The child may then learn that this is an unacceptable manner to express emotions within that particular social context, and adjust her future anger displays accordingly. The majority of research has focused on parents as emotion socializers, but as children enter adolescence and spend increasing amounts of time in peer groups, their peers (such as their best friends) are posited to become influential emotion socialization agents (Zeman et al., 2013). Although parents initially teach their children about emotion expression, the peer group later becomes an important setting for children to receive additional feedback on how they manage their emotions and learn new norms for emotional expression (Morris et al., 2007; Saarni, 1999).

Children and adolescents may learn about norms for emotion management in the peer group through feedback from others (i.e., reinforcement contingencies) that reward or punish children for their emotional expressions. Within the peer group context, it is possible that victimization (overt and relational) and peer rejection play a role in socializing youths' emotions (Zeman et al., 2013). The rewards or punishments in reinforcement contingencies need not be direct; socialization can also occur through vicarious reward or punishment. For

example, if a child sees a friend or peer being teased for crying when sad, the child may be less likely to later exhibit that same behavior because he has learned that this is an unacceptable means of emotional expression in the peer context (Brechwald & Prinstein, 2011). In comparison to parental emotion socialization, peer processes of influence have been understudied. However, researchers have linked emotional competence to peer group functioning, implying that learning about and complying with the norms of emotion expression in the peer group may be critical for positive social adjustment (Legerski, Biggs, Greenhoot, & Sampilo, 2014).

A meta-analysis of children and adolescents' emotional competence and peer group status found that across studies, high negative emotionality was related to low peer acceptance (Dougherty, 2006). Further, children nominated by peers as frequently expressing negative emotions, are also viewed by teachers as having poor social competence (Perry-Parrish, Waasdorf, & Bradshaw, 2011). More nuanced aspects of children's emotional competencies, such as their understanding of display rules or ability to regulate emotions, may provide insights into the norms for emotional expression with the peer group. For example, children who experience peer victimization have poorer emotion regulation capabilities and poorer understandings of the display rules for sadness than children who are not victimized by peers (Garner & Hinton, 2010). In a study examining the longitudinal pathways between emotion regulation, peer

acceptance, and psychopathology, Kim and Cicchetti (2010) found that children with adaptive emotion management experienced greater peer acceptance which contributed to fewer internalizing symptoms over time. Conversely, when children had dysregulated emotion management, this led to poorer peer acceptance (Kim & Cicchetti, 2010).

Examining different types of emotion regulation (i.e., suppressed, dysregulated) provides additional information about social functioning and how norms for emotional expression may differ by gender. Perry-Parrish and Zeman (2011) examined gender differences in overt and dampened sadness expressions of early adolescents in 7<sup>th</sup> and 8<sup>th</sup> grade. These expressions were then related to adolescents' peer acceptance and parent-rated social competence. Boys reported greater sadness inhibition (i.e., suppression) whereas girls reported more overt, dysregulated displays of sadness. For boys, a lack of sadness inhibition was associated with poorer peer acceptance and lower parent-reported social competence. For girls, however, low inhibition or high dysregulation did not relate to peer acceptance or social competence. These types of sadness regulation did not appear to have social repercussions for girls (Perry-Parrish & Zeman, 2011) suggesting that boys' and girls' sadness regulation may be socialized differentially by peers.

Emotional awareness is another important aspect of emotional competence that is distinct from but related to emotion regulation. Specifically, being able to



recognize, identify, and interpret one's own emotions may precede the ability to adaptively manage an emotion in concordance with the social context (Hubbard & Dearing, 2004; Penza-Clyve & Zeman, 2002; Saarni, 1999). In fact, researchers found in a middle childhood sample that poor emotional awareness related to inhibited and non-constructive emotion regulation styles (Penza-Clyve & Zeman, 2002). Further, in adolescent samples, poor emotional awareness has been related to increased internalizing difficulties (Eastabrook, Flynn, & Hollenstein, 2013) whereas better emotional awareness has been longitudinally linked to increased well-being (Ciarrochi, Kashdan, Leeson, Heaven, & Jordan, 2011). Emotional awareness, like emotion regulation, is also thought to affect social functioning although few studies have considered this relationship (Hubbard & Dearing, 2004). A recent study suggests that this skill is influential in friendship formation during adolescence, particularly for females. Girls' high emotional awareness predicted an increased number of friendship nominations from other girls over a 4-year period (Rowell, Ciarrochi, Heaven, & Dean, 2014). Emotional awareness, much like emotion regulation, is an important component of emotional competence that may impact youths' social adjustment.

The social correlates of certain types of emotional expression and management offer important information regarding the emotional norms in the peer context. In general, frequent and poorly regulated expressions of anger and sadness seem to be undesirable to peers; these expressions may be met with peer

rejection or bullying (Dougherty, 2006; Garner & Hinton, 2010; Kim & Cicchetti, 2010; Perry-Parrish et al., 2011). Norms for emotional expression to peers likely differs for boys and girls, with boys being discouraged to express sadness via peer rejection (Perry-Parrish & Zeman, 2011). Emotional awareness is likely an important skill for adaptive social functioning (e.g., Hubbard & Dearing, 2004) and may be especially important for the formation of adolescent female friendships (Rowell et al., 2014). Although research examining emotion regulation in relation to peer group functioning provides strong evidence for the role of peer socialization in emotional development, little research has considered how these processes may operate in the context of close, dyadic friendships.

Close friendships, in comparison to the peer group, likely serve a distinct emotion socializing function. These friendships provide youth an opportunity to understand the effect of their emotional expression on others and to learn how to manage their emotional management in an adaptive way that fosters cooperation and positive friendship quality (Hartup & Stevens, 1999; Zeman et al., 2013). For example, an important feature of close friendships is intimate exchange (Parker & Asher, 1993). Within high quality friendships, this is a reciprocal process that involves both self-disclosing personal feelings and providing emotional support for friends when they self-disclose (Buhrmester, 1990; Chow, Ruhl, & Buhrmester, 2013). The manner in which these shared emotions are expressed and responded to within the friendship could have implications for youths'

emotional development. Much as parents use multiple means to socialize emotions, friends may also socialize youths' emotions through different mechanisms such as modeling, reinforcement contingencies, or discussions about emotions (Saarni, 1999; Zeman et al., 2013). Initial research examining the influence of close friends on children's emotional development provides support for the speculation that friends are influential emotion socialization agents.

Studies examining children and adolescents' reported emotional expressions to friends compared to parents support the theory that the behaviors of emotion socialization agents (e.g., mothers, fathers, friends) are guided by different goals that affect children's emotional expression and outcomes in distinct ways (Denham et al., 2007). Zeman and Shipman (1998) asked 2<sup>nd</sup> and 5<sup>th</sup> grade students how they expected parents (mothers, fathers) and friends (medium friends, best friends) to respond to their negative emotions (anger, sadness, pain) and how they would regulate their emotion in the presence of these social agents. Children anticipated greater support from parents than either medium or best friends and reported that they would regulate their negative emotions in front of friends with the goal of avoiding negative consequences (Zeman & Shipman, 1998). Similarly, using a 5<sup>th</sup>, 8<sup>th</sup>, and 11<sup>th</sup> grade sample, Zeman and Shipman (1997) found that regardless of age, youth expected less support from best friends compared to parents following the expression of sad or angry emotions. These studies suggest that the rules, goals, and expectations for

emotional expression to friends versus parents differ, thus influencing how youth manage their emotions in front of these audiences (Zeman & Shipman 1997, 1998).

Findings from recent research emphasize the importance of examining youths' expectations for emotional expression to friends. Klimes-Dougan and colleagues (2013) asked early to middle adolescents how they expected their best friends to respond to their sad and angry emotions. Expected responses assessed included a variety of supportive responses and unsupportive reactions. For example, a supportive response would be a friend asking about the cause of the youth's sad or angry emotion. Unsupportive responses included aggressive (physical, relational) and ignoring reactions. In general, youth expected friends to respond supportively more often than unsupportively. However, researchers also found gender differences in the expected responses such that girls expected greater supportive reactions from best friends than boys (Klimes-Dougan et al., 2013). Over time, these expectancies were associated with youths' psychopathology such that anticipated unsupportive responses predicted increases in youths' internalizing and externalizing symptoms (Klimes-Dougan et al., 2013). This research provides initial support for the importance of friends' emotion socialization practices (i.e., supportive and unsupportive responses) on youths' psychological adjustment.

Research investigating close friends' conversations also provides evidence that friends are an importance influence on youths' developing emotional competencies. Emotion talk within friendships beginning in middle childhood is thought to be a ripe source of socialization in which friends may reinforce group norms through gossip about other peers' behaviors and provide support for certain types of emotional expressions (Denham et al., 2007). Recently, Legerski and colleagues (2014) used observational methods to examine supportive and unsupportive response contingencies to emotion talk within same-sex early adolescent friend dyads. Supportive responses, defined as any statement or question that helped a friend to understand and interpret his emotions, predicted greater subsequent emotional expression within his conversation. Unsupportive responses (e.g., teasing) were unrelated to emotional expressivity. Further, friends were more similar to one another in their emotion word use than non-friends (Legerski et al., 2014). These findings support the notion that friends can indeed be influential emotion socializers, and that conversations that are emotional in nature may be an important context in which friend emotion socialization occurs.

In particular, because co-rumination is a type of conversation between friends that involves dwelling on negative affectivity (Rose, 2002), it may provide an important venue for youth to learn about emotion expression within intimate relationships. Further, being more skilled in regulating emotions and emotional

awareness may serve as both a strength and weakness within this discussion type. For example, girls have been found to report greater overt, under-controlled expressions of sadness (i.e., crying) compared to boys (Perry-Parrish & Zeman, 2011) and modeling of dysregulated sadness expressions within co-rumination could contribute to the contagion of depressive symptoms between female friends (Schwartz-Mette & Rose, 2012). Emotional awareness could similarly influence co-rumination within friendships. Adolescents lacking emotional awareness might not know how to appropriately manage negative emotions (Hubbard & Dearing, 2004) in response to a problem, leading them to dwell on these negative emotions by co-ruminating with a friend. Co-rumination might also be a means by which an adolescent who lacks emotional awareness is able to sort through the “emotional soup” she is feeling to clarify the nature of her distress within a safe context. As emotion talk within friendships may be an important emotion socialization venue (Denham et al., 2007; Legerski et al., 2014), it is important to better understand the link between emotion skills and co-rumination within youths’ friendships.

### **Co-rumination and Close Friendships**

Co-rumination within children’s close friendships has been demonstrated to have an impact on children’s psychological and social adjustment. The relation between co-rumination and psychosocial functioning is theorized to be transactional in nature, such that co-rumination could be both an antecedent and

result of negative psychological functioning (e.g., Rose et al., 2007). When children co-ruminate, they engage in frequent, repetitive problem discussion with a focus on negative emotions (Rose, 2002). This friendship process is multifaceted in that it encompasses behaviors thought to foster positive social development (i.e., self-disclosure) as well as negative psychological adjustment (i.e., rumination). As such, co-rumination has adjustment trade-offs in that it can contribute to the development of both positive and negative functioning such as increasing the intimacy in friendships and facilitating maladaptive adjustment such as depression (Rose, 2002; Rose et al., 2007; Rose & Rudolph, 2006). Associations between co-rumination and negative adjustment are most apparent for girls' friendships (Rose et al., 2007).

Though not typically researched in relation to emotional development, co-rumination has been posited to socialize friends to excessively express negative emotions (e.g., Prinstein, 2007). Specifically, in a longitudinal study examining change in depressive symptoms of children and adolescents, researchers found that co-rumination mediated contagion of depressive symptoms between best friends. That is, friends who excessively discussed their problems became more similar to one another in their levels of depression over time (Schwartz-Mette & Rose, 2012). Friends who engage in co-rumination may also experience increases in their empathetic distress (i.e., vicariously experiencing another's emotions as one's own) over time. This increase in empathetic distress was only found in

girls' friendships (Smith & Rose, 2011). Further, a study using observational and physiological measures (i.e., cortisol readings) found following a problem discussion with friend, young women who co-ruminated experienced an increase in stress hormones. This was particularly true for friends that focused on negative emotions during their discussions (Byrd-Craven, Granger, & Auer, 2011). An increase in overt negative emotional expression could be driving the contagion of depressive symptoms between friends (Prinstein, 2007; Schwartz-Mette & Rose, 2012; Smith & Rose, 2011) and it is likely that that co-rumination reinforces and rewards negative emotional expressivity.

Though research supports co-rumination as a socializing process that may lead to increased negative emotional expressivity and depressive symptoms (e.g., Schwartz-Mette & Rose, 2012), it is also possible that these characteristics precede co-rumination. That is, the relation between co-rumination and maladjustment is theorized to be cyclical in nature such that depressive symptoms contribute to the likelihood that one will co-ruminate, and co-rumination, in turn, exacerbates depressive symptoms (Rose et al., 2007). In a study investigating co-rumination in relation to clinically significant levels of depression, children and early adolescents who reported high levels of co-rumination with a friend were found to be significantly more likely to have experienced at least one depressive episode within their lifetime compared to children who reported low co-rumination (Stone, Uhrlass, & Gibb, 2010). In a 2-year longitudinal study of



adolescent girls, it was found that co-rumination prospectively predicted an earlier onset of clinical depression, longer durations of depressive episodes, and greater symptom severity (Stone, Hankin, Gibb, & Abela, 2011). Together, these results support the possibility that co-rumination could be both an effect of experiencing a depressive episode and a risk factor for future depressive episodes. Youth who experience depression may engage in excessive self-disclosure styles such as co-rumination that in turn, socialize an increase in depressive symptoms (Stone et al., 2010).

When considering how youths' emotional competencies might relate to co-rumination, in the current study we take the perspective that an individual's emotion regulation capabilities might influence whether or not he co-ruminates with his close friends. An adolescent who has poor control over his sad emotions (i.e., dysregulated sadness regulation), for example, might be more likely to express and dwell on these sad emotions with a friend when discussing his problems. Researchers have suggested that when youth experience stressful situations, such as difficulties with romantic relationships or peers, friends may co-ruminate with one another in order to cope with and understand these issues (Dam, Roelofs, & Muris, 2014; Jose, Wilkins, & Spindel, 2012; Starr & Davila, 2009). Jose and colleagues (2012) found that socially anxious youth reported greater co-rumination over a 6-month period, a relation that was mediated by increases in rumination. This suggests that socially anxious

adolescents may ruminate about social difficulties leading them to consult with a friend through co-rumination (Jose et al., 2012). For youth lacking emotion skills, co-rumination could potentially be a way for them to manage and understand their negative feelings surrounding a problem.

Given that co-rumination has been primarily linked to depressive symptoms (Rose et al., 2007; Schwartz-Mette & Rose, 2012; Stone et al., 2010, 2011), it is possible that sadness regulation would have the strongest associations with this friendship process. However, there is evidence to suggest that the regulation of other emotions, such as anger, might relate to co-rumination. Although, the majority of research has examined internalizing symptoms as an outcome of co-rumination, one cross-sectional study found positive associations between externalizing symptoms (i.e., aggressive behavior) and co-rumination leading them to conclude that co-rumination may exacerbate angry mood states in addition to depressed mood states (Tompkins, Hockett, Abraibesh, & Witt, 2011). Further, during adolescence, depressive symptoms may manifest as irritable mood (Weiss & Garber, 2003), emphasizing the importance of considering angry emotions.

In all, the regulation of sad and angry emotions and emotional awareness likely have implications for how problems are discussed within youths' friendships. Although co-rumination may in turn socialize emotional expressivity (Prinstein, 2007; Schwartz-Mette & Rose, 2012), youth enter a friendship with a

pre-existing level of emotional competence, gained primarily through a history of parental emotion socialization and family emotional climate (Saarni, 1999). The parental emotion socialization literature suggests that the manner in which parents regulate their own emotions influences how they shape their children's emotional development (Cassano, & Zeman, 2010; Cassano, Zeman, & Sanders, 2014). Accordingly, friends' emotional competencies will influence the types of emotional expressions they model and how they respond to one another's emotions. By examining close friends' emotional competencies as predictors of co-rumination within their friendships, the overarching goal of the current study is to clarify one piece of the complex, transactional process of peer emotion socialization.

### **Present Study**

Although the peer group remains influential, as children enter adolescences, their social focus turns to the formation and maintenance of close, intimate friendships (Rubin et al., 2005; Sullivan, 1953). Also during this developmental stage, youth continue to refine their emotion regulation skills in response to an increasingly complex emotional and social world (Zeman et al., 2013). Given the importance of emotional competence and close friendships during the transition to adolescence, the participants in the current study were early adolescent best friend dyads. Quite consistently, researchers have found multiple gender differences in emotional development (e.g., Perry-Parrish &

Zeman, 2011) and peer relationships (e.g., Rose & Rudolph, 2006); as such, both boy and girl same-sex friend dyads participated and gender differences were considered in all analyses.

Although emotion competence is multi-faceted and encompasses multiple skills, the current study primarily focuses on three forms of emotion regulation: inhibition of emotion, dysregulation, and adaptive emotion coping. The functionalist perspective of emotion proposes that each emotion serves a different purpose, particularly within the social context (Campos, Campos, & Barrett, 1989; Campos, Mumme, Kermoian, & Campos, 1994; Zeman et al., 2013). Thus, the current study considers the distinct roles of sadness and anger regulation. Two additional foundational aspects of emotional competence were considered: emotional awareness and reluctance to express emotions. Additionally, we sought to examine co-rumination from different perspectives by asking youth to report on co-rumination within their friendship and by observing co-rumination within best friend problem discussions. Focus on negative affect during co-rumination has been suggested to be a core component of co-rumination that drives its negative effects (Byrd-Craven et al., 2011). Given this hypothesis and the current study's focus on emotion, observed dwelling on negative affect was examined in addition to overall co-rumination. Within close friendships, relational effects are likely, such that one friend's behaviors influence the other friend's behaviors and perceptions of the friendship (Kenny, Kashy, & Cook, 2006). Therefore, the

current study uses self-reports of emotion regulation from both members of a friendship in order to examine such relational effects on co-rumination.

In sum, within the overarching goal to relate emotion competence to co-rumination, the specific aims of this study were to: (a) consider differences in this relation as a function of regulation strategy, emotion type, and gender; (b) capture different facets of co-rumination by using self-reports and observational methods; and (c) use a dyadic statistical approach to investigate potential relational effects of emotion regulation within friendships. To address the study goals linking friends' emotional competencies to co-rumination, each member of the friendship dyads reported on their sadness and anger regulation, emotional awareness, expressive reluctance, co-rumination within their friendship, and positive friendship quality. Friends additionally participated in an interactive problem discussion task that was coded for co-rumination. Dyadic analyses were used to examine how friends' emotion regulation independently predict and interact to predict self-reported and observed co-rumination. Based on previous research in emotional development and co-rumination, several hypotheses were tested.

First, we expected friends' inhibited (i.e., suppressed) emotion regulation to negatively relate to co-rumination, because focusing on the experience of negative emotions is a core component of co-rumination (Rose, 2002). Friends who suppress their emotions might be less likely to express and dwell on negative feelings when discussing problems. Friends' emotion inhibition was expected to

exert a mutual influence on one another's co-rumination and these effects were not expected to differ as a function of emotion or gender.

Conversely, emotion dysregulation (i.e., overt, under-controlled expression) was expected to predict greater co-rumination because co-rumination has been posited to encourage negative emotional expressivity (Schwartz-Mette & Rose, 2012). Sadness dysregulation, in particular, was expected to relate positively to co-rumination for both boys and girls given the associations with co-rumination to depressive symptoms (Rose et al., 2007; Schwartz-Mette & Rose, 2012). Anger dysregulation was expected to positively relate to co-rumination especially for boys, because angry emotions may be more socially acceptable for boys to express, compared to sad emotions (Perry-Parrish & Zeman, 2011). We hypothesized that, within a friendship, emotion dysregulation would have a relational effect with each friend's emotion dysregulation predicting greater co-rumination.

Co-rumination may be a social coping mechanism for youth who are unable to manage problems independently (e.g., Dam et al., 2014). Consequently, adaptive emotion management was expected to negatively relate to co-rumination because emotionally competent youth may be able to cope with problems and the associated negative emotions without co-ruminating with a friend. For sadness coping, effects between friends were hypothesized to be interactive and additive such that when adolescents and their friends both were able to adaptively manage

sad emotions, they would have the lowest levels of co-rumination. For anger coping, friends' emotion management skills were expected to especially influential. Researchers have posited that adaptive anger management may decrease friendship conflicts and promote adaptive functioning within friendships (von Salisch, 2001). Thus, we hypothesized that youth whose friends had adaptive anger management would report less co-rumination. The relations between emotion coping and co-rumination were expected to be similar for boys and girls.

Again based on Dam et al. (2014)'s findings, concerning the utility of co-rumination to process negative affect, we hypothesized that poor emotional awareness would be predict greater co-rumination because these youth may use co-rumination as method to understand and interpret their negative feelings. The effects of poor emotional awareness on co-rumination were expected to most prevalent for girls, who may be more likely to rely on friends for support in discerning their emotions. Expressive reluctance was expected to predict lower co-rumination because there would be low motivation to and discomfort with expressing emotions. These effects were not hypothesized to differ as a function of gender.

## **CHAPTER 2**

### **Method**

#### **Participants**

Participants were 168 early adolescents (56.0% female;  $M_{age} = 12.69$ ,  $SD = 0.96$  years; 73.7% white, 19.8% black, 1.8% Latino, 1.8% Asian, 3.0% other). There were no age differences as a function of gender,  $t(167) = -0.14$ ,  $p = .89$ . Middle school students in sixth (27.4%), seventh (37.5%), and eighth (35.1%) grade participated in interviews during the summer break and during the school year. Summer participants who had recently completed fifth grade ( $n = 20$ ) were classified as sixth grade students and summer participants who had recently completed eighth grade ( $n = 16$ ) were classified as eighth grade students.

Within 84 same-sex friend pairs, 75.0% were same-grade and 84.5% were same-race dyads. The majority of youth (90.5%) reported that they were participating with their “very best friend” (51.2%) or “a best friend” (39.3%). All youth reported that the person that they were participating with was at least “a friend.” Within friend dyads, 35.7% were reciprocated “very best friends” and 20.2% were reciprocated “best friends.” In 26.2% of dyads, one friend was identified as a “very best friend” and the other as a “best friend.” Out of 17.9% of friend dyads in which one friend was not identified as at least a “best friend,” the majority of pairs were “best friend – good friend” or “very best friend – good friend” pairs (86.7%). The reported lengths of friendships ranged from 6 months to 13 years ( $M = 5.03$ ,  $SD = 3.50$  years). Friends also reported on the multiple different ways they knew each other: 77.4% attended school with their friend, 43.5% did an extracurricular activity with their friend, 31.0% lived in the same



neighborhood, 26.2% were family friends, 20.2% attended church together, and 4.2% knew each other through summer camp.

### **Procedure**

Participants were recruited using flyers distributed through local middle schools, previous studies, personal references, and community advertisements. Flyers and advertisements invited middle school students to participate in a friendship study with a best or good friend of their choice. Participants' parents either contacted researchers using information listed on flyers or provided their own contact information to researchers (e.g., by returning interest forms to school) to schedule interviews. Researchers asked parents to have their son or daughter choose a same-sex best or good friend who could participate in an interview with them. A parent or legal guardian of each friend provided a signed informed consent form for their child, collected at the time of the interview.

Interviews took place in participants' homes (60.7%), in the research lab (33.3%), or in an alternative location such as a library (6.0%), depending on the parent's preference. Youth provided verbal assent before participating. The interview consisted of two components: the questionnaire measures and a dyadic discussion task. Two research assistants attended each interview so that youth and their friends could complete the questionnaire measures independently. A trained research assistant read the questionnaire items aloud and participants provided answers verbally. The questionnaire portion of the interview lasted an

average of 40.84 ( $SD = 6.79$ ) minutes. After completing the questionnaire measures, researchers asked each participant to think of a problem she would like to discuss with her participating friend. Once the participants had each thought of a problem, friends were relocated to a private, quiet location together to complete the Problem Talk task (Rose, Schwartz, & Carlson, 2005).

The discussion task was video- and audio-recorded. One interviewer gave the friendship dyad instructions for the discussion task. The instructions for the task indicated that the friend pair would have 15 minutes to discuss their chosen problems with one another, as they typically would. Interviewers told them that they could take as much time as they needed to talk about their problems. If there was time left over, a word game was left for them on the table. The task was left as unstructured as possible so that the friends' problem discussion behaviors would not be constrained. Friend dyads began with a short warm-up activity in which they discussed their favorite movie or television show. Following the warm-up activity, the interviewer started the timer for 15 minutes and left the friend dyad to complete the discussion task in private. At the end of 15 minutes, the interviewer returned to inform the friends that they had finished the task. Each participant was given \$10 at the completion of the interview as a thank you for their time.

### **Materials**

**Emotion competence.** To report on their emotion regulation, youth completed the *Children's Sadness Management Scale (CSMS)* (Zeman, Shipman, & Penza-Clyve, 2001) and the *Children's Anger Management Scale (CAMS)* (Zeman et al., 2001). The *CSMS* contains 12 items and the *CAMS* contains 11 items that are responded to on a 3-point Likert scale (1 = *Hardly Ever*, 3 = *Often*). Each questionnaire has 3 subscales. Inhibition assesses over-controlled or suppressed emotional expression (e.g., "I hold my sad feelings in"), dysregulation assesses uncontrolled or exaggerated emotional expression (e.g., "I do things like slam doors when I'm angry"), and emotion regulation coping assesses adaptive methods of responding to emotions (e.g., "I stay calm and don't let sad things get to me"). Construct validity has been established by previous research for the *CSMS* and the *CAMS* (Zeman et al., 2001). Reliabilities for the *CSMS* (inhibition,  $\alpha = .69$ ; dysregulation,  $\alpha = .54$ ; coping,  $\alpha = .58$ ) and *CAMS* (inhibition,  $\alpha = .73$ ; dysregulation,  $\alpha = .62$ ; coping,  $\alpha = .73$ ) ranged from adequate to good in the current study.

Participants also completed an additional assessment of emotion competence: the 16-item *Emotional Expression Scale for Children* (Penza-Clyve & Zeman, 2002). This questionnaire contains two scales: poor emotional awareness (e.g., "I have feelings that I can't figure out") and expressive reluctance (e.g., "People tell me I should talk about my feelings more often"). Items are responded to using a 5-point scale (1 = *Not at all*, 5 = *Extremely true*)

scale. Researchers have established construct validity for the *EESC* (Penza-Clyve & Zeman, 2002; Sim & Zeman, 2004). The Poor Awareness ( $\alpha = .77$ ) and Expressive Reluctance ( $\alpha = .74$ ) scales showed adequate reliability.

**Co-rumination.** Youth reported on co-rumination with the friend who participated in the study with them using the *Co-rumination Questionnaire* (Rose, 2002). This 27-item questionnaire assesses nine aspects of co-rumination: frequency of problem discussion, engaging in problem discussion over other activities, encouragement of problem (by focal child, by the friend), speculation about the problem (causes, consequences, parts not understood), and focusing on negative affect. Items such as, “If one of us has a problem, we will spend our time together talking about it, no matter what else we could do instead,” are responded to on a 5-point scale (1 = *Not at All True*, 5 = *Really True*). Items are summed to create an overall co-rumination score. The questionnaire showed excellent reliability for the current study ( $\alpha = .97$ ).

**Positive friendship quality.** To report on positive friendship quality with their participating friend, youth completed the shortened, 18-item version of the *Friendship Quality Questionnaire* (*FQQ*; Parker & Asher, 1993). The friend’s name was inserted into each item (e.g., “My friend makes me feel important and special”) in place of “my friend.” Items are responded to on a 5-point scale (1 = *Not True at All*, 5 = *Really True*). The *FQQ* assesses features of positive friendship quality including validation and caring, conflict resolution, help and

guidance, companionship and recreation, and intimate exchange. The conflict and betrayal scales assessing negative friendship quality were not used in the current study. The positive subscales are typically summed to create an overall positive friendship quality score. Construct validity has been established for the *FQQ* (Parker & Asher, 1993). Previous studies using this measure to examine positive friendship quality in relation to co-rumination have excluded the intimate exchange items because they overlap with co-rumination (see Rose et al., 2007). As such, the current study excluded the intimate exchange items from the overall positive friendship quality score. The items composing the modified score demonstrated good reliability ( $\alpha = .88$ ).

### **Discussion Task Coding**

There were technical issues with the audio and video recording equipment for the discussion tasks of three dyads. As such, the observational data for these participants ( $n = 6$ ) were not coded. The sample size for the observational analyses was slightly reduced ( $n = 162$ ). Trained undergraduate research assistants transcribed the audio and video recorded discussion tasks.

Three research assistants served as the coding team. The coding followed the procedures outlined in the Rose et al. (2005) manual. Coders scored each problem discussion on a 5-point scale (1 = *Not at all* or *very little*, 5 = *Very much*) for each coding category. Coding categories included four specific aspects of co-rumination: mutual encouragement (the extent that the friends kept the

conversation focused on problem talk), rehashing problems (talking about parts of the problem repeatedly), speculating about problems (discussing causes and consequences of the problems), and dwelling on negative affect (discussing of negative emotions related to the problem). Coders provided an overall co-rumination score taking into consideration all four categories as well as the amount of time the pair spent engaged in problem discussions. Each dyad member received a score for the five different categories. Approximately one third ( $n = 23$ ) of the discussion tasks were coded by all three coders until reliability above .80 was obtained for each category (range: .81 to .93). Disagreements were resolved through discussion until 100% agreement was reached. Research assistants coded the remaining discussion tasks independently and met weekly to code a discussion task together, in order to prevent coder drift. The current study uses the overall co-rumination and dwelling on negative affect scores.

## **CHAPTER 3**

### **Results**

#### **Analytic Plan**

Analysis of dyadic data requires an approach that takes into account the non-independence of observations between dyad members. Actor-Partner Interdependence Models (APIM; Kenny et al., 2006) are used in the current study to analyze the dyadic effects of interest. This method allows for the consideration

of actor effects, partner effects, and interaction effects between actors and partners. Actor effects refer to one dyad member's effect on his own outcomes. A partner effect and interaction effects indicate that there is a relational effect occurring that would not ordinarily be identified using an individual approach (Kenny et al., 2006). Within the context of the current study, a significant partner effect indicates that the emotional competencies of an adolescents' friend influences her engagement in co-rumination (Campbell & Kashy, 2002). A significant interaction effect indicates that the partner's influence depends the effect of the actor or vice versa (Kenny et al., 2006). For example, an adolescent with positive emotion skills might not co-ruminate, but only if his friend possesses positive emotion skills as well.

The current study uses linear mixed-effects modeling in SPSS to estimate the APIMs. This approach requires that the dataset be arranged such that each friend is an observation (i.e., a row of data) and her data contains her own scores as well as the friend's scores (Kenny et al., 2006). Therefore, each participant's data contains actor variables (e.g., own report of co-rumination) and partner variables (e.g., friend's report of his own co-rumination). The MIXED function in SPSS allows for non-independence of observations within friend dyads by handling each friend's score as a repeated measure within a group of  $n = 2$  (Campbell & Kashy, 2002; Kenny et al., 2006). The non-independence is treated as a correlation between actor and partner scores. For indistinguishable dyads

(such as same-sex best friend pairs), the APIM is estimated using compound symmetry which sets each dyad member's intercept variances to be equal (Kenny et al., 2006).

Four sets of APIMs were conducted to examine the actor, partner, and interactive effects of friends' sadness regulation, anger regulation, emotional awareness, and expressive reluctance on (a) self-report of co-rumination within the friendship, (b) observed co-rumination, and (c) observed dwelling on negative affect. To consider possible gender differences, exploratory analyses included all 2- and 3-way interactions between gender and actor, partner, and interactive effects. When gender interactions were non-significant, they were excluded from the final model. In order to probe gender differences, APIMs were conducted separately for males and females when significant gender interactions emerged. Only APIMs with significant effects are reported.

### **Preliminary Analyses**

Correlational analyses were used to examine associations between potential covariates (i.e., gender, ethnicity, age, length of friendship, friendship quality), independent variables (i.e., inhibition, dysregulation, coping, poor emotional awareness, expressive reluctance), and dependent variables (i.e., self-reported co-rumination, observed co-rumination, observed dwelling on negative affect). Results are displayed in Table 1. Several significant negative correlations with gender (coded girls = 0, boys = 1) were observed indicating that girls scored



higher on friendship quality, sadness dysregulation, poor emotional awareness, self-reported co-rumination, observed co-rumination, and observed dwelling on negative affect. Ethnicity (coded 0 = white, 1 = not white) similarly had negative correlations such that white participants had higher scores on sadness dysregulation and sadness coping compared to non-white participants. Neither age nor friendship length related to any variables. As such, only gender and ethnicity were included as demographic covariates in subsequent analyses.

As expected, friendship quality, self-reported co-rumination, and observed co-rumination were positively related. Further, positive friendship quality was related to multiple emotion regulation variables. Specifically, there were positive relations between positive friendship quality and sadness coping, anger inhibition, and anger coping. Positive friendship quality was negatively related to expressive reluctance. The main interest of the current study was to relate friends' emotional competencies to problem discussions within their best friendship. In order to delineate the characteristics of these problem discussions from the quality of friendships, positive friendship quality was controlled for in all analyses.

### **Emotion Inhibition**

For sadness inhibition, there was a significant effect for observed dwelling on negative affect. Effect estimates for sadness inhibition are displayed in Table 2. For anger inhibition, there was a marginal effect for observed dwelling on negative affect (see Table 3).

There was a significant gender interaction in the APIM with sadness inhibition predicting to observed dwelling on negative affect. The gender x actor x partner interaction was significant ( $b = -0.36, p = .05$ ). Follow-up analyses conducted separately by gender showed that the interaction was non-significant for girls ( $b = 0.10, p = .44$ ). For boys, there was a marginally significant partner effect ( $b = -0.17, p = .06$ ) with friends' sadness inhibition predicting lower dwelling on negative affect, and a significant actor x partner interaction ( $b = -0.36, p = .05$ ). At low levels of partner sadness inhibition ( $-1 SD$ ), there was a trend for actor sadness inhibition to predict greater dwelling on negative affect ( $b = 0.26, p = .11$ ). At high levels of partner sadness inhibition ( $+1 SD$ ), actor sadness inhibition predicted marginally lower dwelling on negative affect ( $b = -0.25, p = .06$ ). This interaction is displayed in Figure 1.

For anger inhibition, the APIM predicting to dwelling on negative affect had a marginal gender x partner effect ( $b = -0.25, p = .07$ ). Subsequent analyses showed that the partner effect was non-significant for girls ( $b = 0.09, p = .38$ ). For boys, there was a marginally significant partner effect ( $b = -0.18, p = .06$ ) such that friends' anger inhibition predicted marginally lower observed dwelling on negative affect.

### **Emotion Dysregulation**

For sadness dysregulation, there were significant effects in the APIMs examining self-reported co-rumination and observed dwelling on negative affect.

Results for sadness dysregulation are displayed in Table 4. In the APIMs for anger dysregulation, there were significant effects on self-reported and observed co-rumination (see Table 5).

Sadness dysregulation had a marginal actor effect ( $b = 3.28, p = .06$ ) on self-reported co-rumination such that actor sadness dysregulation marginally predicted greater co-rumination. There was a significant actor by partner sadness dysregulation interaction ( $b = -3.28, p = .03$ ). Simple slope analyses revealed that at low levels of partner sadness dysregulation ( $-1 SD$ ), actor dysregulation predicted greater co-rumination ( $b = 6.88, p = .01$ ). At high levels of partner sadness dysregulation ( $+1 SD$ ), actor sadness dysregulation did not predict co-rumination ( $b = -0.20, p = .93$ ). Reports of co-rumination appear to be greatest when sadness dysregulation is imbalanced, such that the actor is dysregulated but the partner is not. This interaction is displayed in Figure 2. Similarly, there was a significant actor x partner sadness dysregulation interaction on observed dwelling on negative affect ( $b = -0.20, p = .02$ ). At low levels of partner sadness dysregulation ( $-1 SD$ ), actor dysregulation predicted marginally greater dwelling on negative affect ( $b = 0.20, p = .07$ ). At high levels of partner sadness dysregulation ( $+1 SD$ ), actor sadness dysregulation predicted lower dwelling on negative emotions ( $b = -0.21, p = .05$ ). Dwelling on negative affect appears greatest when sadness dysregulation is imbalanced between friends such that the partner is dysregulated but the actor is not or vice versa (see Figure 3).

The APIM with anger dysregulation predicting self-reported co-rumination had a significant actor effect ( $b = 3.56, p = .04$ ) such that actor anger dysregulation predicted greater reports of co-rumination. There was a significant interaction with gender in the APIM with anger dysregulation predicting to observed co-rumination. In this model, there was a significant gender x partner ( $b = 0.28, p = .05$ ) effect. Subsequent analyses separated by gender showed the partner effect was marginally significant for boys ( $b = 0.15, p = .09$ ) but not for girls ( $b = -0.12, p = .30$ ) with partner anger dysregulation marginally predicting greater observed co-rumination for boys.

### **Emotion Coping**

In the APIMs with sadness coping, there were significant effects for self-reported co-rumination (see Table 6). The anger coping APIMs had marginally significant effects for self-reported co-rumination (see Table 7).

Sadness coping had a significant actor x partner effect on self-reported co-rumination ( $b = -3.37, p = .04$ ). At low levels of partner sadness coping ( $-1 SD$ ), actor sadness coping did not relate to co-rumination ( $b = 1.15, p = .63$ ). At high levels of partner sadness coping ( $+1 SD$ ), actor sadness coping predicted lower co-rumination ( $b = -5.47, p = .04$ ). Results indicate that co-rumination is lowest when both friends have high sadness coping (see Figure 4).

In the APIM examining the effects of anger coping on self-reported co-rumination, there was a marginally significant partner effect ( $b = -3.14, p = .07$ ).

Friends' anger coping had a mutual influence on one another's co-rumination scores, such that friends' greater adaptive anger coping predicted marginally lower actor reports of co-rumination within the friendship.

### **Poor Emotional Awareness**

There were significant effects in the APIMs examining poor emotional awareness in relation to self-reported co-rumination, observed co-rumination, and observed dwelling on negative affect. Results are displayed in Table 8.

Poor emotional awareness had a significant actor effect on self-reported co-rumination ( $b = 4.42, p = .01$ ). Youth that reported greater poor emotional awareness similarly reported greater co-rumination with their friend.

For observed co-rumination, there was a significant actor x partner effect ( $b = 0.31, p = .02$ ) and a significant gender x actor x partner effect ( $b = -0.38, p = .02$ ). Separate analyses for boys and girls showed that the actor x partner poor emotional awareness effect was non-significant for boys ( $b = -0.09, p = .41$ ) and significant for girls ( $b = 0.31, p = .02$ ). For girls, at low levels of partner poor emotional awareness ( $-1 SD$ ), actor poor emotional awareness marginally predicted lower observed co-rumination ( $b = -0.31, p = .08$ ). At high levels of partner poor emotional awareness ( $+1 SD$ ), actor poor emotional awareness marginally predicted greater observed co-rumination ( $b = 0.30, p = .07$ ). Observed co-rumination for girls was greatest when both actors and partners had

high poor emotional awareness or when both had low poor emotional awareness (see Figure 5).

In the APIM with poor emotional awareness predicting to observed dwelling on negative affect, there was a significant actor x partner x gender interaction ( $b = -0.32, p = .05$ ). For boys, this interaction was non-significant ( $b = -0.13, p = .22$ ). Although the interaction for girls only approached significance ( $b = 0.21, p = .12$ ) the interaction was probed at low ( $-1 SD$ ) and high ( $+1 SD$ ) levels of partner poor emotional awareness. At low levels of partner poor emotional awareness, actor poor emotional awareness did not predict dwelling on negative affect ( $b = -0.16, p = .44$ ). At high levels of partner poor emotional awareness, actor poor emotional awareness predicted greater dwelling on negative affect ( $b = 0.26, p = .05$ ). Dwelling on negative affect appears greatest when both girls have high poor emotional awareness (see Figure 6).

### **Expressive Reluctance**

For expressive reluctance, the APIM for observed co-rumination had a marginal effect (see Table 9). The APIM had a marginal partner effect ( $b = -0.13, p = .07$ ). Youth whose friends reported greater expressive reluctance had marginally lower observed co-rumination during the discussion task.

## **CHAPTER 4**

### **Discussion**

The results of the present study add to the literature on emotional socialization in some novel, key ways. Specifically, the analyses indicate that early adolescents' emotional competencies are related to co-rumination with implications for how emotions are socialized within close friendships. First, gender differences in the relation between emotional inhibition and co-rumination clarify one pathway through which boys and girls may be differentially socialized to suppress or express negative emotions to their peers. Second, findings with emotional dysregulation emphasize that youths' emotional competencies may operate in a dynamic, interactive way within close friendships. Further, significant differences emerged when comparing the dysregulation of sad versus angry emotions suggesting that each emotion is expressed and socialized differently within friendships. Third, the associations for emotion coping and emotional awareness point to how the process of co-rumination might serve as an important arena for youth to become more adept at understanding, interpreting, and responding to their emotions. Last, the lack of findings with expressive reluctance highlights the important role of self-expression and intimate exchange within friendships. In all, the results of the current study suggest that close friendships are a unique and important context for youth to practice and refine skills involved in being emotionally competent. The findings provide a foundation for future research to further explore how close friends might

influence emotional development. These major findings will be discussed in more detail below by emotion competency skill.

### **Emotional Inhibition**

We hypothesized that emotional inhibition would relate to lower co-rumination within friendships because co-rumination is partly characterized by the expression of negative affectivity (Rose, 2002). Results partially supported this hypothesis, although effects were only apparent for boys. For boys, friends' sadness inhibition marginally significantly predicted lower dwelling on negative affect, and an interaction suggested that friends' sadness inhibition may have an additive effect. Specifically, when both boys in a friendship reported inhibiting their sad feelings, friends dwelled less on negative emotions during the discussion task. Similarly, friends' self-reported anger inhibition related to lower observed dwelling on negative emotions for boys. Past research suggests inhibiting sadness may be especially important for boys' acceptance in the peer group (Perry-Parrish & Zeman, 2011) and boys typically place greater importance on these broader peer group relationships compared to close friendships (Rose & Rudolph, 2006). As such, for boys, this peer group norm may prohibit the sharing of vulnerable types of emotions within intimate friendships.

Considering that co-rumination has been related to better friendship quality for boys without the negative consequences (Rose et al., 2007), it is possible, however, that emotional inhibition could have negative effects for boys'



friendships. Researchers have found that boys who disclosed problems to friends experienced a decrease in depressive symptoms over a 6-month period (Landoll, Schwartz-Mette, Rose, & Prinstein, 2011) making it important to consider whether emotional inhibition hinders this potentially beneficial process within their friendships. For example, boys in late adolescence report avoiding intimate relationships with other boys so that they are not perceived as being feminine or homosexual (Way, 2012). This phenomenon has been attributed to cultural stereotypes that prohibit boys from being “emotionally literate” and investing in intimate relationships. Way (2012) proposes that as a consequence, boys tend to lose their close same-sex friendships during middle to late adolescence, despite continuing to value such relationships. The findings of the current study suggest that emotional inhibition in early adolescence may be one barrier to intimate behaviors within boys’ friendships (i.e., co-rumination), potentially perpetuating boys’ tendencies to suppress their negatively valenced emotional expressions.

In contrast, emotional inhibition did not relate to lower co-rumination for girls’ friendships. Girls’ close friendships are thought to be characterized by greater intimacy than boys’ friendships with self-disclosure playing a key role in these close relationships (Rose & Rudolph, 2006). Girls, compared to boys, spend a greater amount of time engaged in self-disclosure within their friendships (McNelles & Connolly, 1999) and are more likely to self-disclose interpersonal problems during their conversations (Landoll et al., 2011). Likewise, co-

rumination has been consistently found to be greater within girls' friendships, particularly during adolescence (Rose, 2002; Rose et al., 2007). It may be that intimate discussions are a quintessential feature of girls' friendships that even emotionally inhibited girls participate in this process. In fact, researchers have proposed that girls may engage in self-disclosure because they feel that it is expected of them (Landoll et al., 2011). It is also possible that for emotionally inhibited girls, best friendships provide a safe and supportive venue for them to express emotions that they would otherwise suppress. Considering that emotional inhibition relates to lower co-rumination for boys, but not for girls, it may be that the friend context is particularly influential in socializing girls' increased expression of negative emotions, compared to boys.

### **Emotion Dysregulation**

Hypotheses pertaining to sadness dysregulation received partial support. We specifically hypothesized that sadness dysregulation would relate to greater co-rumination for boys and girls, and that friends' sadness dysregulation would mutually influence one another. As anticipated, the results indicated no significant gender differences, and reports of sadness dysregulation did relate to greater co-rumination. However, the relations between youths' sadness dysregulation and co-rumination were dependent on their friends' level of dysregulation. Self-reported co-rumination was highest when there was an imbalance of sadness dysregulation in the friendship (i.e., when a youth with high sadness dysregulation

had a friend with low sadness dysregulation). Supplementing this finding, we found that youth were observed dwelling on negative emotions most when a friendship was composed of one friend who was highly dysregulated and one friend who was not.

Research suggests that friends' emotional distress may actually foster more intimate exchanges within friendships. A recent study investigating the friendships of distressed youth found that children and adolescents with friends experiencing internalizing difficulties reported higher quality friendships and greater self-disclosure than youth whose friends did not have internalizing difficulties (Hill & Swenson, 2014). Although this study controlled for youths' own internalizing symptoms, it did not consider how friends' characteristics might interact to influence their friendships. The findings of the current study suggest that a friend's emotional dysregulation may encourage both friends to co-ruminate but only if they both do not experience high levels of emotional dysregulation. It appears as if one friend has to remain in emotional control in order to provide a safe zone for the distraught friend to convey their emotions. Considering the link between co-rumination and positive friendship quality (Rose, 2002; Rose et al., 2007), it is possible that two highly dysregulated youth may be unable to maintain a high quality friendship that is conducive to intense, intimate problem discussions. On the opposite end of the spectrum, if both friends report low levels of emotional dysregulation, they are less likely to dwell on negative

emotions and thus, may have little about which to co-ruminate. An imbalance of sadness dysregulation might be the ideal friendship environment for co-rumination to occur. It would be interesting to investigate whether the dysregulator maintains that role consistently in the friendship or whether it alternates between friends, suggesting a more balanced, constructive friendship.

We expected that anger dysregulation, like sadness dysregulation, would relate to greater co-rumination. In contrast to sadness dysregulation, youths' reports of anger dysregulation positively related to their reports of co-rumination, without relational effects between friends. The different findings can be explained by the functionalist perspective of emotion that proposes that emotions are expressed in order to accomplish goals, with distinct goals governing each emotion (e.g., Campos et al., 1994). Walle and Campos (2013) argue the importance of functional affective responding, referring to the ability to appropriately respond to others' emotions in accordance with one's own goals. For example, the appropriate functional affective response to another person's sadness expression is to attempt to alleviate the person's distress. This empathetic response to another's sadness requires the responder to possess the ability to integrate and understand emotion information, then form a response that corresponds with the goal of comforting the person expressing sadness (Walle & Campos, 2013). Co-rumination may be an affective functional response to sadness within youths' friendships. An imbalance of sadness dysregulation may

provide the ideal environment to yield co-rumination: the dysregulated friend provides the expression of sadness and the non-dysregulated friend provides the appropriate functional affective response.

During co-rumination, it is likely that the inherent goal of anger expression differs from the support seeking goal of sadness expression. Emotion theorists suggest that anger is expressed because one's goals are thwarted leading to feelings of anger and frustration (Campos et al., 1994) and thus, an empathetic response is not needed but rather instrumental assistance may be desired to help remove the obstacle, if possible. It may be that youths' under-control of their angry emotions is directly related to co-rumination because they are trying to discover a solution to the problem that does not require an active interpersonal response within a friendship. Whereas the expression of sadness might encourage a friend to approach and provide support, one functional affective response to expressions of anger is to avoid becoming the target of the anger (Walle & Campos, 2013). Thus, within the context of co-rumination, one friend's dysregulated expression of anger may not require the other friend to actively respond to provide support but rather to passively listen. It is important to note that cathartic venting of emotions has been found to exacerbate rather than alleviate anger (Bushman, 2002) and anger dysregulation has been specifically linked to internalizing difficulties (Zeman, Shipman, & Suveg, 2002). Therefore, these findings support previous researchers' speculation that angry emotions, in

addition to sad emotions, are likely discussed during co-rumination and may contribute to its negative adjustment correlates (Tompkins et al., 2011).

### **Emotion Regulation Coping**

As hypothesized, adaptive emotion coping skills predicted lower co-rumination when both friends reported high adaptive sadness coping. Results support that youth may use co-rumination as a social coping mechanism when they are unequipped to handle problems and the accompanying negative emotions on their own (Dam et al., 2014; Jose et al., 2012; Starr & Davila, 2009). When both friends have high adaptive sadness coping, they may have little reason to further examine their problems and associated emotions through co-rumination. However, each friends' adaptive sadness emotion coping did not independently relate to lower co-rumination. Youth who have positive emotion skills do not necessarily co-ruminate less because adaptive sadness coping only related to lower co-rumination when both friends had positive sadness coping.

This relation between emotion regulation coping and co-rumination emphasizes the potential of friends as emotion socializers. Even when children or adolescents can adaptively manage their emotions (i.e., has low sadness dysregulation or high sadness coping), they may engage in co-rumination if they have a friend with less developed emotional skills. Adolescents who have positive social skills (i.e., social perspective-taking) have been found to experience empathetic distress through co-rumination (Smith & Rose, 2011). It is

possible that emotionally competent youth may similarly experience distress when co-ruminating with a less emotionally competent friend, potentially leading to negative outcomes such as contagion of depressive symptoms (Schwartz-Mette & Rose, 2012). Additional research is needed to determine the direction of influence in such relationships. For example, is the less emotionally dysregulated friend socialized to become more dysregulated through co-rumination? Or, does co-rumination provide an opportunity for adaptive emotion management to be modeled by the more emotionally competent friend?

#### **Poor Emotional Awareness**

A lack of emotional awareness, as expected, predicted greater self-reported co-rumination. Poor emotional awareness was also associated with observed dwelling on negative affect for girls, particularly when both friends had poor emotional awareness although this gender difference only approached significance. Interestingly, the interaction with observed co-rumination suggests that co-rumination may be greatest when both girls have poor emotional awareness, or when both girls are highly emotionally aware. Results again support the use of co-rumination as a coping mechanism between friends (e.g., Dam et al., 2014). When youths have poor awareness of their emotions, they may dwell on these feelings with a friend during co-rumination in an attempt to process and understand their emotions. It is also possible that two female friends who are highly aware of their emotions might tend to focus on and discuss

nuances of negative feelings frequently, promoting even more sophisticated emotional understanding and awareness. This provides support for the proposition that friendships are a context for youth to safely explore and investigate their emotional experiences (Gottman & Mettetal, 1986; Zeman et al., 2013).

### **Expressive Reluctance**

Although expressive reluctance was anticipated to relate to lower co-rumination, there was only one marginally significant finding to support this hypothesis. Specifically, friends' expressive reluctance marginally significantly related to lower co-rumination. This finding is intuitive, considering that co-rumination is a dyadic processes involving intimate exchange (Rose, 2002). If one friend is reluctant to express himself, the other friend may be unable to carry the conversation forward on his own. It would be interesting to see whether friends who tend to dominate discussions choose friends who are less interested in emotional expressivity as this provide the ideal conversational "partner." It is possible that few associations between expressive reluctance and co-rumination were found in this study because a general tendency to avoid expressing oneself might not affect self-expression within intimate relationships. As mentioned, friendships may be a safe context for emotional expression (Gottman & Mettetal, 1986; Zeman et al., 2013). Particularly during adolescence, youths' self-disclosures occur most frequently within best friendships compared to other, less



intimate peer relationships (e.g., “good” friendships) and become increasingly intimate in nature (Dolgin & Kim, 1994). Therefore, it may be that even youth who are reluctant to express themselves might find refuge for intimate exchange within their best friendships.

### **Summary**

In summary, youths’ emotional competencies appear to relate to co-rumination in various ways and these relations provide important information about how friends socialize emotional expressivity. Emotional inhibition may prevent boys from fostering intimacy within their friendships, potentially yielding detrimental effects on their close same-sex relationships and their developing emotion skills. Girls’ friendships, however, seem to be unaffected by emotional suppression, suggesting that emotions may be expressed and reinforced even within the friendships of emotionally inhibited girls. Whether or not friends co-ruminate seems to be dependent on the composition of their friendship and the type of emotion being expressed. Youths’ anger dysregulation appears to directly influence whether or not they co-ruminate, perhaps because these individuals are attempting to vent their anger to a passive or receptive audience. Findings with sadness regulation suggest that co-rumination may be an effective functional response to a friend’s sadness (Walle & Campos, 2013) in which one dysregulated friend expresses their sad feelings and the non-dysregulated friend provides support.

It appears that it only takes one dyad member to initiate co-rumination; only when both friends demonstrate high adaptive emotion coping, does co-rumination decrease. Although youth lacking emotional competence (e.g., emotional awareness) may co-ruminate in order to try and understand their emotions in a safe environment, it is not clear whether or not they are successful. Further, it is not yet evident how youths' emotional competencies influence one another through co-rumination, particularly within friendships in which emotional competence is imbalanced. However, the current set of findings provide important information that can be used to inform future research examining the potential of close friends as emotion socializers.

### **Limitations**

Although this study makes an important contribution by linking early adolescents' emotional competencies to co-rumination within their friendships, there are several limitations that warrant mention. First, it would be beneficial to replicate the findings from this study using a larger and more diverse sample. Although some gender differences were found in the current study, it is possible that additional differences exist but were not detected due to a smaller subsample of boys compared to girls. In addition, several marginally significant effects were reported. It is unclear whether a larger sample would strengthen these findings, but nonetheless, these results must be interpreted with caution.

Also limiting the interpretation of the results, is the lack of diversity within the current sample. Participants of this study were primarily from white, middle-class families. Research suggests multiple cultural differences in beliefs about emotions, norms for emotional expression, and what constitutes “adaptive” emotion management (Parker et al., 2013). For example, whereas emotional suppression has been found to be maladaptive for European-Americans, similar associations have not been found for some East Asian cultures, suggesting that this strategy may be more adaptive within certain cultural contexts (Arens, Balkir, & Barnow, 2012; Kwon, Yoon, Joorman, & Kwon, 2013). Parents are thought to socialize their children’s emotions in alignment with their cultural background (Parker et al., 2013), and we propose in the current study that youths’ parental socialization history will influence how emotions are further socialized within their friendships. As such, the findings of the current study may not be generalizable to all cultural groups.

Moreover, because the current study used a community sample of psychologically healthy youth, the findings of the current study may not be generalizable to youth experiencing clinically-significant levels of psychological distress. The self-propagating theory of depression proposes that depressed individuals might possess aversive interpersonal behaviors that lead to peer rejection and decreased friendship quality (Joiner, 2000). In fact, research with adolescent samples has found that depressed youth may excessively seek

reassurance or negative feedback, leading to consequent decreases in the quality of their friendships (Borelli & Prinstein, 2006; Prinstein, Borelli, Cheah, Simon, & Aikins, 2005). The results of the current study suggest that emotional dysregulation and poor emotional awareness positively relate to co-rumination, a process associated with positive friendship quality (Rose, 2002; Rose et al., 2007). Although it is likely that youth with clinically-significant levels of internalizing distress have dysregulated emotion management and poor emotional awareness (Zeman et al., 2002), it is uncertain that these emotional deficits would similarly impact their friendships. A clinical sample of adolescents might possess aversive interpersonal styles that limit the likelihood of high quality friendships (e.g., Prinstein et al., 2005) and therefore, the likelihood of co-rumination with a close friend. Additional research is needed to determine how emotional competence functions within the friendships of youth with clinical levels of psychological distress.

Along with limitations regarding the variability of the sample, there were also limitations in the assessment of emotional competence and co-rumination. Researchers have emphasized the benefits of using multiple reporters and measures when assessing emotional competence in children (Suveg & Zeman, 2011). Although it has been suggested that youth may be the best reporters of the internal processes that compose emotion regulation (Adrian, Zeman, & Veits, 2011), future studies would benefit from supplementing self-reports with

additional reporters (e.g., parents) and physiological measures to account for potential self-report biases. Further, even though both self-report and observational methods were implemented in the assessment of co-rumination, the problem discussion task may not have been an ecologically valid assessment of intimate friendship processes. During adolescence, best friends are the recipients of intimate self-disclosures, such as secrets (Frijns, Finkenauer, & Keijsers, 2013). It is possible that friendships processes such as co-rumination that involve intimate exchange (Rose, 2002) occur only in private and are not readily observable within a laboratory task.

Finally, because the design of the current study was cross-sectional, it is not possible to determine the direction of effects. Co-rumination is thought to be a transactional process such that it can be considered both a predictor and outcome of emotional adjustment (e.g., Stone et al., 2010). Similarly, the processes of peer influence on emotional development are likely transactional in nature. Considering that some of the friend dyads in the current study had known each other for as many as 13 years, it is clear that we have only captured one piece of a complex cycle. Results of the current study suggest that youth with dysregulated sadness management, for example, might be more likely to co-ruminate with their best friend. However, it is equally possible that these youth have previously received positive reinforcement for negative emotional expressivity within the context of co-rumination (e.g., Schwartz-Mette & Rose,

2012), thus, increasing their dysregulated sadness management. Longitudinal research, ideally with multiple time points to capture transactional processes, is needed to capture the direction of these effects.

### **Future Directions**

From the limitations of the current study, it is clear that future research will need to incorporate a larger, more diverse sample, multi-method assessments of emotional competence, and a longitudinal design. However, despite limitations, the findings of the current study also provide a foundation for future researchers to explore the processes of emotion socialization within youths' close friendships. Several important questions have arisen from the set of current findings. Although our findings suggest friends' emotional competencies relate to co-rumination, future research is needed to determine the direction of influence between friends. That is, if imbalances in emotional dysregulation between friends predict greater co-rumination, does the more or less dysregulated friend have the greater influence? Further, a process-oriented examination of reinforcement contingencies within co-rumination for expressions of sadness and anger could help clarify how co-rumination might function as an emotion socialization process. Do friends provide positive reinforcement for emotional expressions during co-rumination, and how do these reinforcement contingencies differ for sad versus angry emotions? Finally, future research using more detailed

assessments of emotional competence could elucidate whether there is an ideal level of emotion skills for youths' positive socioemotional functioning.

In addition to elucidating the direction of effects between emotional competence and co-rumination, longitudinal research would help to shed light on the nature of influence between friends during co-rumination. Researchers have identified several moderators of peer influence effects (Prinstein, 2007). For example, socially anxious youth might be more susceptible to peer influences on their behaviors and popular youth might exert a greater influence on their less popular friends (Brechwald & Prinstein, 2011). The results of the current study suggest that co-rumination may be most prevalent in friendships that are composed of one friend who is emotionally dysregulated and one who is not. Further, low levels of co-rumination were only detected when both members of a friendship reported adaptive sadness coping. Parent emotion socialization research suggests that parents' emotion regulation capabilities influence how their children's emotions are socialized (Cassano & Zeman, 2010; Cassano et al., 2014). Unlike the parent-child relationship in which the parent can be more clearly identified as the influential socializing agent, it is unclear within a friendship if one friend might be more influential than the other. Within the context of the current study's findings, it could be valuable to examine whether friends' level of emotional competence moderates the processes of socialization between friends. Given the link between co-rumination and increases in

depressive symptoms between friends (Schwartz-Mette & Rose, 2012), it is impossible that the more dysregulated friend exerts a greater influence than the less dysregulated friend.

In addition to longitudinal research to explore the relative strength of influence between two friends, a more detailed examination of co-rumination could help determine the process of influence. Legerski and colleagues (2014) found that within close friends' emotion talk, supportive responses to emotional expressions increased the likelihood of subsequent emotional expressions. Examining similar reinforcement contingencies in conjunction with co-rumination could help clarify how co-rumination functions as a process of emotional socialization between friends. Further, we found differences in the relations between co-rumination and sadness versus anger dysregulation. We suggested that friends' sadness, but not anger, dysregulation had an interactive, relational effect because of the different functional affective responses that each type of emotional expression evokes (Walle & Campos, 2013). A more detailed examination of friends responses to sad compared to angry expressions during co-rumination is needed to investigate this possibility. Specifically, do expressions of sadness within co-rumination elicit a more active, supportive response, compared to expressions of anger?

Further, there were marginally significant gender differences in the relation between friends' anger dysregulation and observed co-rumination such



that there was an association for boys but not girls. Friends' anger inhibition also marginally significantly related to lower observed dwelling on negative affect for boys. Considering that anger expressions, compared to sadness expressions, do not carry the same social repercussions for boys (Perry-Parrish & Zeman, 2011; Zeman et al., 2013), co-rumination could be a context for boys to provide positive reinforcement for friends' expressions of anger. Additional research is needed, however, to determine if angry emotions are discussed and encouraged more frequently than sad emotions during co-rumination between boys compared to girls.

Along with a more detailed examination of co-rumination, future research could benefit from a more in-depth examination of emotional competence to determine if there is an optimal level of emotional competence for positive social and psychological functioning. Researchers have found a link between positive social skills (i.e., social perspective-taking), co-rumination, and empathetic distress (Smith & Rose, 2011). Although our findings with emotional awareness primarily suggest that youth with *poor* emotional awareness are more likely to co-ruminate, for girls, there was an interaction with observed co-rumination. This interaction suggested co-rumination was greatest when both friends had poor emotional awareness or both friends had high emotional awareness. Researchers are increasingly recognizing that even seemingly positive skills can have negative adjustment trade-offs (Rose & Rudolph, 2006). Our findings suggest that being

highly emotionally aware, and having a friend who is highly emotionally aware, might lead to girls to participate in a conversational process that can potentially lead to negative adjustment outcomes (e.g., Rose et al., 2007). As poor emotional awareness similarly related to co-rumination, it may be that there is an ideal, moderate level of emotional awareness that buffers friends from the negative emotional consequences of co-rumination.

### **Conclusions**

Researchers have recently emphasized that youths' emotions continue to be socialized beyond early childhood and into adolescence with complex influences from the social environment (Cole, 2014). By providing initial evidence linking early adolescent friends' emotional competencies to co-rumination within their close, same-sex friendships, the results of the current study support the notion that the manner in which friends manage their emotions may influence how emotions are socialized within their friendships. Further, results support that peer emotion socialization likely differs as a function of both gender and emotion type. The composition of a friendship (i.e., each friend's emotional competence) emerged as an important predictor of co-rumination, underscoring the dynamic, interactive nature of peer influence. This research strongly supports the importance of studying emotional and social functioning in tandem, and provides a foundation for future studies to explore how friends can

function as emotion socializers within the context of processes such as co-rumination.

## Appendix

Table 1  
Correlations between Covariates, Independent Variables, and Dependent Variables

Variable	<i>M</i> ( <i>SD</i> )	Range	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Gender	--	--	--														
2. Ethnicity	--	--	-.20*	--													
3. Age (Years)	12.69 (0.96)	10.25-15.17	.01	-.10	--												
4. Friendship Length	5.03 (3.50)	0.50-13.42	-.02	-.05	.07	--											
5. Friendship Quality	48.07 (8.69)	19.00-16.00	-.19*	.13	-.01	-.14	--										
6. Sadness Inhibition	8.55 (1.88)	4.00-12.00	.11	.05	.07	.09	-.05	--									
7. Anger Inhibition	7.92 (1.89)	4.00-12.00	.03	.06	.07	-.07	.15*	.48**	--								
8. Sadness Dysregulation	4.88 (1.44)	3.00-9.00	-.19*	.16*	-.05	-.05	-.07	-.18*	-.18*	--							
9. Anger Dysregulation	4.53 (1.50)	3.00-9.00	.04	-.08	.04	.09	-.21**	.01	-.29**	.28**	--						
10. Sadness Coping	11.87 (1.95)	5.00-15.00	.04	.18*	.10	-.04	.33**	.11	.04	-.29**	-.20**	--					
11. Anger Coping	9.28 (1.86)	4.00-12.00	-.05	.12	-.02	-.06	.36**	.06	.40**	-.20**	-.54**	.43**	--				
12. Poor Emotional Awareness	19.38 (3.66)	8.00-32.00	-.16*	.09	-.07	.04	-.11	.26**	.11	.20**	.36**	-.30**	-.38**	--			
13. Expressive Reluctance	21.11 (3.46)	9.00-39.00	.13	.08	.03	.05	-.18*	.44**	.31**	.06	.20**	-.27**	-.23**	.61**	--		
14. Co-rumination (self-report)	76.43 (25.06)	27.00-129.00	-.34**	.04	.04	-.05	.43**	.04	.05	.14	.04	.05	.09	.17*	-.01		
15. Co-rumination (observed)	2.30 (0.91)	1.00-5.00	-.30**	.12	.13	.01	.21**	.04	.06	.06	.01	.03	-.05	.11	-.06	.22**	
16. Dwelling on Negative Affect	1.82 (0.88)	1.00-5.00	-.22**	.12	.08	.02	.12	-.02	-.01	.03	.05	-.03	-.05	.04	-.05	.08	.67**

Note. \*\* $p < .01$ , \* $p < .05$ . Gender is coded 0 = girls, 1 = boys. Ethnicity is coded 0 = white, 1 = not white.

Table 2

*APIM Effect Estimates for Sadness Inhibition*

<i>Effect</i>	<i>Co-rumination (Self-report)</i>		<i>Co-rumination (observed)</i>		<i>Dwelling on Negative Affect</i>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Gender	-14.73**	3.45	0.50**	0.18	-0.34	0.18
Ethnicity	-4.06	3.82	0.11	0.16	0.11	0.16
Friendship Quality	13.17**	2.34	0.13	0.10	0.04	0.10
Actor Sadness Inhibition	2.33	1.71	0.04	0.07	0.07	0.10
Partner Sadness Inhibition	1.10	1.70	-0.03	0.07	0.09	0.10
Actor x Partner	0.25	1.68	0.04	0.07	0.11	0.11
Gender x Actor	--	--	--	--	-0.06	0.14
Gender x Partner	--	--	--	--	-0.26 <sup>+</sup>	0.14
Gender x Actor x Partner	--	--	--	--	-0.36*	0.18

*Note.* \*\* $p < .01$ , \* $p < .05$ , <sup>+</sup> $p < .09$

Table 3

*APIM Effect Estimates for Anger Inhibition*

<i>Effect</i>	<i>Co-rumination (Self-report)</i>		<i>Co-rumination (observed)</i>		<i>Dwelling on Negative Affect</i>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Gender	-14.12**	3.41	-0.50**	0.18	-0.34 <sup>+</sup>	0.18
Ethnicity	-2.77	3.81	0.11	0.17	0.15	0.17
Friendship Quality	13.15**	2.39	0.13	0.10	0.06	0.10
Actor Anger Inhibition	0.43	1.74	0.04	0.07	0.07	0.09
Partner Anger Inhibition	1.37	1.75	-0.03	0.07	0.07	0.09
Actor x Partner	1.95	1.38	0.04	0.07	0.11	0.09
Gender x Actor	--	--	--	--	-0.14	0.13
Gender x Partner	--	--	--	--	-0.24 <sup>+</sup>	0.14
Gender x Actor x Partner	--	--	--	--	-0.08	0.15

*Note.* \*\* $p < .01$ , \* $p < .05$ , <sup>+</sup> $p < .09$

Table 4

*APIM Effect Estimates for Sadness Dysregulation*

<i>Effect</i>	<i>Co-rumination (Self-report)</i>		<i>Co-rumination (observed)</i>		<i>Dwelling on Negative Affect</i>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Gender	-12.72**	3.42	-0.46*	0.19	-0.30	0.18
Ethnicity	-4.91	3.75	0.06	0.16	0.11	0.16
Friendship Quality	13.47**	2.32	0.14	0.10	0.04	0.10
Actor Sadness Dysregulation	3.28 <sup>†</sup>	1.71	0.10	0.07	-0.002	0.07
Partner Sadness Dysregulation	-1.20	1.70	0.07	0.07	0.08	0.07
Actor x Partner	-3.44*	1.55	-0.12	0.08	-0.20*	0.08

*Note:* \*\* $p < .01$ , \* $p < .05$ , <sup>†</sup> $p < .09$

Table 5

*APIM Effect Estimates for Anger Dysregulation*

<i>Effect</i>	<i>Co-rumination (Self-report)</i>		<i>Co-rumination (observed)</i>		<i>Dwelling on Negative Affect</i>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Gender	-13.96**	3.30	-0.50**	0.18	-0.35*	0.18
Ethnicity	-2.03	3.75	0.10	0.17	0.13	0.17
Friendship Quality	13.93**	2.34	0.19 <sup>+</sup>	0.10	0.07	0.10
Actor Anger Dysregulation	3.55*	1.71	-0.06	0.10	0.07	0.07
Partner Anger Dysregulation	2.05	1.70	-0.12	0.10	0.02	0.07
Actor x Partner	1.71	1.56	0.04	0.12	-0.05	0.08
Gender x Actor	--	--	0.22	0.14	--	--
Gender x Partner	--	--	0.28*	0.14	--	--
Gender x Actor x Partner	--	--	-0.16	0.17	--	--

*Note.* \*\* $p < .01$ , \* $p < .05$ , <sup>+</sup> $p < .09$



Table 6

*APIM Effect Estimates for Sadness Coping*

<i>Effect</i>	<i>Co-rumination (Self-report)</i>		<i>Co-rumination (observed)</i>		<i>Dwelling on Negative Affect</i>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Gender	-12.29**	3.38	-0.50**	0.19	-0.35*	0.18
Ethnicity	-1.73	3.80	0.08	0.17	0.14	0.17
Friendship Quality	13.39**	2.48	0.15	0.10	0.10	0.10
Actor Sadness Coping	-2.01	1.82	-0.01	0.08	-0.04	0.07
Partner Sadness Coping	-1.84	1.72	0.02	0.07	0.03	0.07
Actor x Partner	-3.37	1.63	0.03	0.09	0.09	0.09

*Note.* \*\* $p < .01$ , \* $p < .05$ , † $p < .09$

Table 7

*APIM Effect Estimates for Anger Coping*

<i>Effect</i>	<i>Co-rumination (Self-report)</i>		<i>Co-rumination (observed)</i>		<i>Dwelling on Negative Affect</i>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Gender	-12.79**	3.44	-0.51**	0.19	-0.33 <sup>+</sup>	0.18
Ethnicity	-2.69	3.74	0.11	0.16	0.15	0.16
Friendship Quality	14.70**	2.50	0.21*	0.10	0.10	0.10
Actor Anger Coping	-1.78	1.82	-0.13	0.08	-0.09	0.08
Partner Anger Coping	-3.14 <sup>+</sup>	1.73	-0.05	0.07	0.001	0.07
Actor x Partner	-1.65	1.62	0.03	0.09	-0.02	0.09

*Note.* \*\* $p < .01$ , \* $p < .05$ , <sup>+</sup> $p < .09$

Table 8

*APIM Effect Estimates for Poor Emotional Awareness*

<i>Effect</i>	<i>Co-rumination (Self-report)</i>		<i>Co-rumination (observed)</i>		<i>Dwelling on Negative Affect</i>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Gender	-11.91**	3.45	-0.51**	0.18	-0.37*	0.18
Ethnicity	-4.21	3.73	0.07	0.10	0.15	0.16
Friendship Quality	14.44**	2.37	0.16 <sup>+</sup>	0.10	0.05	0.10
Actor Poor Emotional Awareness	4.42*	1.71	0.01	0.10	0.05	0.10
Partner Poor Emotional Awareness	0.28	1.69	-0.06	0.10	0.04	0.10
Actor x Partner	-1.12	1.55	0.30*	0.12	0.21 <sup>+</sup>	0.11
Gender x Actor	--	--	0.12	0.14	-0.09	0.14
Gender x Partner	--	--	0.03	0.14	-0.08	0.14
Gender x Actor x Partner	--	--	-0.38*	0.16	-0.33*	0.16

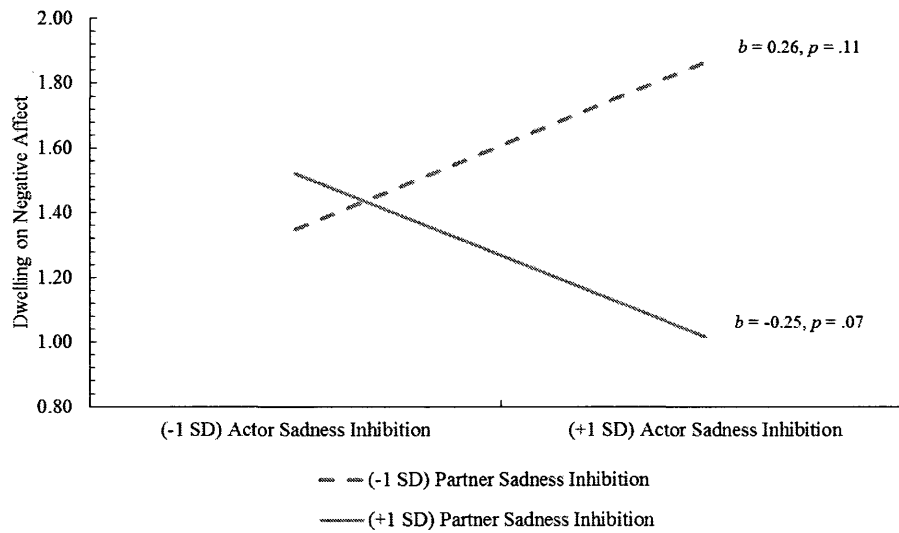
*Note.* \*\* $p < .01$ , \* $p < .05$ , <sup>+</sup> $p < .09$

Table 9

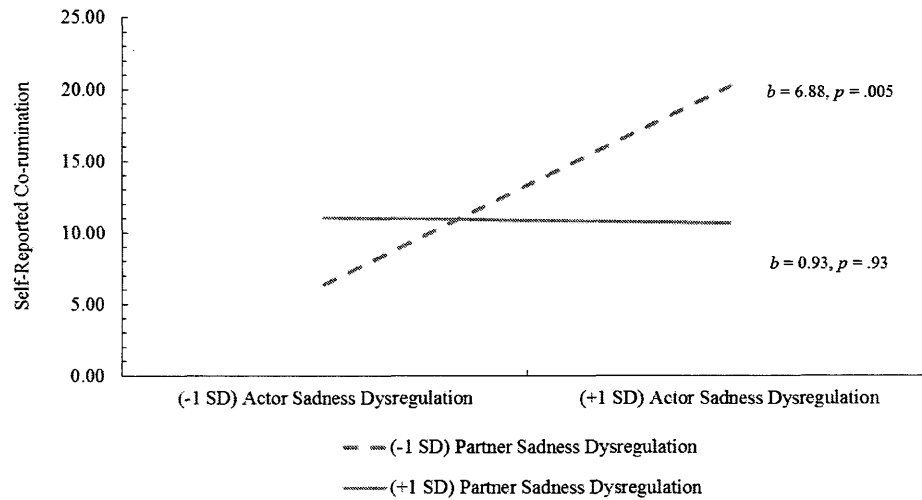
*APIM Effect Estimates for Expressive Reluctance*

<i>Effect</i>	<i>Co-rumination (Self-report)</i>		<i>Co-rumination (observed)</i>		<i>Dwelling on Negative Affect</i>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Gender	-14.92**	3.45	-0.45*	0.18	-0.31	0.18
Ethnicity	-4.09	3.79	0.10	0.16	0.14	0.16
Friendship Quality	13.76**	2.36	0.18 <sup>+</sup>	0.10	0.07	0.10
Actor Expressive Reluctance	2.94	1.74	0.02	0.07	-0.02	0.07
Partner Expressive Reluctance	1.29	1.71	-0.13 <sup>+</sup>	0.07	-0.11	0.07
Actor x Partner	1.88	1.62	0.10	0.09	-0.04	0.09

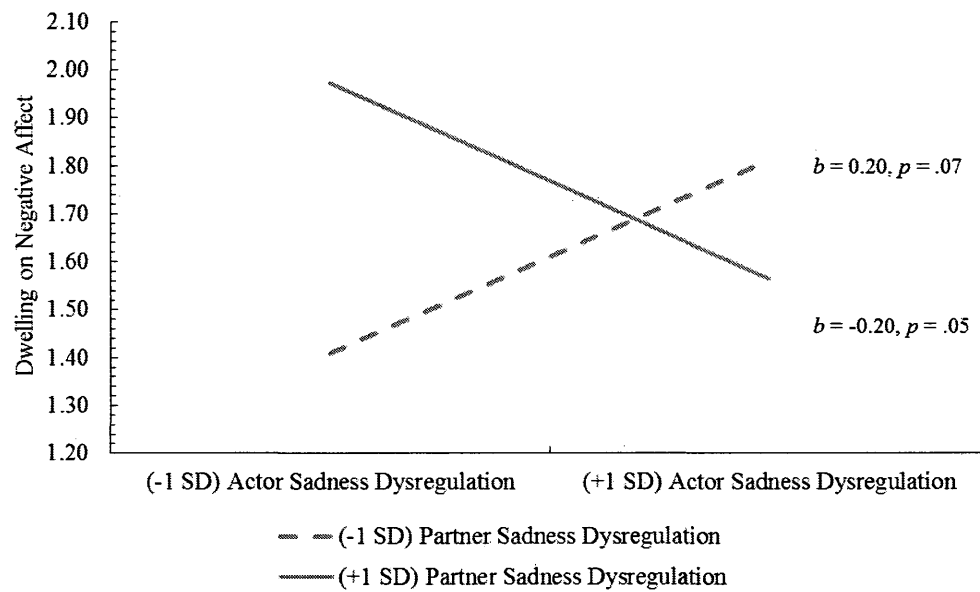
*Note.* \*\* $p < .01$ , \* $p < .05$ , <sup>+</sup> $p < .09$



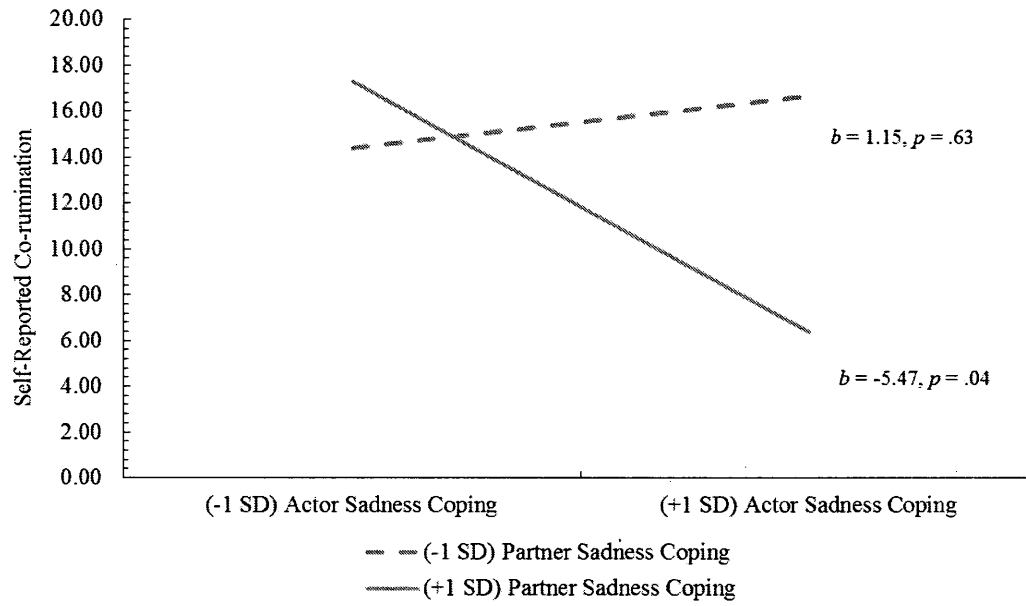
*Figure 1.* Actor x partner sadness inhibition interaction predicting observed dwelling on negative affect for boys.



*Figure 2.* Actor x partner sadness dysregulation predicting self-reported co-rumination.

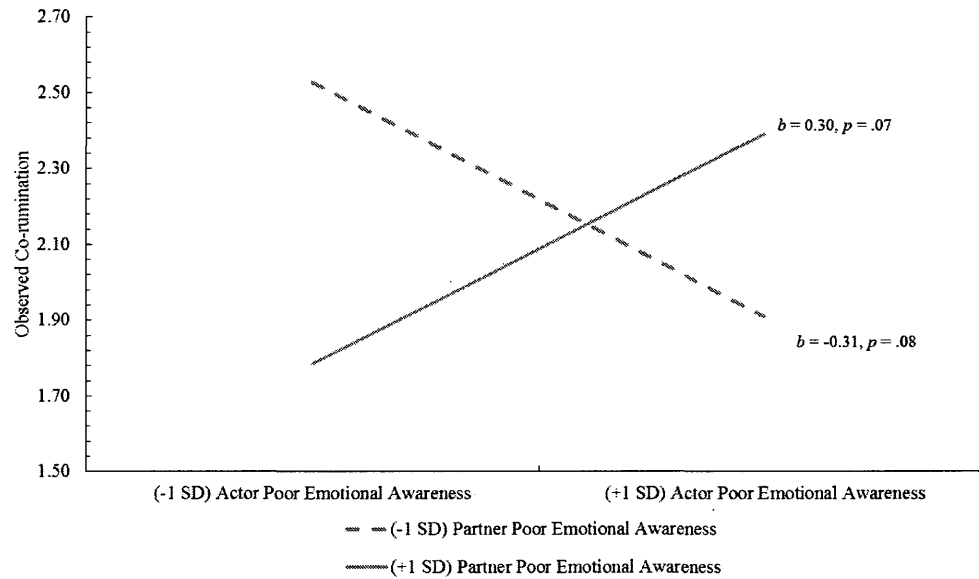


*Figure 3.* Actor x partner sadness dysregulation predicting observed dwelling on negative affect.

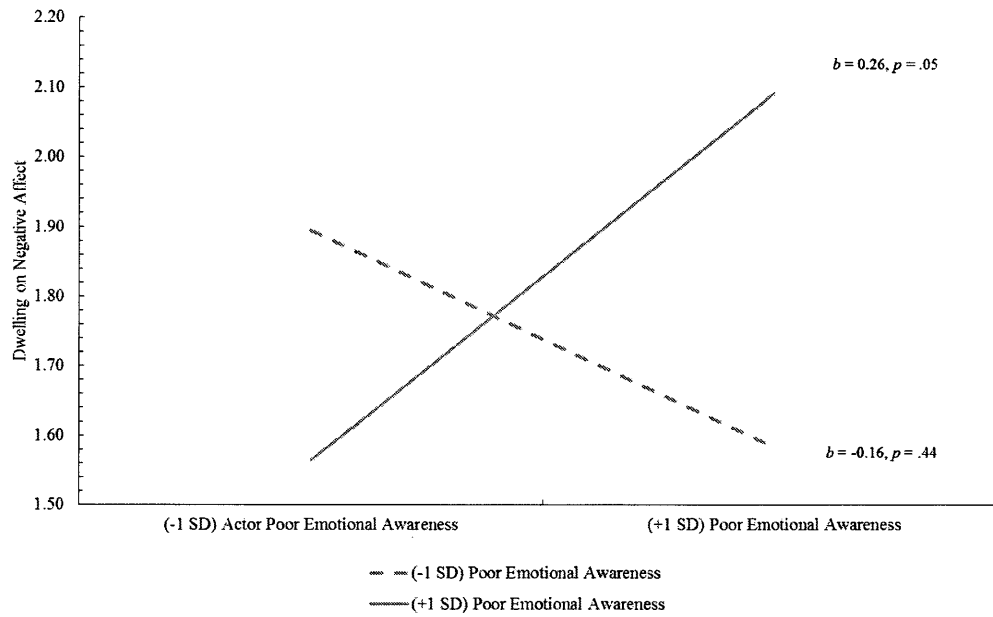


*Figure 4.* Actor x partner sadness coping interaction predicting self-reported co-rumination.





*Figure 5.* Actor x partner poor emotional awareness interaction predicting observed co-rumination for girls.



*Figure 6.* Actor x partner poor emotional awareness interaction predicting observed dwelling on negative affect for girls.

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