Longitudinal Links Among Adolescent Friend Emotion Socialization, Emotion Regulation, and Internalizing Symptoms: The Role of Gender

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ABSTRACT

Emotion socialization is the process through which individuals learn acceptable forms of emotional expression within their particular social contexts. Although it is widely recognized that peers are a critical influence on adolescent development, most research on emotion socialization has examined parental influences on their children's emotions (Zeman et al., 2013) with little attention paid to how friends socialize each other's emotions. One form of emotion socialization occurs in the responses to emotional disclosures. Initial evidence indicates that specific friend emotion socialization responses to negative emotions are related to adolescents' own psychological functioning, concurrently and longitudinally (Klimes-Dougan et al., 2014). However, research has not explored possible mechanisms that might explain this link. The current study examines the longitudinal relation between friend socialization responses to negative emotions and adolescents' internalizing symptoms (i.e., anxiety and depressive symptoms) through the mediator, emotion regulation, and how this relation differs between girls and boys. Data were collected at two time points (M = 23 months apart) from 139 youth (T1, M_{age} = 12.66 years; T2, M_{age} = 14.50 years, 54.5% female, 77.0% White). Youth responded to questions about the socialization responses they typically receive from a close friend, anxiety and depressive symptoms, emotion regulation abilities, and friendship quality. Moderated mediational analyses were conducted using the Process macro for SPSS (Hayes, 2013). Results indicated that specific types of supportive, but not unsupportive, emotion socialization responses were prospectively related to anxiety symptoms and emotion regulation, and these relations differed between girls and boys. For boys, greater expectations of receiving supportive Reward and Override responses were related to stronger emotion regulation, and greater expectations of receiving supportive Magnify responses were related to increased anxiety symptoms. However, unsupportive socialization strategies did not predict anxiety symptoms, and no emotion socialization responses predicted depressive symptoms. Lastly, stronger emotion regulation was associated with decreased anxiety and depressive symptoms in all models even after controlling for T1 anxiety, depression, and friendship quality. These findings provide further evidence that friend emotion socialization responses are related to adolescents' functioning over time and these relations differ between girls and boys.

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CHAPTER 1

Introduction

Over the past two decades, there has been a surge of research examining the ways individuals manage and express their emotions (Adrian, Zeman, & Veits, 2011; Chaplin & Aldao, 2013; Cole, Martin, & Dennis, 2004; Morris, Silk, Steinberg, Myers, & Robinson, 2007). This increased interest in human emotionality is partly due to an expansion in developmental research and theory noting the integral role of emotional competencies in youth's successful development. Emotional competence is a term denoting a multifaceted array of different skills that individuals develop to regulate and manage their emotions in accordance with their goals. Saarni (1999) delineated 11 such skills with two germane to the present research including emotion expression and emotion regulation coping (Saarni, 1999).

The functionalist perspective views emotion as playing a significant role in establishing, maintaining, changing, or terminating the relationship between the individual and his or her social environment (Campos, Mumme, Kermoian, & Campos, 1994). That is, emotions help individuals to meet intra- and inter-personal goals. This theoretical perspective asserts that emotions are intrinsically relational, and cannot be studied in isolation from the environment in which they were evoked. Rather, emotions are understood from within their specific eliciting social contexts and are thought to function to motivate behavior and to communicate important information about the elicitor(s) of the emotion (Butler, Lee, & Gross, 2007). Additionally, proponents of this

view emphasize that emotions serve specific functions, all of which depend on the goals of the individual within the specific relational context. Thus, regulating the experience and expression of emotion facilitates the attainment of one's inter- and intra-personal goals (Campos et al., 1994; Walle & Campos, 2012).

Accordingly, Thompson (1994) defined emotion regulation as, "the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features to accomplish one's goals" (pp. 27-28). It is important to note that emotion regulation is not synonymous with the inhibition or control of emotions, but rather emotion regulation includes many different strategies of management that operate to meet the goals of the individual. Although children learn to manage emotions starting in the toddler years with considerable assistance from others (Denham, Bassett, & Wyatt, 2007), the development of emotion regulation continues through adolescence because it is during this developmental period that adolescents experience an increase in emotion intensity, and experience emotions more frequently than younger or older individuals (Silk, Steinberg, & Morris, 2003). This increased emotionality requires adolescents to modify and/or learn new regulation strategies to manage their emotional expressivity effectively and to cope with emotions in adaptive ways (Suveg & Zeman, 2004). Responding constructively to negative emotions, particularly managing the emotional dynamics (i.e., intensity and duration), is known to contribute to positive psychological adjustment (Zeman, Cassano, Perry-Parrish, & Stegall, 2006). Conversely, responding to negative emotions by under- and/or over-

controlling emotional expression is an indicator of dysregulated emotion. Further, emotion dysregulation is thought to be a transdiagnostic factor underlying many forms of psychopathology (e.g., Aldao, Nolen-Hoeksema, & Schweizer, 2010; Seager, Rowley, & Ehrenreich-May, 2014) and has been linked to increases in somatic symptoms (e.g., Parr, Zeman, Braunstein, & Price, 2016), poorer academic functioning (Trentacosta & Izard, 2007), and problematic social relationships (Eisenberg et al., 1997).

Adolescence is a critical developmental period in which to examine emotion regulation skills, yet this age group (13-17 years of age) has received little empirical attention compared to research examining emotion regulation in toddlers/preschoolers and middle childhood samples (for a review, see Adrian et al., 2011). Specifically, Adrian and colleagues (2011) found that of the 157 studies published on emotion regulation between 1989 and 2010, 33.8% studied toddlers/preschoolers, 31.8% used middle childhood samples, and only 17.2% of the research examined adolescents. There are many significant developmental changes in adolescence (e.g., biological, cognitive, social, emotional) that co-occur with emotion regulation skill development that, together impact psychological functioning (Frost, Hoyt, Chung, & Adam, 2015; Leadbeater, Kuperminc, Blatt, & Hertzog, 1999). Biologically, at the onset of puberty, specific hormones are released that trigger the maturation of the affective centers in the brain (e.g., the amygdala; Ahmed et al., 2008). Through this affective maturation process, adolescents experience an increase in emotion intensity (Silk et al., 2003). However, these pubertal changes often precede the changes in brain development that occur during

adolescence (Hare et al., 2008; Steinberg, 2005). The adolescent brain undergoes significant maturation processes with respect to changes in brain function and structure, particularly systems associated with behavior and emotion (e.g., response inhibition and emotion regulation; Steinberg, 2005). The difference in timing between the developmental changes in adolescents' affective experiences and regulatory abilities suggests that adolescents may not have the resources to effectively manage and respond to the increase in emotional intensity.

Meanwhile, adolescents also simultaneously experience advances in cognitive development, particularly improved abstract and hypothetical thinking (Steinberg, 2005). Adolescents' increased abstract thinking has been linked to a rise in anxiety as adolescents become more self-aware and think hypothetically about situations. For example, improvements in cognitive skills are apparent in the ways that adolescents begin to consider the many possible outcomes in a situation, and have self-conscious thoughts about other people's thoughts and feelings towards them (Rosso, Young, Femia, & Yurgelun-Todd, 2004). Additionally, the development of more sophisticated abstract thinking skills and the concomitant self-focus may also contribute to an escalation in ruminative behaviors, and contribute to depressive symptoms in adolescents (Abela & Hankin, 2011).

Adolescents also experience changes in the realm of social development as they spend more time with peers than in any other previous developmental period (Berndt, 1982). The nature of peer relationships in adolescence is fraught with more complexity

than childhood friendships that entail the need for more sophisticated emotion regulation strategies (Holodynski & Friedlmeier, 2006). Managing increased emotional arousal to accomplish social goals and maintain relationships is imperative, as poor peer relationships have been indirectly linked to externalizing and internalizing difficulties, through adolescents' emotion regulation skills (Criss et al., 2016; Panak & Garber, 1992). Together, these significant developmental advancements across many inter-related domains render adolescence a particularly important period to study emotion regulation and its role in psychopathology.

Emotion Regulation and Psychopathology

There is a growing body of literature that has established that difficulties in emotion regulation in adulthood and also in younger age groups are associated with many, if not all, forms of psychopathology (Cole & Hall, 2008; Cole, Mitchel, & Teti, 1994; Keenan, 2000; Zeman et al., 2006). As such, transdiagnostic approaches have regarded emotion regulation as a target mechanism to examine in the etiology and treatment of a wide range of psychiatric disorders, as deficits in emotion regulation transcend diagnostic boundaries (Kring & Sloan, 2009). Further, a growing body of research indicates that maladaptive emotion regulation strategies may actually *precede* the development of psychopathology and contribute to the maintenance of psychopathology into adulthood (Bradley, 2000; McLaughlin, Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011). A study by McLaughlin and colleagues (2011) investigated the temporal relation between emotion dysregulation (i.e., poor emotional understanding,

anger and sadness dysregulated expression, and rumination) and four forms of psychopathology (i.e., depression, anxiety, aggressive behavior, and eating pathology) in a community sample of middle school students. They found that emotion dysregulation predicted increases in anxiety symptoms, aggressive behavior, and eating pathology after controlling for baseline symptoms. However, none of the four types of psychopathology predicted changes in emotion dysregulation.

Emotion regulation has also been investigated as a mediator between negative life experiences (e.g., child maltreatment, peer victimization) and psychopathology (Herts, McLaughlin, & Hatzenbuehler, 2012; Kim & Cicchetti, 2010; McLaughlin, Hatzenbuehler, & Hilt, 2009). For example, Herts and colleagues (2012) found that emotion dysregulation (i.e., poor emotional understanding, anger and sadness dysregulated expression, and rumination) mediated the longitudinal association between both peer victimization and stressful life events on aggressive behavior in a sample of middle school youth. Similarly, McLaughlin and colleagues (2009) examined the longitudinal impact of peer victimization on internalizing symptoms through changes in emotion dysregulation (i.e., poor emotional understanding, anger and sadness dysregulated expression, and rumination) in middle school youth. Relational and reputational victimization predicted changes in emotion dysregulation, which in turn predicted changes in internalizing symptoms over a 7-month period. In sum, these findings provide support for the role of emotion dysregulation as a risk factor for psychopathology (Durbin & Shafir, 2008).

A growing body of research has indicated a robust relation between difficulties in emotion regulation and internalizing and externalizing problems, both concurrently (e.g., Aldao et al., 2010; Silk et al., 2003) and longitudinally (e.g., Folk, Zeman, Poon, & Dallaire, 2014; McLaughlin et al., 2011). In regards to internalizing problems, there has been considerable evidence in the literature connecting emotion dysregulation to anxiety and depression. A 2-year longitudinal study by Folk and colleagues (2014) examined the links between specific emotional experiences (i.e., anger, worry, and sadness) and components of emotion regulation and their predictions to symptoms of anxiety and depression among early adolescents (M_{age} = 9.65 at Time 1). They found that Time 1 child-reported anger, worry, and sadness dysregulation were positively related to Time 2 child-reported anxiety symptoms. Additionally, child-reported anger and worry regulation were negatively related to depression, such that youth who reported managing anger and worry more constructively at Time 1 reported fewer depressive symptoms at Time 2. This study highlighted the importance of examining negative emotions and their specific pathways to anxiety and depression symptomatology.

Garnfski and colleagues (2005) explored the relations between specific emotion regulation strategies and internalizing psychopathology among adolescents 12- to-18 years old. Youth completed self-report measures on their internalizing problems (i.e., withdrawn, somatic complaints, anxious/depressed) and their use of specific emotion regulation strategies (e.g., self-blame, rumination, catastrophizing). Adolescents who reported more internalizing problems also cited using more self-blame, rumination, and

catastrophizing, and less positive reappraisal to regulate their negative emotions. These findings indicate that adolescents with internalizing problems engage in strategies that intensify and distort negative emotions. Engaging in strategies that help youth maintain control of their emotions without getting overwhelmed by them is an important feature of emotional competency in adolescence.

Studying emotion regulation in typically and non-typically developing youth may help identify emotion-related processes that contribute to adaptive versus maladaptive outcomes. A study conducted by Suveg and Zeman (2004) examined emotion regulation in children ages 8- to 12-years with and without a diagnosed anxiety disorder. They found that youth with an anxiety disorder reported more dysregulated expression for three emotions (i.e., anger, worry, and sadness) and more inhibition of worry compared to non-anxious youth. Youth with an anxiety disorder and girls reported less adaptive regulation of negative emotions than youth without an anxiety disorder and boys. Additionally, youth with an anxiety disorder reported experiencing anger and worry more intensely and perceived themselves as less efficacious in their ability to handle negative emotions than non-anxious youth. These results highlight two central features that contribute to anxiety in youth: heightened negative emotional experiences and a perceived inability to effectively decrease the intensity of the negative emotions.

Carthy and colleagues (2010) examined emotional reactivity and regulation in anxious and non-anxious youth (ages 10-17 years) using a novel task to elicit real-time emotional arousal. Youth completed a computerized task that presented ambiguous

situations with potentially threatening meanings. Throughout the task, youth were asked to report on their experience of negative emotions and what they would do in that situation to calm themselves down. Youth with an anxiety disorder demonstrated greater negative emotional reactivity, as they reported a higher intensity and frequency of negative emotional responses to the stimuli than non-anxious youth. In regards to emotion regulation strategies, anxious youth used more avoidance, more help seeking from others, and less problem solving than non-anxious youth. This study further highlighted the role of emotional reactivity and dysregulation in adolescent anxiety.

Relatedly, difficulties in emotion regulation have been linked to depressive symptomatology in youth. Silk, Steinberg, and Morris (2003) examined links between emotion regulation and depressive symptoms in a sample of adolescents in grades 7 and 10. Adolescents' emotion regulation was assessed using experience sampling, in which they reported on the intensity, lability, and strategies used to manage negative emotions (i.e., anger, anxiety, and sadness) across one week. Youth also completed a self-report measure of their depressive symptoms. Adolescents who reported greater intensity and lability of anger, anxiety, and sadness reported more depressive symptoms. Further, adolescence who responded to negative emotions with denial, avoidance, or rumination were less effective in regulating their emotions and reported greater depressive symptoms. The findings of this study emphasize the importance of effectively managing increased emotional intensity and lability in adolescence and the role of emotion dysregulation in depression.

Betts and colleagues (2009) examined differences in emotion regulation between youth 12- to 16-years old who scored high and low on a self-report measure of depressive symptomatology. Adolescents reported on their use of two emotion regulation strategies: expressive suppression and cognitive reappraisal. Youth who were in the low depressive symptomatology group reported using more cognitive reappraisal, whereas youth in the high depressive symptomatology group reported using more expressive suppression. These findings further support that dampening or suppressing emotional expression may constitute a risk factor for adolescent depression, whereas the strategy of cognitive reappraisal and restructuring may constitute a protective factor against adolescent depression.

Gender Differences in Emotion Regulation and Psychopathology

It is important to consider gender differences in emotion regulation and psychopathology. In regards to emotion regulation, a body of research indicates that adolescent and young adult females experience greater overall emotional intensity and report higher levels of both positive and negative emotions compared to boys (Frost et al., 2015). Girls also exhibit greater emotion expression overall, particularly for positive emotions, and several negative emotions (e.g., sadness, anxiety). However, boys express higher levels of anger and aggression than girls (Chaplin, 2015). Additionally, in both lab settings and everyday life, girls have stronger emotional reactions to interpersonal conflicts than boys (Rose & Rudolph, 2006). Charbonneau, Mezulis, and Hyde (2009) found that for adolescent girls with high levels of emotional reactivity, there was a strong

relation between interpersonal stress and depression. This effect was not found for girls with low levels of emotional reactivity, suggesting that emotional reactivity may be a risk factor for the development of internalizing symptoms. These gender differences in emotion expression and reactivity indicate the importance of girls learning adaptive emotion regulation strategies that may then protect them from developing internalizing symptoms in adolescence (Frost et al., 2015).

In regards to psychopathology, a large body of research consistently documents gender differences in the prevalence of psychopathology among adolescents. Specifically, adolescent-onset emotional disorders (e.g., anxiety disorders, mood/depressive disorders) are much more common in girls than boys (Hankin & Abramson, 2001; Lewinsohn, Gotlib, Lewinsohn, Seekley, & Allen, 1998). Although anxiety problems peak in adolescence, particularly in girls, they are more common in girls than boys at an earlier age (Zahn-Waxler, Shirtcliff, & Marceau, 2008). Similarly, depression is two to three times more likely in adolescent girls than boys in both clinically referred and community-based samples (Hankin et al., 1998; Nolen-Hoeksema & Gigrus, 1994). However, during childhood rates of depression among girls and boys are comparable, suggesting that adolescence is a developmental period that confers risk for depression in girls (Zahn-Waxler, Crick, Shirtcliff, & Woods, 2006). In sum, these studies highlight the importance of considering gender differences when examining emotion regulation or psychopathology.

Emotions in a Social Context

The functionalist perspective emphasizes the notion that emotions serve specific functions in relation to the social context (Campos et al., 1994). Thus, an examination of the social contexts in which adolescents are likely to express emotion is important to consider. During adolescence, youth spend increasing amounts of time with peers outside of the home and place greater importance on these relationships than they did during childhood (Brown & Larson, 2009). Thus, a central task for adolescents in this changing social environment is to continually learn how to adapt their emotions in accordance with the expression rules in their specific social contexts in order to meet their interpersonal goals (Denham et al., 2007). To that end, studies have demonstrated that youth express and control their emotions differently depending on the audience or social partner and based on the relational history that they have with that person including a past history of responses to emotional expressivity (Zeman & Garber, 1996; Zeman & Shipman, 1996, 1997). Specifically, youth report exerting greater control of their emotions when they are with peers compared to parents (Zeman & Garber, 1996), as displays of emotion that may be acceptable in front of their parents may meet with disapproval and ridicule with peers.

Research suggests that control of the emotions in a peer context may differ as a function of gender and emotion type (Perry-Parrish & Zeman, 2011; von Salisch & Vogelgesang, 2005; Zeman & Shipman, 1997). In a study by Zeman and Shipman (1997), youth expected less support from their best friends compared to parents when

expressing anger or sadness. Perry-Parrish and Zeman (2011) found adolescent boys engage in more suppression or inhibition of sadness in the peer group and girls are more likely to engage in overt, uninhibited expressions of sadness (i.e., crying, carrying on). Interestingly, norms for sadness expression differ by gender and are related to social acceptance. That is, boys who do not inhibit their sadness in front of peers have been found to have lower peer acceptance and poorer social functioning whereas expressing sadness did not have social repercussions for girls in their peer group (Perry-Parrish & Zeman, 2011). To our knowledge, no study to date has examined how youth express worry in the peer group.

Overall, children and adolescents report greater control of anger and sadness in front of peers (Zeman & Shipman, 1997; 1998) as higher levels of expression of anger and sadness are known to associate with rejection from peers (Dougherty, 2006). Although expressing emotions in peer groups is one important avenue of investigation, an equally important domain to consider is the expression of emotion in close peer relationships, best friendships. Less research has investigated the role of emotion regulation in the context of friendships than in the broader peer group.

Peer Relations and Close Friendships in Adolescence

Peer relations have been regarded as one of the most important features of adolescence, as peers contribute positively to adolescent adjustment and well-being while also receiving blame for many problematic behaviors frequently seen during adolescence (Brown & Larson, 2009; Criss et al., 2016). During the transition from childhood to

adolescence, peer relations become more salient and complex, as youth spend more time with their peers than engaging in any other activity, except school or work obligations (Kingery, Erdley, & Marshall, 2011). Adolescents place greater weight on the opinions and expectations of their peers compared to younger children and peers become a significant influence on adolescent attitudes, behaviors, and emotional well-being (Berndt, 1982; Brown & Larson, 2009). Thus, peer relationships have been regarded as an important socialization context in the development of adaptive or maladaptive psychological outcomes during adolescence (Criss et al., 2016).

Researchers have dedicated significant efforts to examine the magnitude of peer influence on youth's adjustment. Specifically, research has sought to understand the processes through which peer influence facilitates adaptive or maladaptive behaviors, and the patterns of interaction within peer relationships that facilitate changes in individuals (e.g., socialization of emotion, reinforcement of certain social skills and behaviors; Brown & Larson, 2009). Conversations within adolescent friendships have been an area of interest among peer researchers, as direct observations of peer interactions may elucidate the process of peer influence. Granic and Dishion (2003) were interested in examining how antisocial youth guide conversations with their friends, as youth tend to guide the focus and direction of conversations by the way they react (e.g., verbally and nonverbally) to their friends' statements. To accomplish this, they conducted a detailed analysis of conversation patterns in friend dyads in which one friend was classified as a high-risk antisocial adolescent. They found that the high-risk antisocial adolescent

reinforced deviant talk from their friend by selectively attending and responding to this type of conversation. When one friend talked about normative behaviors, the other friend was relatively unresponsive. This study highlights the importance of examining the influence and socializing processes during conversations with friends.

Although peer groups and friendships share many common functions, it is important to make a distinction between the two social entities. Close friendships differ from peer groups because they uniquely provide companionship, intimacy, reliable alliance, emotional support during times of stress, and an opportunity to learn and practice conflict resolution skills (Hartup, 1996; La Greca & Harrison, 2005). Notably, intimacy has been regarded as the hallmark of adolescent friendships (Bauminger, Finzi-Dottan, Chason, & Har-Even, 2008; Berndt & Hanna, 1995) and is considered fundamental to adolescents' socioemotional adaptation (Sullivan, 1953). Intimate interactions have the capacity to engender youth with a sense of belonging and self-worth, and serve as a main outlet for emotional support (Buhrmester, 1990). One prominent way youth build intimacy and trust within their close friendships is through self-disclosure (e.g., sharing desires, emotions, thoughts). Concomitant with increases in cognitive and emotional development, a significant increase in self-disclosure occurs in adolescence as youth engage in intimate conversations with friends to discuss their private thoughts and feelings. Importantly, a study by Rapini and colleagues (1990) found that adolescents reported engaging in more emotional self-disclosure to friends than parents, and this effect became stronger as the adolescents aged. These authors concluded

that as adolescents adapt to their age-related changes, it is adaptive for them to seek out friends for emotional support as they are experiencing similar developmental transitions. Thus, the adolescent years are characterized by the emergence of close friends as another important socializing agent through which youth learn to manage and express their emotions in peer contexts.

In addition to providing emotional support, there are many other benefits associated with having close friendships. Research suggests that friendships can protect against the development of internalizing and externalizing disorders (Adams, Santo, & Bukowski, 2011). Specifically, La Greca and Lopez (1998) found that having high quality friendships was associated with lower levels of social anxiety in an adolescent community sample. Conversely, a lack of close friendships place youth at risk for the development of mental health problems (e.g., anxiety, depression, loneliness), as these friendships are the primary source of social support during adolescence (La Greca & Harrison, 2005). Wentzel and colleagues (2004) found that sixth grade youth who did not have any reciprocal friendships had higher levels of depression and lower self-worth than youth with reciprocal friendships.

In many ways, friendships appear to operate differently for boys versus girls. Generally, adolescent girls manifest higher quality, more intimate friendships than adolescent boys (Brown & Larson, 2009). Girls have a greater tendency to engage in cooperative, prosocial behavior, and self-disclosure with friends (Rose & Rudolph, 2006), are more likely to desire closeness and dependency in their friendships, and

exhibit greater concerns about peer evaluation than boys (La Greca & Lopez, 1998; Rose & Rudolph, 2006). For example, research by Brendgen and colleagues (2002) found that adolescent girls reported more positive and fewer negative friendship features than adolescent boys. Further, girls expect more supportive responses from friends to their emotions than boys, whereas boys expect more unsupportive responses from friends than girls (Klimes-Dougan et al., 2014). Taken together, research on youth's emotional and social development suggests that the two domains are highly intertwined as they influence each other to impact overall adjustment in adolescence.

Close Friend Socialization of Emotion

One of the unique aspects of the social context of adolescent friendships is that it provides youth with the opportunity to practice and refine their emotion regulation skills within affectively intense interactions. Additionally, the nature of the friendship dyad provides a more egalitarian power structure compared to the parent-child relationship in which both friends can ideally exert bidirectional, transactional effects. To that end, within this context, friends both model and differentially reinforce norms for appropriate emotional behavior (e.g., emotional expressivity, emotional reactions; Hartup, 1996).

As adolescents spend less time at home with their family and more time with their peers and close friends, it is highly adaptive for youth to seek out friends as avenues of support and guidance during this emotionally evocative developmental period. The manner through which friends self-disclose personal thoughts and feelings and provide emotional support for friends when they self-disclose is a reciprocal process. Through

these intimate exchanges within close friendships, adolescents learn to manage their behaviors and emotions in ways that are likely to enhance their relationship quality (Miller-Slough & Dunsmore, 2016; Zeman, Cassano, & Adrian, 2013). This premise aligns with the functionalist perspective of emotion (Campos et al., 1994) that asserts that through development, adolescents learn ways to guide their behaviors and emotions to accomplish inter- and intra-personal goals. Socioemotional competent youth are better able to decode emotional expression in others, understand their own emotions, and respond to these emotions in supportive ways (Hubbard & Dearing, 2004; Klimes-Dougan et al., 2014; Penza-Clyve & Zeman, 2002).

Although it is widely recognized that peers are a critical influence on adolescent development, to date, most research on emotion socialization has examined parental influences on their children's emotions (Zeman et al., 2013) with little attention paid to how friends socialize each other's emotions. Although adolescents have already acquired foundational emotion regulation skills, the developmental changes that take place during adolescence require them to modify and expand their regulatory skills to meet the demands of this ever changing, complex social context.

Existing theories on friend emotion socialization suggest that emotions are socialized both indirectly (e.g., imitation, social referencing) and directly (e.g., modeling, contingency learning) to shape emotion management and behavior (Eisenberg, Cumberland, & Spinrad, 1998; Klimes-Dougan et al., 2014). Although indirect methods of emotion socialization likely play a role in shaping emotional behavior in adolescence,

almost all studies examining friend emotion socialization have exclusively examined direct methods of socialization (Miller-Slough & Dunsmore, 2016). Additionally, it is important to note that the majority of the literature on peer relationships, particularly regarding friend emotion socialization during adolescence, has focused on same-sex friendships, and for the purposes of this paper, only those studies will be discussed. Same-sex friendships during early adolescence have typically been the focus of research because these friendships are closer and more intense than in any other phase of the life span (Douvan & Adelson, 1966). Further, the development of romantic relationships is thought to emerge after this stage of developing close, same-sex friendships (Connolly, Furman, & Konarski, 2000). Compared to younger children, early adolescents experience increased independence from parents and are more concerned about intimate self-disclosure with same-sex friends, as opposed to with parents or romantic partners. Early adolescents are also more aware of their friends' thoughts and feelings and place greater importance on equality and satisfaction within their friendships. During late adolescence, romantic relationships may become more intimate than same-sex friendships (Berndt, 1982).

One way youth socialize emotional expressivity is by the way they directly respond to their friends' emotional disclosures. This approach is based on contingency learning (Klimes-Dougan et al., 2014) and suggests that socializers' reactions to displays of emotion impact youth's emotional competencies. These reactions function as immediate feedback about the acceptability of the emotion being expressed, and may

increase or decrease further emotional expressivity (Legerski, Biggs, Greenhoot, & Sampilo, 2015; Miller-Slough & Dunsmore, 2016). Reactions may be verbal responses or nonverbal gestures such as body language or facial expressions.

In the scant research that has examined friend socialization of emotion, the studies have solely focused on the verbal responses to emotional disclosures. Similar to the parent socialization literature, friend responses are conceptualized as being either supportive (e.g., encouraging emotional expression) or unsupportive (e.g., dismissive or punitive towards emotional expression; Klimes-Dougan et al., 2014; Legerski et al., 2015; Miller-Slough & Dunsmore, 2016; Parr et al., 2016). In contrast to the peer emotion socialization literature, a strong body of research has examined how parental reactions to emotion expression impact children's emotional competencies (e.g., Chaplin, Cole, & Zahn-Waxler, 2005; Denham, Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997; Garner, Robertson, & Smith, 1997). A consistent pattern of findings across studies indicates that parents who provide supportive, constructive responses to their children's emotion expression have children who are better able to regulate their emotions and have fewer internalizing and externalizing difficulties than children whose parents respond to negative emotions with unsupportive, punitive responses. These socialization effects may begin as early as toddlerhood, as Luebbe and colleagues (2011) reported that mothers' punishing and minimizing responses to their toddler's sadness and fear, predicted increases in toddlers' internalizing problems across one year. Regarding older children, Shaffer and colleagues (2012) found that unsupportive reactions to grade

school children's emotions were positively associated with emotion dysregulation, and negatively associated with emotion regulation. Together, these studies highlight the influence of parental responses to emotion expression on children's emotion regulation and psychological functioning and provide support for the need for more research investigating the influence of friend responses to emotion expression on youth's functioning.

Klimes-Dougan and colleagues (2014) proposed that adolescents socialize each other's anger, worry, and sadness regulation using six socialization strategies including reward, override, magnify, neglect, overt victimization, and relational victimization. Of these strategies, three are considered supportive: reward (e.g., comforting or empathizing), override (e.g., using distraction), and magnify (e.g., matching or mirroring the other's emotion) and are expected to provide a constructive response to emotion expression that help an adolescent develop stronger emotional understanding and regulation skills. Three strategies are considered unsupportive: neglect (e.g., ignoring the emotion), overt victimization (e.g., physical aggression or threats), and relational victimization (e.g., gossip, rumor spreading). These strategies are hypothesized to lead to negative psychological outcomes and do not help the adolescent to develop more advanced, effective emotion management skills.

To investigate the responses friends provide when engaging in emotion talk, these researchers developed a self-report questionnaire (*You and Your Friends*; Klimes-Dougan et al., 2014) that asked youth (M_{age} = 13.66 at Time 1) to indicate how likely it is that

their closest friend would respond to their displays of anger, worry, and sadness using the aforementioned six types of responses. There were significant correlations across the three emotion types (i.e., anger, worry, and sadness) for the six emotion socialization responses (r = .17 to .43), thus, they were averaged together to create a global negative emotion score for each socialization response. The authors used a 2-year longitudinal design to explore the concurrent and predictive associations between these types of responses and adolescents' self-reported internalizing and externalizing problems. At both time points, adolescents most frequently expected their friend to respond to their negative emotions in a supportive manner, with girls expecting more supportive responses from friends than boys. Additionally, there was long-term stability of the peer emotion socialization responses across the 2-year interval. Responses of reward and override were not associated with psychopathology, but magnify and neglect responses were associated with internalizing and externalizing problems, and overt and relational victimization were associated with externalizing problems. Although magnify was thought to be a supportive response, this study suggests that this seemingly supportive response type may actually have harmful effects. These findings were consistent with parent emotion socialization research that finds magnifying and neglect responses are associated with poorer psychological adjustment (e.g., dysregulated emotions, psychopathology). This study provided initial evidence that specific friend emotion socialization responses to negative emotions are related to psychological functioning among adolescents.

Legerski and colleagues (2015) conducted a parallel line of research but used observational methods to examine emotion talk within the context of adolescent same-sex close friendships (ages 12-14 years). This study addressed two questions. First, they examined whether there were consistencies in the frequencies of emotion term use among adolescents who are close friends. Second, the study examined whether friends facilitated or hindered adolescents' emotion talk. These authors hypothesized that supportive responses would be positively correlated with the frequency of youth's use of emotion terms, and dismissive responses would be negatively correlated with the use of emotion terms. Importantly, these authors operationalized supportive and dismissive responses using different criteria than Klimes-Dougan and colleagues (2014). Supportive responses included statements, questions, or comments by participants that assisted their friend by labeling their emotion, facilitating further understanding of the emotion, assisting in the resolution of aspects of the difficult emotional experience, or validating their friend's emotional experience. Dismissive responses included statements, questions, or comments by participants that reduced the frequency of emotion expression by invalidating, minimizing, criticizing, or interfering with their friend's discussion of their emotional experience.

Regarding the first question, the authors found initial support that both girl and boy dyads were equally similar in their use of positive emotion terms, whereas girl dyads displayed greater similarities in their use of negative emotion terms. Girls also used more positive and negative emotion terms during their conversation than boys. These findings

are consistent with other studies on gender differences in emotion expression, and are believed to be a product of parental emotion socialization. More specifically, parents are less supportive of emotion displays from their sons than their daughters (Zeman & Shipman, 1997). Concerning the second research question, the authors found that supportive friend responses were associated with an increase in subsequent emotion term use during the next conversation turn. This finding suggests that close friend's responses during emotion talk may socialize and encourage the expression of subsequent emotion talk (Legerski et al., 2015). Surprisingly, dismissive responses did not affect later emotion term use. One possible explanation is that dismissive responses from close friends do not have the same effect as these same types of responses from parents. This study provided support for the role of close friend socialization responses in emotion talk among adolescents.

In sum, only two studies have directly assessed how adolescents may socialize each other's emotions within close friendships dyads. As such, there are many remaining questions to be answered. First, researchers have studied friend emotion socialization responses to negative emotions in relation to psychopathology, without examining the mechanism(s) through which socialization responses impact psychological functioning. Exploring possible factors that explain the link between friend socialization responses and psychopathology would clarify the influence of friend responses on increases or decreases in symptoms of psychopathology. Second, these studies examined emotion socialization in relation to broadband indices of internalizing and externalizing symptoms

as outcomes. Understanding how responses to negative emotions are associated with specific outcomes (e.g., anxiety, depression) would help elucidate the specific pathways of influence of friend emotion socialization on adjustment.

The Present Study

The present study aims to address several gaps in the literature on emotion socialization within close friendships in early adolescence. Although previous research supports a link between friend emotion socialization responses to negative emotions and psychological functioning in adolescents (Klimes-Dougan et al., 2014; Legerski et al., 2015), no study has examined how friend responses to negative emotions relate to specific psychological outcomes through emotion regulation. Thus, this study will examine friend responses to negative emotions (i.e., anger, worry, and sadness) and how they predict to adolescents' specific internalizing symptoms (i.e., anxiety and depression). Additionally, we will explore the role of emotion regulation as a mechanism explaining the relation between friend responses to negative emotions and adolescents' psychological functioning. Numerous studies in the parent emotion socialization literature indicate that parent responses to emotion are indirectly related to adolescent outcomes through adolescents' emotion regulation (e.g., Morris et al., 2007; Yap, Allen, & Ladouceur, 2008; Yap, Schwartz, Byrne, Simmons, & Allen, 2010), but this model has yet to be tested in the friend literature. Another goal of the present study is to replicate existing research that consistently supports a link between emotion regulation and

psychopathology. Specifically, we will examine the pathway from emotion regulation to anxiety and depressive symptoms.

To accomplish these goals, we implemented a 2-year longitudinal design to examine the impact of friend emotion socialization responses to negative emotions and how they predict anxiety and depressive symptoms among adolescents through their emotion regulation abilities (grades 8-10). This longitudinal design will allow us to examine how friend socialization responses impact emotion regulation skills over a 2-year period, and in turn, how emotion regulation skills are related to youth's anxiety and depressive symptoms. We will also test gender as a moderator of the indirect effect due to previously noted gender differences in the relation between friend emotion socialization responses and adolescent psychopathology. Friendship quality will be a covariate in all analyses as friendship quality is likely to related to the number of emotion socialization opportunities that occur in the friend dyad. Further, friendship quality has been found to be associated with other aspects of friendships that are related to emotion socialization, such as intimacy and the amount of self-disclosure (Rose, 2002). Additionally, due to the high comorbidity between anxiety and depression during adolescence, anxiety and depression at Time 1 were entered as covariates in all analyses.

Data were collected using youth self-report of their expected socialization responses from a close friend, anxiety and depressive symptoms, emotion regulation abilities, and friendship quality. Youth reported on the types of responses they typically receive when they display anger, worry, or sadness in the presence of their close friend,

Six types of socialization responses were considered: reward (e.g., comforting or empathizing), override (e.g., using distraction), magnify (e.g., matching or mirroring the other's emotion), neglect (e.g., ignoring the emotion), overt victimization (e.g., physical aggression or threats), and relational victimization (e.g., gossip, rumor spreading). Consistent with previous research (Borowski, Zeman, & Braunstein, in press), and in order to reduce the number of analyses, data reduction in the socialization variables was conducted. Given the goals of the study, we were generally interested in aggression but not the subtypes of aggression. Further, relational and physical aggression have been found to be highly correlated and combined in previous research (e.g., Goodman & Southam-Gerow, 2010; Morelen, Zeman, & Southam-Gerow, in press). Thus, we combined the two victimization scales into an *Aggression* scale. Thus, a total of five socialization responses were assessed: *Reward, Override, Magnify, Neglect, and Aggression.*

Assessment of anger, worry, and sadness emotion regulation abilities provided information about youth's dysregulated expression of emotion and emotion regulation coping skills. Data reduction was performed on the emotion regulation abilities as well. Due to the large, significant correlations between the three emotions, scores were averaged across emotion types to create one overall global emotion regulation variable, as has been done in previous research (Borowski et al., in press; Feng et al., 2009). A series of moderated mediational models were conducted to address the study's goals. Based on available theory and literature, two sets of hypotheses were tested.

Hypothesis Set 1: Friend responses to adolescents' negative emotions predict anxiety symptoms through emotion regulation. Previous research indicates that the specific types of responses youth report receiving from their close friend is related to their internalizing symptoms. Based on previous research we hypothesized that greater *Reward* and *Override* responses at T1 would indirectly predict decreased anxiety symptoms at T2, through adolescents' stronger emotion regulation. These types of responses provide the adolescent with an opportunity to work through their emotional distress and develop emotion regulation skills to manage their negative emotions, thereby decreasing their anxiety (Miller-Slough & Dunsmore, 2016). Regarding *Magnify* responses, we hypothesized that greater *Magnify* responses at T1 would indirectly predict increased anxiety symptoms at T2, through adolescents' weaker emotion regulation. Although this type of response was once believed to be supportive when received from friends, work by Klimes-Dougan and colleagues (2014) and research in the parent literature suggests it might increase dysregulated emotion and prolong the emotional distress placing youth at risk for psychopathology (Moed at al., 2015; O'Neal & Magai, 2005).

Greater *Neglect* responses at T1 were hypothesized to indirectly predict increased anxiety symptoms at T2, through adolescents' weaker emotion regulation. When friends ignore the adolescents' emotion expression, they may discourage further emotional expressivity which does not provide the adolescent opportunities to process their emotional experience and develop emotion regulation skills (Miller-Slough & Dunsmore,

2016). Lastly, we hypothesized that greater *Aggression* responses at T1 would indirectly predict increased anxiety symptoms at T2, through adolescents' weaker emotion regulation. These types of responses from friends are considered to be punitive ways of responding to emotional displays and have been linked to increases in internalizing problems in previous research (Klimes-Dougan et al., 2014). It was hypothesized that all of these relations would be different between girls and boys. Additionally, we hypothesized that stronger emotion regulation would predict to decreased anxiety symptoms in all models.

Hypothesis Set 2: Friend responses to adolescents' negative emotions predict depressive symptoms through emotion regulation. We hypothesized that greater *Reward* and *Override* responses at T1 would indirectly predict decreased depressive symptoms at T2, through adolescents' stronger emotion regulation. Regarding *Magnify* responses, we hypothesized that greater *Magnify* responses at T1 would indirectly predict increased depressive symptoms at T2, through adolescents' weaker emotion regulation. Greater *Neglect* responses at T1 were hypothesized to indirectly predict increased depressive symptoms at T2, through adolescents' weaker emotion regulation. Lastly, we hypothesized that greater *Aggression* responses at T1 would indirectly predict increased depressive symptoms at T2, through adolescents' weaker emotion regulation. It was hypothesized that all of these relations would be different between girls and girls. Additionally, we hypothesized that stronger emotion regulation would predict to fewer depressive symptoms in all models.

Chapter 2

Method

Participants

The Time 1 (T1) sample was comprised of 202 middle-school age youth (M_{age} = 12.66 years; *SD* = 1.01; *Range* =10-15 years; 52.5% girls). The majority of participants (76.2%) were white, 17.8% were black, and 6.0% reported other ethnicities. Adolescents were recruited from two public schools, summer camps, recreational sports teams, or other organizations in Virginia (*n* = 190) and Maryland (*n* = 12). The Hollingshead Index (Hollingshead, 1975) was used as a measure of socio-economic status (SES) for the 149 participants who had parental information available. Scores ranged from 16.50 (low status) to 66.00 (high status) with an average score of 49.62 (*SD* = 9.80). The data collection was part of a larger study examining youths' close friendships and emotional competencies.

Time 2 (T2) data collection occurred approximately two years later (*M* = 23.2 months, *SD* = 5.25) and included 139 adolescents out of the 202 adolescents that participated at T1. Data collection at T2 is still in progress for the remaining 63 youth. T2 youth (M_{age} = 14.50 years; *SD* = .98; *Range* = 12-16 years; 54.5% girls) were in grades six (*n* = 2, 1.4%), seven (*n* = 17, 12.2%), eight (*n* = 53, 38.1%), nine (*n* = 39, 28.1%), 10 (*n* = 27, 19.4%), and 11 (*n* = 1, 0.7%). Youth were primarily white (77.0%), 14.4% were black, and 8.6% reported other ethnicities. The Hollingshead Index (Hollingshead, 1975) was available for 111 T2 participants who had parental information available from T1.

Scores ranged from 27.00 (low status) to 66.00 (high status) with an average score of 50.76 (*SD* = 9.18).

Measures

Friend emotion socialization responses. Youth reported on their friend emotion socialization responses at T1. To gauge youth's expected emotion socialization responses from their close friend, youth completed the anger, worry, and sadness versions of the You and Your Friends questionnaire (YYF; Klimes-Dougan et al., 2014). Each version of the YYF questionnaire asked youth to imagine a scenario in which they "are feeling really, really "angry" (18 items), "worried" (18 items), or "sad" (18 items), and they are in the presence of one of their closest friends. Youth were asked to identify the specific friend they were reporting on, as they would be asked questions about this friendship later on in the study. They rated each response using a 5-point Likert scale (1 = *definitely would NOT do this*, 5 = *definitely WOULD do this*) to answer how likely their closest friend would respond in various ways to their angry, worried, and sad feelings.

Six types of responses were assessed for each emotion: reward (3 items), override (3 items), magnify (3 items), neglect (3 items), overt victimization (3 items), and relational victimization (3 items). Due to the large correlations between the three emotion types (*r* = .60 to .78), the current study created a global score for each emotion socialization response as has been done in previous research (Borowski et al., in press; Klimes-Dougan et al., 2014).

Reward refers to empathetic ways of responding (e.g., "How likely is it that [Friend] would help you to deal with what made you worried"). *Override* responses include behaviors such as distraction or minimizing (e.g., "How likely is it that [Friend] would try to get you to do something else to take your mind off of feeling worried").

Magnify responses reflect an individual matching or mirroring the friend's emotional response (e.g., "How likely is it that [Friend] would get worried too?"). *Neglect* responses include ignoring the emotion (e.g., "How likely is it that [Friend] would not say or do anything about it?"). *Overt aggression* responses reflect direct forms of aggression (e.g., "How likely is it that [Friend] would say he doesn't like it when you act this way?"). *Relational aggression* responses encompass excluding social behaviors (e.g., "How likely is it that [Friend] would leave you out of the group or any activities for a while?"). As mentioned above, due to significant correlations between overt and relational victimization ($r = .76$, $p < .001$) and in line with previous research that has also combined these forms of aggression into one scale (e.g., Morelen et al., in press; Goodman & Southam-Gerow, 2010), the two scales were combined to create one overall measure of *Aggression* (18 items).

Internal consistency for the scales was strong in the current study (Reward: 9 items, $\alpha = .85$; Override: 9 items, $\alpha = .89$; Magnify: 9 items, $\alpha = .85$; Neglect: 9 items, $\alpha = .88$; Aggression: 18 items, $\alpha = .91$). Test-retest and internal reliability have been demonstrated for the *YYF* (Borowski et al., in press; Klimes-Dougan et al., 2014).

Anxiety symptoms. Youth reported on their anxiety symptoms at T1 and T2. To assess a wide array of anxiety symptoms youth completed the 10-item Multidimensional Anxiety Scale for Children – short version at T1, and the 39-item Multidimensional Anxiety Scale for Children at T2 (MASC; March, Parker, Sullivan, Stallings, & Conners, 1997; March, Sullivan, & Parker, 1999). Adolescents reported how accurately each statement described how they had been feeling the past few weeks (e.g., "I feel shaky" and "I feel restless and on edge") using a 4-point scale (0 = *Never True About Me* to 3 = *Always True About Me*). We compared the average of the 10 items assessed at T1 Brief Version of the MASC to the average of the 39-item T2 measure. They were highly, significantly correlated ($r = .92$, $p < .001$). Thus, these average scores were used for analyses in the current study. Both versions of the MASC have established high internal and test re-test reliability across 3-month intervals, and have demonstrated convergent and divergent validity (March et al., 1997, 1999). The internal consistency was good at T1 ($\alpha = .76$) and strong T2 ($\alpha = .92$).

Previous research recommends a T-score of 61 or above as a cut-off score to identify youth who report clinical levels of anxiety (March et al., 1997). Of the 139 youth who participated at T1 and T2, 40 (28.8% of the sample, 50.0% girls) at T1 and 32 (23.0% of the sample, 54% girls) at T2 scored above the clinical threshold for anxiety.

Depressive symptoms. Depressive symptoms were assessed at T1 and T2. The 27-item Child Depression Inventory (CDI; Kovacs, 1992) was used to assess adolescents' symptoms of depression. The item concerning suicide ideation was excluded from the

measure in the current study due to public school concerns, thus the current study used a 26-item version. Each item contains three statements that correspond to differing levels of severity of depressive symptoms (e.g., 0 = "I do most things O.K.", 1 = "I do many things wrong.", 2 = "I do everything wrong."). Youth chose the statement that best described how they had been feeling during the past two weeks. The CDI contains five subscales (Negative Mood, Anhedonia, Negative Self-esteem, Ineffectiveness, and Interpersonal Problems) and produces one overall depression score. The average of the 26 items was used for the current study. The CDI has demonstrated good internal and test-retest reliability across 1-month intervals, and established divergent and concurrent validity (e.g., Kovacs, 1984; Liss, Phares, & Liljequist, 2001; Worchel, Nolan, & Wilson, 1987). Internal consistency was strong at both time points (T1, α = .82; T2, α = .86).

Previous research recommends a raw score of 13 as a cut-off score to identify youth who report clinical levels of depression (Kazdin 1989; Smucker, Craighead, Craighead, & Green, 1986). Of the 139 youth who participated at T1 and T2, 21 (15.1% of sample, 70% girls) at T1 and 20 (14.4% of sample, 65.9% girls) at T2 scored above the clinical threshold for depression.

Emotion regulation. Emotion regulation was examined at T2. To assess emotion regulation, youth completed the anger, worry, and sadness versions of the Children's Emotion Management Scales (CEMS; Zeman, Shipman, & Penza-Clyve, 2001; Zeman, Cassano, Suveg, & Shipman, 2010). Youth reported on their own anger, worry, and sadness, using the Dysregulated Expression scale that evaluates perceptions of youth's

exaggerated or uncontrolled display of emotion (e.g., "I do things like cry and carry on when I'm worried"), and the Regulation Coping scale that assesses perceptions of adaptive methods of responding to anger, worry and sadness, (e.g., "When I am feeling sad, I do something totally different until I calm down"). Youth respond to items on a 3-point scale (1 = Hardly ever, 2 = Sometimes, 3 = Often). Construct validity has been established by previous research for the anger, worry, and sadness versions of the CEMS (Zeman et al., 2001; Zeman et al., 2010). To create one overall emotion regulation variable representing emotion regulation abilities, Regulation Coping and reversed scored Dysregulated Expression were averaged together. Due to the significant correlations between the three emotions (r = .58 to .75), scores were averaged across emotion types as has been done in previous research (Borowski et al., in press; Feng et al., 2009). The resulting emotion regulation scale had good internal consistency (21 items, α = .79).

Friendship quality. Friendship quality was assessed at T1. Youth reported on their friendship quality using the same friend they reported on for the YYF using a shortened, 18-item version of the Friendship Quality Questionnaire (FQQ; Parker & Asher, 1993). This questionnaire asks youth to indicate on a 5-point Likert scale (1 = *not true at all* to 5 = *really true*) the extent to which statements about their friendship are true. The FQQ was used to assess positive aspects of the youth's friendships such as validation and caring (e.g., "[Friend] makes me feel good about my ideas"), conflict resolution (e.g., [Friend] and I talk about how to get over being mad at each other"), help and guidance (e.g., "[Friend] helps me so I can get done quicker"), companionship and

recreation (e.g., [Friend] and I always pick each other as partners for things"), and intimate exchange (e.g., [Friend] and I talk about the things that make us sad"). The 3-item conflict and betrayal subscale was excluded in order to create the positive friendship score. These scales were highly, and significantly correlated (r = .58 to .76) so they were combined to form one overall measure of positive friendship quality (15 items, α = .90). The FQQ has demonstrated high internal reliability and has been shown to be a valid measure of friendship quality (Parker & Asher, 1993).

Procedure

The study received University ethics board approval. The same procedure was used for data collection at both time points. Parents scheduled study appointments for their child to take place in their home (T1, 62.5%; T2, 46.0%), the research lab on the university's campus (T1, 32.6%, T2, 25.2%), a public library (T1, 4.9%; T2, 8.6%), over the phone (T2, 12.9%), or other (e.g., office, bookstore; T2, 7.2%). Prior to the beginning of the study's procedures, informed written parental consent and adolescent assent was obtained. A trained research assistant then read the questionnaires aloud to the adolescent in a private room. Three different questionnaire packets were created to randomized the order of the measures. The interviews typically lasted between 30 to 55 minutes and upon completion of the study, youth received $10 for their time.

Chapter 3

Results

Preliminary Analyses

In the current longitudinal study, the retention rate was 68.8% (72.6% for girls, 64.5% for boys). A series of independent groups *t*-test and chi-square analyses were conducted to examine differences in age, ethnicity, SES, socialization responses, anxiety symptoms, depressive symptoms, and friendship quality at T1 between youth who participated at only T1 (T2 non-participators) and those who participated at both T1 and T2 (see Table 1). There were no significant differences between the groups on age, ethnicity, *Reward, Override, Magnify,* or *Neglect* responses, anxiety symptoms, and friendship quality at T1. However there were significant differences for SES, t(147) = -2.46, $p = .02$ (T2 participators, $n = 139$, $M = 50.76$, $SD = 9.19$; T2 non-participators, $n = 63$, $M = 46.30$, $SD = 10.88$), *Aggression* responses, t(200) = 2.09, $p = .04$ (T2 participators, $n = 139$, $M = 3.98$, $SD = 1.25$; T2 non-participators, $n = 63$, $M = 4.38$, $SD = 1.23$), and depressive symptoms, t(91) = 2.07, $p = .04$ (T2 participators, $n = 139$, $M = .28$, $SD = .21$; T2 non-participators, $n = 63$, $M = .36$, $SD = .30$) such that youth who did not participate at T2 reported significantly lower SES, more *Aggression* responses, and more depressive symptoms at T1 than youth who participated at both T1 and T2.

Means, standard deviations, and gender differences for study variables are reported in Table 2. In order to examine the relations among variables, bivariate correlations were conducted between the study variables (see Table 3). Age at T1 and T2

were not significantly correlated with any of the variables, thus they were not used as covariates.

Analytic Strategy

To examine the indirect effect of T1 friend emotion socialization responses on T2 anxiety and depression symptoms through emotion regulation, 10 moderated mediation analyses were conducted using the Process macro for SPSS (Hayes, 2013). This macro employs ordinary least squares regression analyses to simultaneously estimate direct and indirect effects, as well as moderation of these effects (i.e., conditional indirect effects). Process models conditional indirect effects using bias-corrected bootstrapping procedures. In contrast to Sobel's test, this approach makes no assumption regarding the normality of the sampling distribution of the indirect effect. These bootstrap estimates allow for the calculation of an asymmetrical 95% confidence interval for the conditional indirect effect. Process does not provide standardized estimates, thus all unstandardized estimates are reported.

We tested two related, but different hypotheses regarding the conditional indirect effect. First, it tested whether the relation between socialization responses and the outcomes (anxiety and depression) through emotion regulation significantly differed between girls and boys. This is considered a test of equality of the conditional indirect effect between girls and boys, and is indicated by a formal index of moderated mediation. When this test was significant, simple slope analyses were conducted to examine the significant differences between girls and boys for the indirect effect. Second, it tested

whether the overall mediation model (relation between socialization responses to anxiety and depression through emotion regulation) was significant for each gender separately. This is considered a test of the conditional indirect effect at values of the moderator, girls and boys respectively. This test is performed through simple slope analyses. We report results pertaining to both of these hypotheses below.

Additionally, although conditional indirect effects were our primary interest, direct effects were also examined. Process tested two related, but different hypotheses regarding the direct effect. First, it tested whether the relation between socialization responses and outcomes (anxiety and depression) significantly differed between boys and girls. This is considered a gender interaction of the direct effect. Second, it tested whether the relation between socialization responses and outcomes are significant for each gender separately. This is considered a test of the conditional direct effect at values of the moderator (girls and boys) and is performed through simple slope analyses. We report results pertaining to both of these hypotheses below.

To test hypothesis set 1 we tested five models with each of the T1 socialization responses as predictors of T2 anxiety symptoms. Emotion regulation was tested as a mediator in all analyses. Further, tests were conducted to determine whether gender moderated the path from socialization responses to anxiety symptoms (path “c” in traditional Baron & Kenny, 1986, mediation terms) or the path from socialization responses to emotion regulation (path “a”). These analyses controlled for T1 depression, T1 anxiety, and T1 friendship quality. To test hypothesis set 2, we conducted five

analyses with each of the T1 socialization responses as predictors of T2 depressive symptoms. The analytic procedures for hypothesis set 2 were identical to hypothesis set 1 except that they predicted T2 depressive symptoms instead of anxiety symptoms. See Figure 1 for the statistical diagram of the conditional process model tested and Figure 2 for the conceptual diagram of the conditional process model tested.

Hypothesis Set 1: Friend responses to adolescents' negative emotions predict anxiety symptoms through emotion regulation. It was hypothesized that expectations of friend responses to negative emotions at T1 would predict anxiety symptoms at T2, through T2 emotion regulation. Additionally, we hypothesized that these relations would differ by gender.

***Reward* socialization responses.** The formal index of moderated mediation indicated that the relation between *Reward* responses and anxiety symptoms through emotion regulation significantly differed between girls and boys. See Table 4 for the formal index of moderated mediation. Simple slope analyses indicated that for boys, greater *Reward* responses marginally significantly predicted stronger emotion regulation (b = .03, SE = .02, t = 1.70, p = .08), which in turn significantly predicted decreased anxiety symptoms (b = -.50, SE = .12, t = -4.17, p < .001). For girls, the relation between *Reward* responses and emotion regulation was not significant (b = -.01, SE = .02, t = -.73, p = .47). It is important to note that although the formal index of moderated mediation was significant, we can only conclude that the relation between *Reward* responses and anxiety symptoms through emotion regulation (the conditional indirect effect)

significantly differed between girls and boys. Examination of the conditional indirect effect (overall mediation model), through simple slope analyses for each gender did not support mediation for girls or boys. See Table 5 for specific indirect effect coefficients.

The interaction of *Reward* responses and gender on anxiety symptoms was not significant (b = .04, SE = .03, t = 1.54, p = .13). Additionally, the conditional direct effect for girls (b = -.01, SE = .03, t = -.46, p = .65) and boys (b = .03, SE = .02, t = 1.62, p = .11) was not significant. See Table 6 for direct effect coefficients. Lastly, the effect of emotion regulation on anxiety symptoms ("path b") was significant (b = -.50, SE = .12, t = -4.17, p < .001), such that stronger emotion regulation predicted decreased anxiety symptoms. See Figure 3 for coefficients and standard errors for the overall model.

***Override* socialization responses.** The formal index of moderated mediation indicated that the relation between *Override* responses and anxiety symptoms through emotion regulation significantly differed between girls and boys. See Table 4 for the formal index of moderated mediation. Simple slope analyses indicated that for boys, greater *Override* responses marginally significantly predicted stronger emotion regulation (b = .03, SE = .02, t = 1.71, p = .08), which in turn significantly predicted decreased anxiety symptoms (b = -.50, SE = .12, t = -4.18, p < .001). For girls, the relation between *Reward* responses and emotion regulation was not significant (b = -.02, SE = .02, t = -.90, p = .37). Again, it is important to note that although the formal index of moderated mediation was significant, we can only conclude that the relation between *Override* responses and anxiety symptoms through emotion regulation (the conditional indirect

effect) significantly differed between girls and boys. Examination of the conditional indirect effect (overall mediation model) through simple slope analyses for each gender did not support mediation for girls or boys. See Table 5 for specific indirect effect coefficients.

The interaction of *Override* responses and gender on anxiety symptoms was marginally significant (b = .05, SE = .03, t = 1.82, p = .07). This indicated that the relation between *Override* responses and anxiety symptoms significantly differed between girls and boys. However, simple slope analyses of the conditional direct effect revealed that the relation was not significant for girls (b = -.02, SE = .02, t = -.94, p = .35) or boys (b = .03, SE = .02, t = 1.42, p = .16). See Table 6 for direct effect coefficients. Lastly, the effect of emotion regulation on anxiety symptoms ("path b") was significant (b = -.50, SE = .12, t = -4.18, p < .001), such that stronger emotion regulation predicted decreased anxiety symptoms. See Figure 4 for coefficients and standard errors for the overall model.

***Magnify* socialization responses.** The formal index of moderated mediation indicated that the relation between *Magnify* responses and anxiety symptoms through emotion regulation did not significantly differ between girls and boys. See Table 4 for the formal index of moderated mediation. Examination of the conditional indirect effect (overall mediation model) through simple slope analyses for each gender did not support mediation for girls or boys. See Table 5 for specific indirect effect coefficients.

The interaction of *Magnify* responses and gender on anxiety symptoms was marginally significant (b = .06, SE = .03, t = 1.90, p = .06). This indicated that the relation between *Magnify* responses and anxiety symptoms significantly differed between boys and girls. Simple slope analyses of the conditional direct effect revealed that the relation was significant for boys (b = .05, SE = .02, t = 2.26, p = .03) but not girls (b = -.01, SE = .02, t = -.26, p = .79). For boys, greater expectations of receiving *Magnify* responses predicted increased anxiety over time. See Table 6 for direct effect coefficients. Lastly, the effect of emotion regulation on anxiety symptoms ("path b") was significant (b = -.48, SE = .12, t = -4.11, p < .001), such that stronger emotion regulation predicted decreased anxiety symptoms. See Figure 5 for coefficients and standard errors for the overall model.

***Neglect* socialization responses.** The formal index of moderated mediation indicated that the relation between *Neglect* responses and anxiety symptoms through emotion regulation did not significantly differ between girls and boys. See Table 4 for the formal index of moderated mediation. Examination of the conditional indirect effect (overall mediation model), through simple slope analyses for each gender did not support mediation for boys or girls. See Table 5 for specific indirect effect coefficients.

The interaction of *Magnify* responses and gender on anxiety symptoms was not significant (b = -.02, SE = .04, t = -.69, p = .49). Additionally, the conditional direct effect for girls (b = .03, SE = .03, t = 1.01, p = .31) and boys (b = .01, SE = .03, t = .07, p = .94) was not significant. See Table 6 for direct effect coefficients. Lastly, the effect of

emotion regulation on anxiety symptoms ("path b") was significant (b = -.46, SE = .12, t = -3.88, p < .001), such that stronger emotion regulation predicted decreased anxiety symptoms.

***Aggression* socialization responses.** The formal index of moderated mediation indicated that the relation between *Aggression* responses and anxiety symptoms through emotion regulation did not significantly differ between girls and boys. See Table 4 for the formal index of moderated mediation. Examination of the conditional indirect effect (overall mediation model), through simple slope analyses for each gender did not support mediation for girls or boys. See Table 5 for specific indirect effect coefficients.

The interaction of *Aggression* responses and gender on anxiety symptoms was not significant (b = .01, SE = .05, t = .02, p = .98). Additionally, the conditional direct effect for girls (b = -.05, SE = .05, t = 1.03, p = .31) and boys (b = -.05, SE = .03, t = -1.58, p = .12) was not significant. See Table 6 for direct effect coefficients. Lastly, the effect of emotion regulation on anxiety symptoms ("path b") was significant (b = -.46, SE = .12, t = -3.87, p < .001), such that stronger emotion regulation predicted decreased anxiety symptoms.

In sum, there was evidence of moderated mediation such that girls and boys significantly differed in regards to the indirect effects of *Reward* and *Override* responses on anxiety symptoms through emotion regulation. Specifically, boys who perceived greater *Reward* and *Override* responses from their friend reported decreased anxiety symptoms through stronger emotion regulation skills. Additionally, girls and boys

significantly differed on the direct effects between *Override and Magnify* responses and anxiety symptoms. Simple slope analyses indicated that for boys, greater *Magnify* responses predicted increased anxiety symptoms. There were no significant indirect or direct effects for models with *Neglect* and *Aggression* responses. Although indirect and direct effects were of primary interest, a secondary goal of the study was to examine "path b", from emotion regulation to anxiety symptoms. This pathway was significant in all of the models, such that stronger emotion regulation predicted decreased anxiety symptoms when controlling for socialization responses, T1 anxiety and depressive symptoms, and friendship quality.

Hypothesis Set 2: Friend responses to adolescents' negative emotions predict depressive symptoms through emotion regulation.

It was hypothesized that expectations of friend responses to negative emotions at T1 would predict to depressive symptoms at T2, through T2 emotion regulation. Additionally, we hypothesized that these relations would differ by gender.

***Reward* socialization responses.** The formal index of moderated mediation indicated that the relation between *Reward* responses and depressive symptoms through emotion regulation did not significantly differ between girls and boys. See Table 7 for the formal index of moderated mediation. Examination of the conditional indirect effect (overall mediation model), through simple slope analyses for each gender did not support mediation for girls or boys. See Table 8 for specific indirect effect coefficients.

The interaction of *Reward* responses and gender on depressive symptoms was not significant (b = .01, SE = .02, t = .42, p = .68). Additionally, the conditional direct effect for girls (b = -.01, SE = .01, t = -.76, p = .45) and boys (b = -.01, SE = .01, t = -.35, p = .73) was not significant. See Table 9 for direct effect coefficients. Lastly, the effect of emotion regulation on depressive symptoms ("path b") was significant (b = -.42, SE = .06, t = -6.96, p < .001), such that stronger emotion regulation predicted decreased depressive symptoms.

***Override* socialization responses.** The formal index of moderated mediation indicated that the relation between *Override* responses and depressive symptoms through emotion regulation did not significantly differ between girls and boys. See Table 7 for the formal index of moderated mediation. Examination of the conditional indirect effect (overall mediation model), through simple slope analyses for each gender did not support mediation for girls or boys. See Table 8 for specific indirect effect coefficients.

The interaction of *Override* responses and gender on depressive symptoms was not significant (b = .01, SE = .01, t = .52, p = .60). Additionally, the conditional direct effect for girls (b = -.01, SE = .01, t = -.97, p = .33) and boys (b = -.01, SE = .01, t =-.33, p = .74) was not significant. See Table 9 for direct effect coefficients. Lastly, the effect of emotion regulation on depressive symptoms ("path b") was significant (b = -.42, SE = .06, t = -6.99, p < .001), such that stronger emotion regulation predicted decreased depressive symptoms.

***Magnify* socialization responses.** The formal index of moderated mediation indicated that the relation between *Magnify* responses and depressive symptoms through emotion regulation did not significantly differ between girls and boys. See Table 7 for the formal index of moderated mediation. Examination of the conditional indirect effect (overall mediation model), through simple slope analyses for each gender did not support mediation for girls or boys. See Table 8 for specific indirect effect coefficients.

The interaction of *Magnify* responses and gender on depressive symptoms was not significant (b = .01, SE = .02, t = .81, p = .42). Additionally, the conditional direct effect for girls (b = -.01, SE = .01, t = -.36, p = .72) and boys (b = .01, SE = .01, t = .73, p = .46) was not significant. See Table 9 for direct effect coefficients. Lastly, the effect of emotion regulation on depressive symptoms ("path b") was significant (b = -.42, SE = .06, t = -7.10, p < .001), such that stronger emotion regulation predicted decreased depressive symptoms.

***Neglect* socialization responses.** The formal index of moderated mediation indicated that the relation between *Neglect* responses and depressive symptoms through emotion regulation did not significantly differ between girls and boys. See Table 7 for the formal index of moderated mediation. Examination of the conditional indirect effect (overall mediation model), through simple slope analyses for each gender did not support mediation for girls or boys. See Table 8 for specific indirect effect coefficients.

The interaction of *Neglect* responses and gender on depressive symptoms was not significant (b = -.02, SE = .02, t = -.92, p = .36). Additionally, the conditional direct

effect for girls (b = .01, SE = .01, t = 1.03, p = .31) and boys (b = -.01, SE = .01, t = -.23, p = .82) was not significant. See Table 9 for direct effect coefficients. Lastly, the effect of emotion regulation on depressive symptoms ("path b") was significant (b = -.42, SE = .06, t = -7.08, p < .001), such that stronger emotion regulation predicted decreased depressive symptoms.

***Aggression* socialization responses.** The formal index of moderated mediation indicated that the relation between *Aggression* responses and depressive symptoms through emotion regulation did not significantly differ between girls and boys. See Table 7 for the formal index of moderated mediation. Examination of the conditional indirect effect (overall mediation model), through simple slope analyses for each gender did not support mediation for girls and boys. See Table 8 for specific indirect effect coefficients.

The interaction of *Aggression* responses and gender on depressive symptoms was not significant (b = -.01, SE = .03, t = -.43, p = .67). Additionally, the conditional direct effect for girls (b = -.01, SE = .02, t = -.15, p = .88) and boys (b = -.01, SE = .01, t = -1.02, p = .31) was not significant. See Table 9 for direct effect coefficients. Lastly, the effect of emotion regulation on depressive symptoms ("path b") was significant (b = -.42, SE = .06, t = -7.04, p < .001), such that stronger emotion regulation predicted decreased depressive symptoms.

In sum, there was no evidence of moderated mediation for the indirect effect of socialization responses to depressive symptoms through emotion regulation conditional on gender. Additionally, there was no significant gender interaction of the direct effect

between socialization responses and depressive symptoms. However, “path b” from emotion regulation to depressive symptoms was significant in all of the models. Stronger emotion regulation abilities predicted decreased depressive symptoms over time when controlling for socialization responses, T1 anxiety and depressive symptoms, and friendship quality.

Chapter 4

Discussion

The overarching goal of the present study was to examine the longitudinal link between expected friend emotion socialization responses and changes in anxiety and depressive symptoms through emotion regulation, and how these relations differ between girls and boys. Although this mediational model has received empirical support in the parent emotion socialization literature (e.g., Morris et al., 2007; Yap et al., 2008, 2010), the model has not been tested within the social context of close friendships. This study addressed several critical gaps in the literature as it examined gender differences in the relation between specific friend socialization responses to negative emotions and changes in anxiety and depressive symptoms through emotion regulation. Overall, the results indicated that particular supportive friend emotion socialization responses (i.e., *Reward, Override, Magnify*) are related to emotion regulation and anxiety symptoms, and these relations differ between girls and boys. However, unsupportive socialization strategies did not predict changes in anxiety symptoms and no emotion socialization responses predicted changes in depressive symptoms. Understanding how the responses of close

friends to each other's negative emotions may impact changes in anxiety and depressive symptoms over a 2-year period through emotion regulation will contribute valuable knowledge to our understanding of socio-emotional processes during adolescence.

Link between Emotion Regulation and Psychopathology

One aspect of this study was to examine and replicate the link between difficulties in emotion regulation and psychopathology that has been established in the literature (Cole & Hall, 2008; Cole et al., 1994; Keenan, 2000; Zeman et al., 2006). The results of the current study replicated this linkage longitudinally and thus, provide a measure of confidence in the validity of the data. As hypothesized, in all models, stronger emotion regulation skills significantly predicted decreased anxiety and depressive symptoms even when the stringent test of the relations using several covariates (i.e., T1 emotion socialization responses, anxiety and depressive symptoms, and friendship quality) were entered in the model. Further, our measure of emotion regulation was composed of two features of emotion regulation including reversed scored emotion dysregulation and emotion regulation coping to produce an internally reliable measure of emotion regulation. Using the same measures (i.e., the CEMS), extant literature has consistently reported that anger, worry, and sadness dysregulated expression and poor emotion regulation coping are related to greater anxiety and depressive symptoms both concurrently (e.g., Suveg & Zeman, 2004) and longitudinally (Folk et al., 2014). It may be that adolescents who are unable to effectively manage their increased emotional intensity may become overwhelmed by their emotions, increasing their anxiety or

depressive symptoms (Silk et al., 2003). The results of the current study add to the literature by providing additional evidence that difficulties regulating emotions in a community sample of youth are associated with increased internalizing symptoms two years later. Future research should examine these linkages using more than two time points so that directionality of effects can be addressed. That is, it appears that stronger emotion regulation skills may be a protective factor against the development of anxiety or depression during adolescence (McLaughlin et al., 2011), but research has yet to definitively support this hypothesis.

Hypothesis Set 1: Friend responses to adolescents' negative emotions predict anxiety symptoms through emotion regulation.

***Reward* socialization responses.** The hypothesis regarding the indirect effect of *Reward* responses and anxiety symptoms through emotion regulation received partial support. As predicted, girls and boys significantly differed in the relation from *Reward* responses to anxiety through emotion regulation with gender moderation in the path from *Reward* responses to emotion regulation. For boys, greater expectations of receiving a *Reward* response from their friend were related to stronger emotion regulation, whereas this relation was not found for girls. To date, no studies have examined the link between friend emotion socialization responses to negative emotion and adolescents' emotion regulation. However, drawing on the parent emotion socialization responses, rewarding or supportive responses to emotion expression has been found to teach children to tolerate and control their emotions, while appropriately expressing them (Denham et al.,

1997; Klimes-Dougan et al., 2014). *Reward* responses in the current study were statements that close friends might say to comfort or validate their friend's emotional expression (e.g., "How likely is it that your friend would say 'It's okay, we all feel worried sometimes?'). These types of supportive responses may alleviate the emotional distress by reassuring the adolescent that their emotions are valid and acceptable to express. They also may provide an opportunity for the adolescent to process their emotional distress and learn from it by inquiring about antecedents of the negative emotional experience (Denham et al., 2007; Klimes-Dougan et al., 2014).

Interestingly, in the current study, *Reward* responses were related to emotion regulation only for boys. This gender difference may reflect the different expectations that boys and girls hold regarding how their close friends will respond to their negative emotions. In conjunction with previous research (e.g., Klimes-Dougan et al., 2014; Parker & Asher, 1993), our findings provide support for the idea that girls expect their friendship to be more supportive and of higher quality than boys. Specifically, girls report expecting to receive more supportive responses from friends during emotional discussions and that their close friendships are characterized by greater validation, caring, help, and guidance than boys (Parker & Asher, 1993; Rose & Rudolph, 2006). As such, girls likely take for granted the high level of support within their relationships and there may not be much variability across girls' friendships in their degrees of supportiveness, thus reducing the ability for significant interactions with emotion regulation skills to be detected. Conversely, when boys receive supportive responses from friends, these

reactions may be more salient and serve as a more useful tool for managing negative emotions compared to girls. That is, boys, on average, engage in fewer emotion discussions with parents and close friends than girls (Aldrich & Tenenbaum, 2006; Fivush, Brotman, Buckner, & Goodman, 2000), thus the occurrence of emotion talk may be more significant in their emotion regulation development. It may also be that boys who expect to receive rewarding or validating responses from their friend may interpret the response as indicating the acceptability of emotional expression. This response and subsequent interpretation may then reinforce the likelihood of emotion communication in the future within that friendship. When boys' emotional disclosures are not met with supportive responses by their close friends, it may serve to impede emotion communication and be particularly harmful as it may reduce the likelihood of discussing emotions in the future. Further, the more boys express their emotions, the more opportunities they have to receive validation for their emotions and to practice and hone their emotion regulation skills.

Contrary to our hypothesis, the indirect effect for girls and boys considered separately was not significant. Although the relation from *Reward* responses to anxiety symptoms through emotion regulation significantly differed between girls and boys, the mediational model was not significant for either gender. Very few studies have examined emotion socialization responses from close friends during adolescence, thus little is known about how these responses impact psychological functioning. It may be that

Reward or validating responses from close friends predict anxiety symptoms through a different causal variable.

Regarding the direct effect from *Reward* responses to anxiety symptoms, the results did not support our hypothesis. That is, the relation between *Reward* responses and anxiety symptoms did not significantly differ between boys and girls and was not significant for either gender when considered separately. Although the correlation between *Reward* responses and T2 anxiety symptoms was significant in the overall sample, when examined in the full model, the relation was no longer significant. This finding is consistent with research by Klimes-Dougan and colleagues (2014) who found that *Reward* responses from close friends were not related to adolescents' reports of internalizing problems concurrently or longitudinally (2 years later). It may be that receiving *Reward* responses from close friends only impact anxiety symptoms among certain adolescents. For example, youth who do not receive emotional support at home but receive emotional support from their close friend may experience decreased anxiety. On the contrary, youth who come from an emotionally supportive family and receive emotional support from their friend may not experience changes in their anxiety. It is also possible that the direction of effects may be reversed such that current anxiety symptoms may influence the types of responses youth expect to receive from their friends. Clearly more research is needed to understand if and how supportive socialization responses from close friends impact psychological functioning.

***Override* socialization responses.** The hypothesis regarding the indirect effect of *Override* responses and anxiety symptoms through emotion regulation received partial support. As predicted, girls and boys significantly differed in the relation from *Override* responses to anxiety symptoms through emotion regulation with gender moderation in the path from *Override* responses to emotion regulation. For boys, greater expectations of receiving an *Override* response from their friend were related to stronger emotion regulation, whereas this relation was not found for girls. Research on parent emotion socialization concludes that *Override* responses are a type of supportive response because they function to distract the adolescent from their negative emotional experience and alleviate emotional distress (Garside & Klimes-Dougan, 2002; Miller-Slough & Dunsmore, 2016). In the current study *Override* responses included statements such as, "How likely is that your friend would tell you that things aren't so bad." or "How likely is that your friend would try to get you to do something else to take your mind off feeling sad?". These responses serve to minimize the emotional distress and do not encourage excessive focus on the adolescent's negative emotions, which may result in emotion dysregulation (Brand & Klimes-Dougan, 2010). This is particularly important as adolescents experience increased and more frequent emotional reactivity than earlier in childhood (Silk et al., 2003). Interestingly, the relation between *Override* responses and emotion regulation was only significant for boys. Similar to the findings for *Reward* responses, girls expected to receive *Override* responses more than boys (Klimes-Dougan et al., 2014). Thus, when boys expect to receive greater *Override* responses from their

close friend it may have a greater impact on the degree to which they engage in emotional discussions. If boys believe that their close friend will respond in a supportive way and alleviate their emotional distress, they may be more likely to express emotions to their friend. Conversely, if boys anticipate receiving fewer *Override* responses, they may not rely on their friend as a resource to help them regulate their emotions and effectively cope with the emotional situation. This may result in boys inhibiting their negative emotions more, which may paradoxically increase emotion dysregulation (Suveg & Zeman, 2004). For girls, *Override* responses may not have the same benefits or consequences regarding their impact on emotion regulation. Although girls expect to receive more *Override* responses than boys, distraction may not effectively alleviate their emotional distress and promote effective emotion regulation coping. It may also be that girls do not view *Override* as a supportive response because their friend is not focusing on the problem but potentially changing the topic or otherwise distracting them.

Contrary to our hypothesis, the indirect effect for girls and boys was not significant when considered separately. Although the relation from *Override* responses to anxiety symptoms through emotion regulation significantly differed between girls and boys, the mediational model was not significant for either gender.

Regarding the direct effect from *Override* responses to anxiety symptoms, we had partial support for our hypothesis. Consistent with our hypothesis, the relation between *Override* responses and anxiety symptoms significantly differed between boys and girls. However, contrary to hypotheses, the relation between *Override* responses and anxiety

symptoms was not significant for either gender when considered separately. This finding is consistent with Klimes-Dougan and colleagues (2014) who found no relation between *Override* responses from close friends and changes in internalizing problems over a 2-year period. However, it is interesting that the relation between *Override* responses and T2 anxiety symptoms was significantly different between girls and boys. This suggests that *Override* responses from close friends may operate differently for girls and boys, particularly in relation to anxiety symptoms.

***Magnify* socialization responses.** The hypothesis regarding the indirect effect of *Magnify* responses on anxiety symptoms through emotion regulation was not supported. Specifically, girls and boys did not significantly differ in their relation from *Magnify* responses to anxiety symptoms through emotion regulation, and this relation was not significant for either gender when considered separately. This was surprising, as research on parent emotion socialization indicates a link between *Magnify* responses and increased emotion dysregulation (Moed et al., 2015; O'Neal & Magai, 2005). This may provide evidence that although there are similarities between parent and friend socialization responses and outcomes, there are also areas of difference in these social contexts.

Regarding the direct effect of *Magnify* responses to anxiety symptoms, as predicted, there was gender moderation in the path from *Magnify* responses to anxiety symptoms. For boys, greater expectations of receiving a *Magnify* response from their close friend were related to increased anxiety symptoms, whereas this relation was not found for girls. Although *Magnify* responses are considered a supportive response,

research on parent emotion socialization indicates that *Magnify* responses may actually be unsupportive as they increase dysregulated affect and prolong emotional distress (Miller-Slough & Dunsmore, 2016; Moed et al., 2015).

Similarly, in the only study to examine these specific socialization responses among close friends, Klimes-Dougan and colleagues (2014) found that greater expectations of receiving *Magnify* responses were concurrently related to greater internalizing problems. *Magnify* responses are evoked when one individual responds to another's emotional disclosure by mirroring the emotion displayed (O'Neal & Magai, 2005). This may be particularly problematic when considered in the context of adolescent close friendships. For example, if an adolescent indicates that he is feeling really worried about something and his friend responds by getting really worried too, this type of response may serve to promote co-rumination and emotional contagion between the friends (Klimes-Dougan et al., 2014; Miller-Slough & Dunsmore, 2016). Although the friend believes he is being supportive by reciprocating his friend's negative emotion, he also may exacerbate the emotional distress by "stirring the pot" without reducing the emotional intensity. This prolonged emotional distress and increased dysregulated affect places youth at risk for internalizing problems.

Similar to the findings for *Reward* and *Override* responses, girls expected to receive *Magnify* responses more than boys (Klimes-Dougan et al., 2014). However, expectations of *Magnify* responses were only related to anxiety symptoms for boys, such that greater expectations of receiving *Magnify* responses predicted increased anxiety

symptoms. This suggests that boys may be more susceptible to the negative effects of *Magnify* responses. As discussed previously, in girls' friendships, they expect to receive support from their close friends, and instances of magnification of emotion through processes such as co-rumination (Rose, 2002) and emotional contagion (Prinstein, 2007) are more common within girls' close friendships. Thus, there may not be enough variability in the degree of *Magnify* responses across girls' friendships, particularly in relation to anxiety symptoms. When boys receive *Magnify* responses from their close friend, the prolonged and intensified emotional distress may lead to more emotional contagion that may overwhelm and tax their emotion regulation capabilities.

***Neglect and Aggression* socialization responses.** The hypotheses regarding the indirect effects of the unsupportive responses *Neglect* and *Aggression* on anxiety symptoms through emotion regulation were not supported. Specifically, girls and boys did not significantly differ in their relations from *Neglect* and *Aggression* responses to anxiety symptoms through emotion regulation, and these relations were not significant for either gender when considered separately. This is somewhat surprising as research examining parent emotion socialization responses finds that when parents ignore or punish their child's expression of emotion they may discourage further emotion expression and not allow the child opportunities to develop and practice emotion regulation skills. However, these types of unsupportive socialization responses are not frequently expected within adolescent close friendships, as both girls and boys expect to receive more supportive than unsupportive responses from their close friend (Klimes-

Dougan et al., 2014, Miller-Slough & Dunsmore, 2016). Adolescents also expect to receive more unsupportive responses from their parents than close friends (Zeman &Shipman, 1997). Thus, it is plausible that these unsupportive emotion socialization responses are not frequent enough within adolescent friendships to have a significant influence on their emotion regulation and subsequent anxiety symptoms.

Regarding the direct effects between *Neglect* and *Aggression* responses and anxiety symptoms, our hypotheses were not supported. This is consistent with research by Klimes-Dougan and colleagues (2014) that did not find relations between unsupportive friend socialization responses and increases in internalizing problems. Rather, they only found a relation between unsupportive responses and externalizing problems.

Hypothesis Set 2: Friend responses to adolescents' negative emotions predict depressive symptoms through emotion regulation.

Contrary to hypotheses, none of the friend emotion socialization responses predicted to depressive symptoms directly, or indirectly through emotion regulation when conditional on gender. This suggests that expected friend emotion socialization responses during emotion talk may uniquely relate to adolescents' anxiety symptoms, and not depressive symptoms. In the only other study to examine expected friend emotion socialization responses among a community sample of adolescents (Klimes-Dougan et al., 2014), internalizing problems were assessed using broad-band indices. Similarly, research on parent emotion socialization largely measures youth's internalizing problems

using broad-band indices (Zeman et al., 2013). Thus, this study contributes new knowledge to our understanding of how expected friend emotion socialization responses to negative emotions relate to specific internalizing outcomes.

One possible explanation for a lack of findings predicting changes in depression could be due to interpersonal deficits associated with depression. Interpersonal theorists argue that depressed and depression-prone individuals deny the support, reassurance, and encouragement they receive from friends, which contributes to the maintenance of their depressive symptoms (Rudolph, Flynn, & Abaied, 2007). Therefore, the types of responses youth expect to receive from their friend may not have a significant influence on their depressive symptoms. Additionally, youth with depressive symptoms may have more difficulties maintaining high-quality friendships than youth with anxiety symptoms. A study by Rose and colleagues (2011) found that depressive symptoms predicted lower positive friendship quality, whereas anxiety symptoms predicted greater positive friendship quality among adolescents both concurrently and longitudinally (9 months later). Depressive symptoms also predicted lower stability of friendships, whereas anxiety symptoms predicted greater stability of friendships. The authors concluded that although clinical levels of anxiety and social anxiety are associated with friendship problems (LaGreca & Harrison, 2005), generalized anxiety symptoms are not associated with friendship problems and may even be protective. Taken together, adolescents with depressive symptoms may have been less likely to participate in our study, as inclusion in the study required having a best friend to report on.

To that end, it is possible that we were unable to detect significant changes in depressive symptoms in relation to friend emotion socialization responses due to our truncated range and intensity of depressive symptoms in our sample. At T1 and T2, roughly 15% of the sample reported above average depression levels, whereas almost 30% of the sample reported above average anxiety levels. Additionally, the gender distribution of above average depressed youth likely limited our ability to detect gender differences in analyses predicting changes in depression. For youth with above average depression, nearly 70% were girls, whereas for youth with above average anxiety, the gender distribution was roughly equal. As such, it would be fruitful to examine friend emotion socialization using a sample of clinically depressed youth where the effects may be more apparent.

Limitations and Future Directions

Despite the many strengths of the current study, there were also several limitations that warrant mention, as they provide critical directions for future research. Future studies would benefit from replicating this study with a larger sample. Although significant gender differences were found in the current study, it is possible that more exist but were not detected due to the reduced sample size, as each analysis was conditional on gender. Further, some of the findings in the current study were marginally significant, and may have crossed the threshold to significance with more power. Additionally, the retention rate in this study was rather low (68.8%) and differed by

gender; however, the authors of the current study are continuing their efforts to recruit more adolescents who participated at T1.

A factor limiting the generalizability of the findings is the lack of diversity. The sample in the current study, like most studies on emotion socialization, consisted of mainly Caucasian and upper-middle class participants from a Western culture. Research indicates that youth from low-SES environments are more likely to be exposed to both proximal (e.g., maltreatment) and distal factors (i.e., community violence), and these experiences could have detrimental effects on their emotional development and psychological functioning (Proctor, 2006). Additionally, there is a considerable body of literature documenting cultural differences in interpersonal relationships and emotion regulation (Kim, Sherman, & Taylor, 2008; Taylor et al., 2004; Taylor, Welch, Kim, & Sherman, 2007), as culture influences the way in which emotional competency is defined and the way in which emotions are experienced and expressed (Friedlmeier, Corapci, & Cole, 2011). For example, research documents cultural differences in the use of social support, with Asian cultures seeking out social support less often for coping with stressful events compared to European Americans (Taylor et al., 2004, 2007). Based on this literature, there is good reason to believe that friend socialization of emotion is embedded within specific cultural frameworks and thus, cultural differences in these processes should be more closely examined.

The current study recruited a community sample of adolescents, which limits our generalizability to youth experiencing clinically significant levels of anxiety or

depression. It is possible that clinically anxious or depressed youth may expect fewer supportive responses and greater unsupportive responses from friends, compared to youth without these disorders. Information processing errors and cognitive biases surrounding interpersonal situations, such as catastrophizing, rumination, and anticipation of negative social experiences, are common among youth with anxiety and depression (Borowski et al., in press; Garber & Weersing, 2010). Thus, clinically anxious or depressed youth may have biased perceptions of the way their friend would respond during emotion talk that may contribute to their depression and anxiety. Additionally, research indicates that adolescents with high levels of internalizing problems often engage in aversive behaviors (e.g., excessive reassurance seeking) that may lead to conflict and difficulties within their friendship (Prinstein, Borelli, Cheah, Simon, & Aikens, 2005). Therefore, these youth may actually elicit more unsupportive responses from their friend. More research is needed to better understand how friend emotion socialization operates within clinically anxious and depressed adolescents.

In addition to limitations regarding the study's sample, there are a few methodological limitations that should be addressed. The current study involved a single reporter, the adolescent, which raises the issue of shared method variance. Although past research supports that youth are generally the best reporters of their internalizing problems (De Los Reyes, Alfano, Lau, Augenstein, & Borelli, 2016; Durbin, 2010; Folk et al., 2014), future studies would benefit from also having mothers report on their children's internalizing problems. Adolescents may have been reluctant to accurately

report their anxiety and depressive symptoms, as they answered the questionnaires aloud to the research assistant. Additionally, youth may be biased reporters of their emotion regulation abilities. Due to gender norms for expressing negative emotions, boys may be reluctant to accurately report on their expression and regulation of sadness, whereas girls may be reluctant to report accurately on their expression and regulation of anger. Observational or physiological methods in conjunction with self-report would contribute valuable knowledge to our understanding of emotion regulation in adolescents, particularly in the friend context. Future research would also benefit from employing observational methods to examine the types of responses friends actually receive when expressing negative emotions to each other.

Although the longitudinal design was a strength of the current study, future research should test this moderated mediational model using data from at least three time points. Given the likely bidirectional and transactional nature of emotion socialization and emotion regulation, having multiple time points would allow researchers to better understand how friend emotion socialization responses influence changes in internalizing symptoms through emotion regulation.

Clinical Implications and Conclusion

In light of the study's strengths and limitations, the results have important clinical implications. Due to the fundamental role of social and emotional development during adolescence, understanding how these processes interact to influence adjustment is vital. Given the role of close friendships on adolescents' developing and expanding emotion

regulation skills highlighted in this study, inquiring about youth's relationships with their close friends and the way their friends support them may provide clinicians with valuable insight regarding how their close friends may contribute to the maintenance or exacerbation of their internalizing symptoms. Clinicians could use this information to teach youth how to regulate their emotions when in the presence of close friends and communicate their negative emotions in ways that may elicit constructive responses from friends. Clinicians should also be sensitive to the role that gender plays in the ways emotions are expressed and subsequently responded to by friends.

The current study also has important implications for prevention and intervention programs that seek to increase emotional competence within social contexts. Several intervention programs have targeted parents and teachers as socializing agents of emotion (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Horner & Wallace, 2013). These programs teach the parents and teachers about social and emotional competency and provide them with a set of materials to deliver to the children. These programs have been implemented with children from kindergarten through high school and have shown positive results. A meta-analysis of school based interventions by Durlak and colleagues (2011) found that students who received the social and emotional learning (SEL) component compared to controls, had significant improvements in social and emotional skills, attitudes, behavior, and academic performance. These authors concluded that educators and policy makers need to fully recognize the importance of social and emotional skills in overall functioning, and that teaching these skills is just as important

as the core academic subjects traditionally taught in schools. The studies in this meta-analysis provide support for evidence-based programs and the authors urge researchers to continue to seek to better understand the impact of SEL programs. They believe that fostering social and emotional health in children as part of healthy child development must be a national priority. This review additionally provides many policy and practice suggestions at the federal, state, and local levels (Durlak et al., 2011).

Despite the promising work being done in this area, there is one critical piece missing. None of these studies focus on peers or friends as emotion socializing agents. Perhaps peers and friends are becoming better emotion socializers (e.g., more aware, more responsive, more understanding) through the social and emotional knowledge they gain in the program. However, while one's social and emotional knowledge increases, it does not necessarily mean they know how to respond to others' emotion expression and regulation in ways that foster adaptive outcomes. As research elucidates the processes of peer and friend emotion socialization most influential on adolescent outcomes, evidence-based programs should seek to develop programs targeting these mechanisms.

In sum, this study addressed several gaps in the friend emotion socialization literature, and contributed valuable knowledge to our understanding of friend emotion socialization responses in relation to emotion regulation and internalizing symptoms. This was the first study to examine the relation between expected friend socialization responses and adolescents' emotion regulation abilities, and their links to unique outcomes (i.e., anxiety and depressive symptoms). It appears that friend emotion

socialization responses within close friendship may be more salient for boys than girls, particularly when predicting outcomes involving symptoms of anxiety. Much research examining socio-emotional processes within friendships (i.e., co-rumination, contagion) has focused on girls yet it is clear that emotion socialization effects are actively operating within boys' close friendships. Finally, emotion socialization effects may be influential in buffering youth from anxious symptoms, whereas evidence for this effect was not evident for depressive symptoms. Taken together, this study represents an important first step in exploring the potentially critical role of emotion socialization with close friendships and provides many avenues for future research.

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Appendix

Table 1

Means, Standard Deviations Between Youth who Participated at only T1 and Those who Participated at T1 and T2.

Variable	T1 Only (*n* = 63) *M (SD)*	T1 and T2 (*n* = 139) *M* (*SD*)	*t*-value (*df*)
Gender	.54 (.50)	.45 (0.50)	1.23 (200)
SES	46.30 (10.88)	50.76 (9.19)	-2.46 (147)*
T1 Age	12.69 (1.09)	12.64 (.99)	0.35 (200)
T1 MASC Anxiety Symptoms	1.27 (.53)	1.31 (.75)	0.74 (200)
T1 CDI Depressive Symptoms	.36 (.30)	.28 (.21)	1.83 (91.3)*
T1 YYF Reward Responses	11.01 (2.20)	11.41 (2.22)	-1.18 (200)
T1 YYF Override Responses	11.01 (1.93)	10.81 (2.07)	0.74 (200)
T1 YYF Magnify Responses	8.35 (1.72)	8.61 (2.04)	-0.86 200)
T1 YYF Neglect Responses	5.65 (1.85)	5.31 (1.66)	1.30 (200)
T1 YYF Aggression Responses	4.38 (1.23)	3.98 (1.25)	2.09 (200)*
T1 FQQ Friendship Quality	3.90 (.69)	3.90 (.73)	-0.30 (200)

Note. * $p < .05$.
Gender was coded as Girl=1, Boy=1.

Table 2

Means, Standard Deviations, and Gender Differences for Study Variables.

Variable	Girls (*n* = 77) *M (SD)*	Boys (*n* = 62) *M* (*SD*)	Total (*N* = 139) *M (SD)*	*t*-value (*df*)
T1 Age	12.59 (.90)	12.70 (1.09)	12.64 (.98)	-0.70 (137)
T2 Age	14.58 (.87)	14.56 (1.12)	14.57 (.98)	0.08 (137)
T1 MASC Anxiety Symptoms	1.32 (.50)	1.08 (.53)	1.22 (.53)	2.72 (137)**
T2 MASC Anxiety Symptoms	1.24 (.44)	1.00 (.35)	1.13 (.42)	3.46 (137)***
T1 CDI Depressive Symptoms	.30 (.22)	.26 (.19)	.28 (.21)	1.24 (137)
T2 CDI Depressive Symptoms	.28 (.24)	.25 (.20)	.27 (.23)	0.77 (137)
T1 YYF Reward Responses	12.17 (1.61)	10.46 (2.51)	11.41 (2.22)	4.88 (137)***
T1 YYF Override Responses	11.26 (1.76)	10.26 (2.29)	10.82 (2.10)	2.90 (137)**
T1 YYF Magnify Responses	9.26 (1.88)	7.79 (1.94)	8.61 (2.04)	4.51 (137)***
T1 YYF Neglect Responses	5.16 (1.52)	5.49 (1.81)	5.31 (1.66)	-1.20 (137)
T1 YYF Aggression Responses	3.79 (.85)	4.22 (1.60)	3.98 (1.25)	-2.02 (137)*
T2 CEMS Emotion Regulation	2.44 (.26)	2.52 (.25)	2.48 (.26)	-2.07 (137)*
T1 FQQ Friendship Quality	4.10 (.62)	3.66 (.79)	3.90(.73)	3.67 (137)***

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

Table 3

Correlations Between Study Variables.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1) Child Gender	-												
2) T1 Child Age	.07	-											
3) T2 Child Age	-.01	.90**	-										
4) T1 Anxiety Symptoms	-.22**	.03	.04	-									
5) T2 Anxiety Symptoms	-.30**	.07	.07	.54**	-								
6) T1 Depressive Symptoms	-.02	.08	.06	.33**	.27**	-							
7) T2 Depressive Symptoms	-.07	.01	.01	.52***	.41**	.52**	-						
8) T1 Reward Responses	-.36**	.06	.12	.07	.17*	-.19**	-.15	-					
9) T1 Override Responses	-.20**	.04	.07	.03	.09	-.30**	-.25**	.82**	-				
10) T1 Magnify Responses	-.32**	.06	.08	.16*	.23**	.03	-.02	.53**	.43**	-			
11) T1 Neglect Responses	.14	-.03	-.02	.03	-.03	.21**	.15^{t}	-.56**	-.44**	-.21**	-		
12) T1 Aggression Responses	.22**	-.03	-.05	.05	-.15	.26**	.09	-.48**	-.38**	-.11	.51**	-	
13) T2 Emotion Regulation	.18*	.03	.08	-.01	-.27**	-.20*	-.56**	.11	.15^{t}	.01	-.11	-.06	-
14) T1 Friendship Quality	-.32**	-.05	.03	.06	.16^{t}	-.24**	-.21*	.64**	.56**	.31**	-.39**	-.34**	.17*

Note. ^{t} p < .10, * $p < .05$, ** $p < .01$, *** $p < .001$.
Gender was coded as Girl=0, Boy=1.

Table 4

Gender Interaction of the Indirect Effect of Friend Emotion Socialization Responses on Anxiety Symptoms Through Emotion Regulation.

	Indirect Effect (ab)	Bootstrapped *SE*	Bootstrapped 95% CI
Predictor: Reward Responses	**-0.02**	**.01**	**-0.05, -0.01**
Predictor: Override Responses	**-0.02**	**.01**	**-0.05, -0.01**
Predictor: Magnify Responses	-0.01	.01	-0.04, 0.01
Predictor: Neglect Responses	0.01	.01	-0.02, 0.04
Predictor: Aggression Responses	0.01	.01	-0.04, 0.04

Note. This is a test of equality of the conditional indirect effect between girls and boys (formal test of moderated mediation). ab= point estimate of indirect effect. SE= standard error. CI= confidence interval. For the CI, it is considered significant if the interval does not include zero and such rows are in bold.

Table 5

Indirect Effect of Friend Emotion Socialization Responses on Anxiety Symptoms Through Emotion Regulation Conditional on Gender.

	Indirect Effect (ab)	Bootstrapped *SE*	Bootstrapped 95% CI
Predictor: Reward Responses			
Girls	0.01	0.01	-0.01, 0.03
Boys	-0.01	0.01	-0.03, 0.01
Predictor: Override Responses			
Girls	0.01	0.01	-0.01, 0.03
Boys	-0.01	0.01	-0.04, 0.01
Predictor: Magnify Responses			
Girls	0.01	0.01	-0.01, 0.02
Boys	-0.01	0.01	-0.02, 0.01
Predictor: Neglect Responses			
Girls	-0.01	0.01	-0.02, 0.02
Boys	0.01	0.01	-0.01, 0.03
Predictor: Aggression Responses			
Girls	-0.01	0.02	-0.04, 0.03
Boys	-0.01	0.01	-0.02, 0.02

Note. This is a test of conditional indirect effect at values of the moderator, girls and boys respectively. ab= point estimate of indirect effect. SE= standard error. CI= confidence interval. For the CI, it is considered significant if the interval does not include zero and such rows are in bold.

Table 6

Direct Effect of Friend Emotion Socialization Responses on Anxiety Symptoms Conditional on Gender.

	Direct Effect (*SE*)	*t*-value	*p*-value
Predictor: Reward Responses			
Girls	-0.01 (0.03)	-0.46	.65
Boys	0.03 (0.02)	1.62	.11
Predictor: Override Responses			
Girls	-0.02 (0.02)	-0.94	.35
Boys	0.03 (0.02)	1.42	.16
Predictor: Magnify Responses			
Girls	-0.01 (0.02)	-0.27	.79
Boys	**0.05 (0.02)**	**2.26**	**.03**
Predictor: Neglect Responses			
Girls	0.03 (0.03)	1.01	.31
Boys	0.01 (0.03)	0.08	.94
Predictor: Aggression Responses			
Girls	-0.05 (0.05)	-1.03	.31
Boys	-0.05 (0.03)	-1.58	.12

Note. This is a test of conditional direct effect at values of the moderator, girls and boys respectively. Direct effect is "path c" from Figure 2. SE= standard error of direct effect. Significant direct effects are bolded.

Table 7

Gender Interaction of the Indirect Effect of Friend Emotion Socialization Responses on Depressive Symptoms Through Emotion Regulation.

	Indirect Effect (ab)	Bootstrapped *SE*	Bootstrapped 95% CI
Predictor: Reward Responses	-0.02	0.01	-0.04, 0.01
Predictor: Override Responses	-0.02	0.01	-0.04, 0.01
Predictor: Magnify Responses	-0.01	0.01	-0.04, 0.01
Predictor: Neglect Responses	0.01	0.01	-0.01, 0.03
Predictor: Aggression Responses	0.01	0.02	-0.03, 0.03

Note. This is a test of equality of the conditional indirect effect between girls and boys (formal test of moderated mediation). ab= point estimate of indirect effect. SE= standard error. CI= confidence interval. For the CI, it is considered significant if the interval does not include zero and such rows are in bold.

Table 8

Indirect Effect of Friend Emotion Socialization Responses on Depressive Symptoms Through Emotion Regulation Conditional on Gender.

	Indirect Effect (ab)	Bootstrapped *SE*	Bootstrapped 95% CI
Predictor: Reward Responses			
Girls	0.01	0.01	-0.01, 0.02
Boys	-0.01	0.01	-0.03, 0.01
Predictor: Override Responses			
Girls	0.01	0.01	-0.01, 0.03
Boys	-0.01	0.01	-0.03, 0.01
Predictor: Magnify Responses			
Girls	-0.01	0.01	-0.01, 0.01
Boys	0.01	0.01	-0.03, 0.01
Predictor: Neglect Responses			
Girls	-0.01	0.01	-0.02, 0.02
Boys	0.01	0.01	-0.01, 0.02
Predictor: Aggression Responses			
Girls	-0.01	0.01	-0.03, 0.02
Boys	-0.01	0.01	-0.02, 0.01

Note. This is a test of conditional indirect effect at values of the moderator, girls and boys respectively. ab= point estimate of indirect effect. SE= standard error. CI= confidence interval. For the CI, it is considered significant if the interval does not include zero and such rows are in bold.

Table 9

Direct Effect of Friend Emotion Socialization Responses on Depressive Symptoms Conditional on Gender.

	Direct Effect (*SE*)	*t*-value	*p*-value
Predictor: Reward Responses			
Girls	-0.01 (0.01)	-0.76	.45
Boys	-0.01 (0.01)	-0.35	.73
Predictor: Override Responses			
Girls	-0.01 (0.01)	-0.97	.33
Boys	-0.01 (0.01)	-0.33	.74
Predictor: Magnify Responses			
Girls	-0.01 (0.01)	-0.36	.72
Boys	0.01 (0.01)	0.73	.46
Predictor: Neglect Responses			
Girls	0.01 (0.01)	1.03	.31
Boys	-0.01 (0.01)	-0.22	.82
Predictor: Aggression Responses			
Girls	-0.01 (0.02)	-0.15	.88
Boys	-0.02 (0.01)	-1.03	.31

Note. This is a test of conditional direct effect at values of the moderator, girls and boys respectively. Direct effect is "path c" from Figure 2. SE= standard error of direct effect. Significant direct effects are bolded

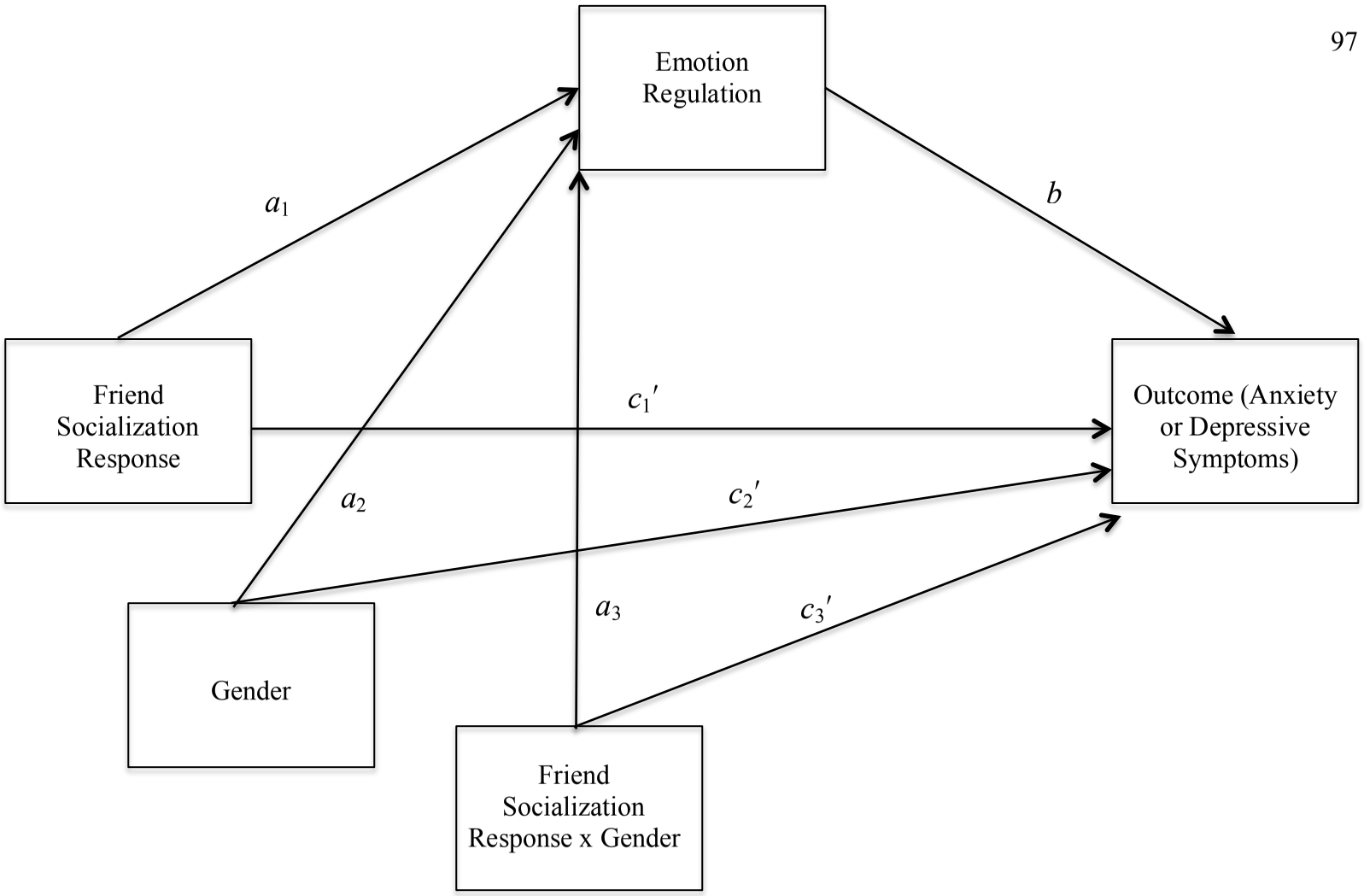

Figure 1. Statistical diagram of conditional process model tested. Specifically, the indirect effect of friend socialization responses on anxiety and depressive symptoms through emotion regulation conditional on gender was tested. T1 anxiety, depression, and friendship quality were controlled for, but are not shown here for presentation ease.

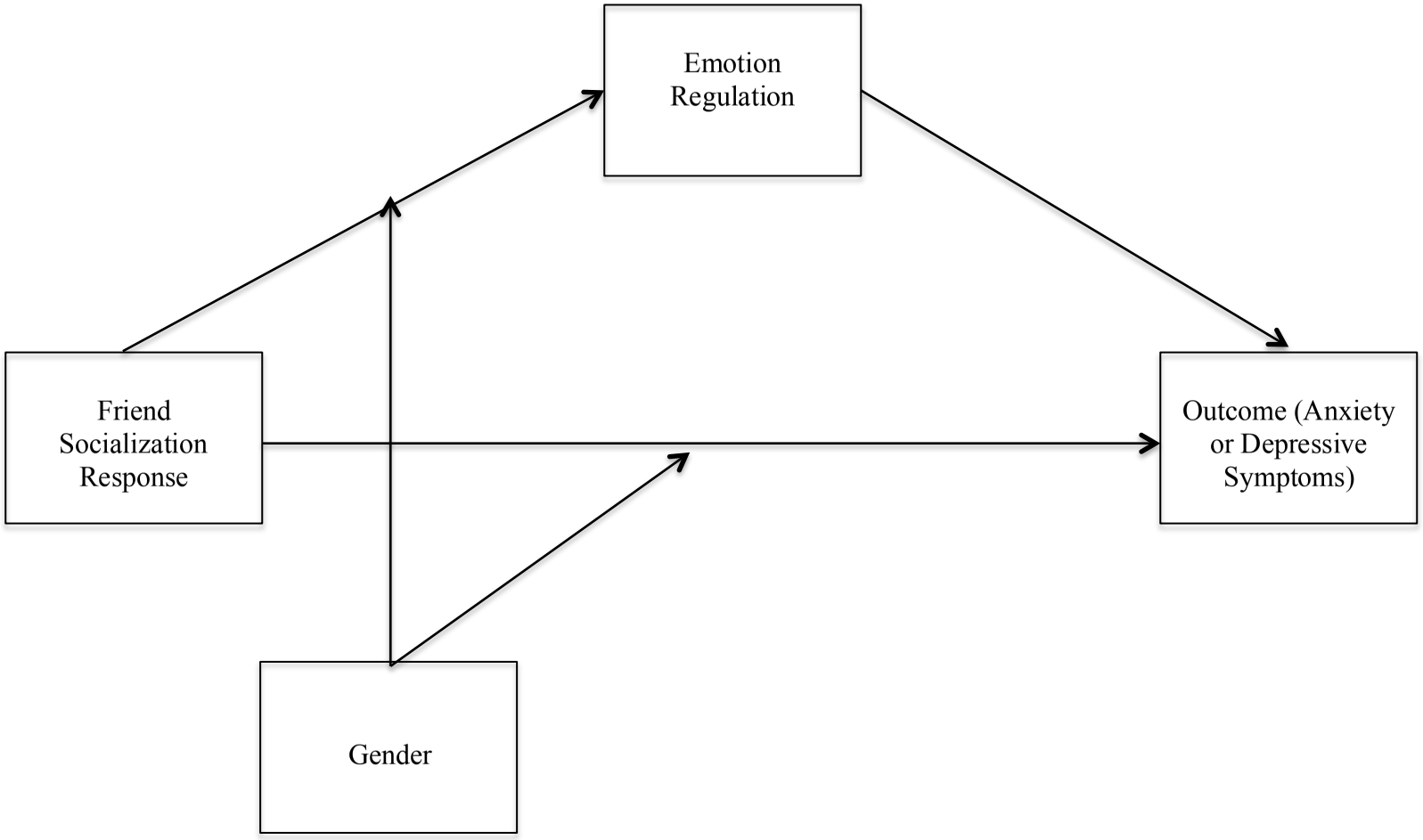

Figure 2. Conceptual diagram of conditional process model tested. Specifically, the indirect effect of friend socialization responses on anxiety and depressive symptoms through emotion regulation conditional on gender was tested. T1 anxiety, depression, and friendship quality were controlled for, but are not shown here for presentation ease.

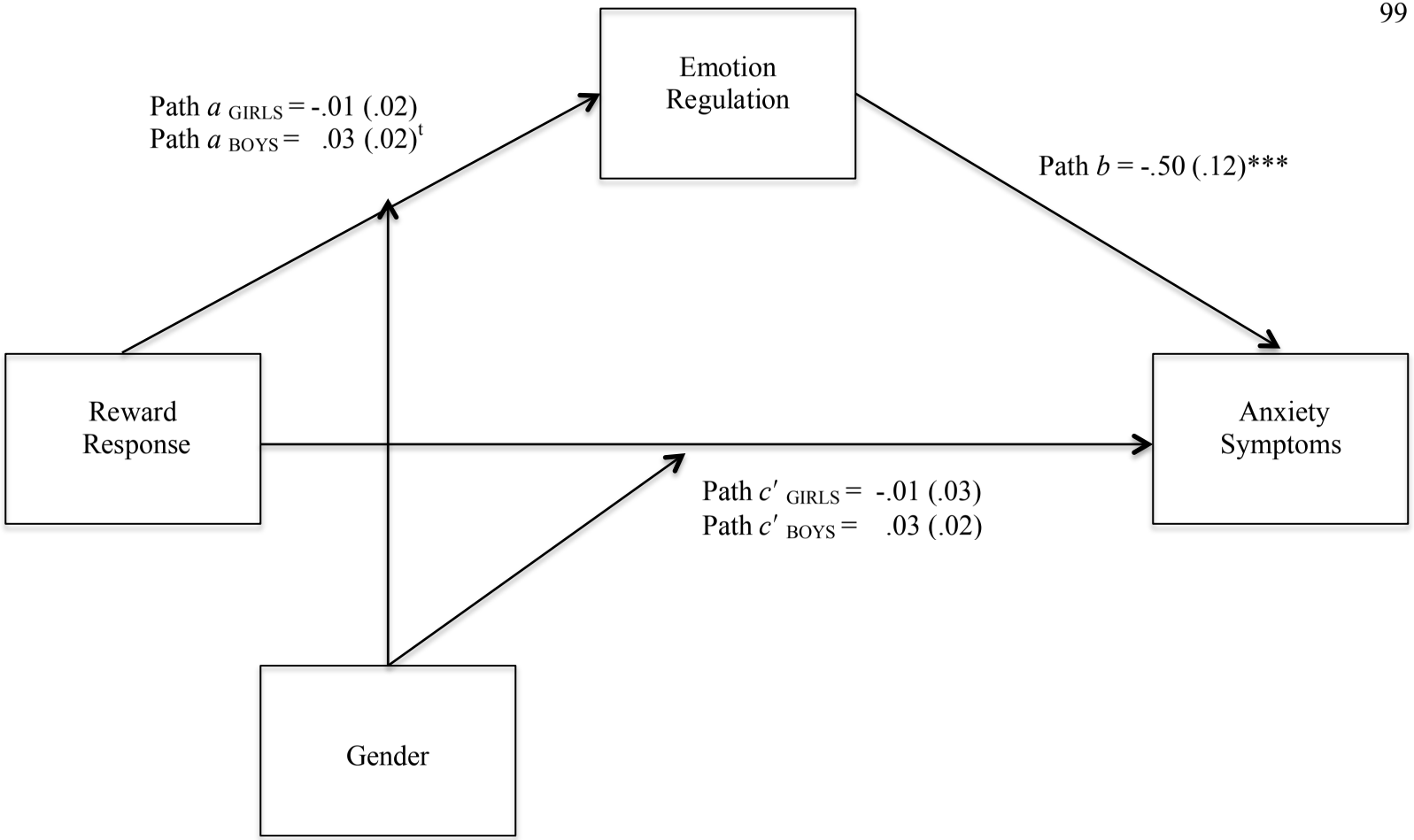

Figure 3. Indirect effect of Reward responses on anxiety symptoms through emotion regulation. Gender was tested as a moderator of the indirect effect on the "a" and "c" paths. T1 anxiety, depression, and friendship quality were controlled for, but are not shown here for presentation ease. Unstandardized beta and standard error values from simple slope analyses are reported here. Pathway labels are simplified for presentation ease. $^{t}p < .10$, $*p < .05$, $**p < .01$, $*** p < .001$.

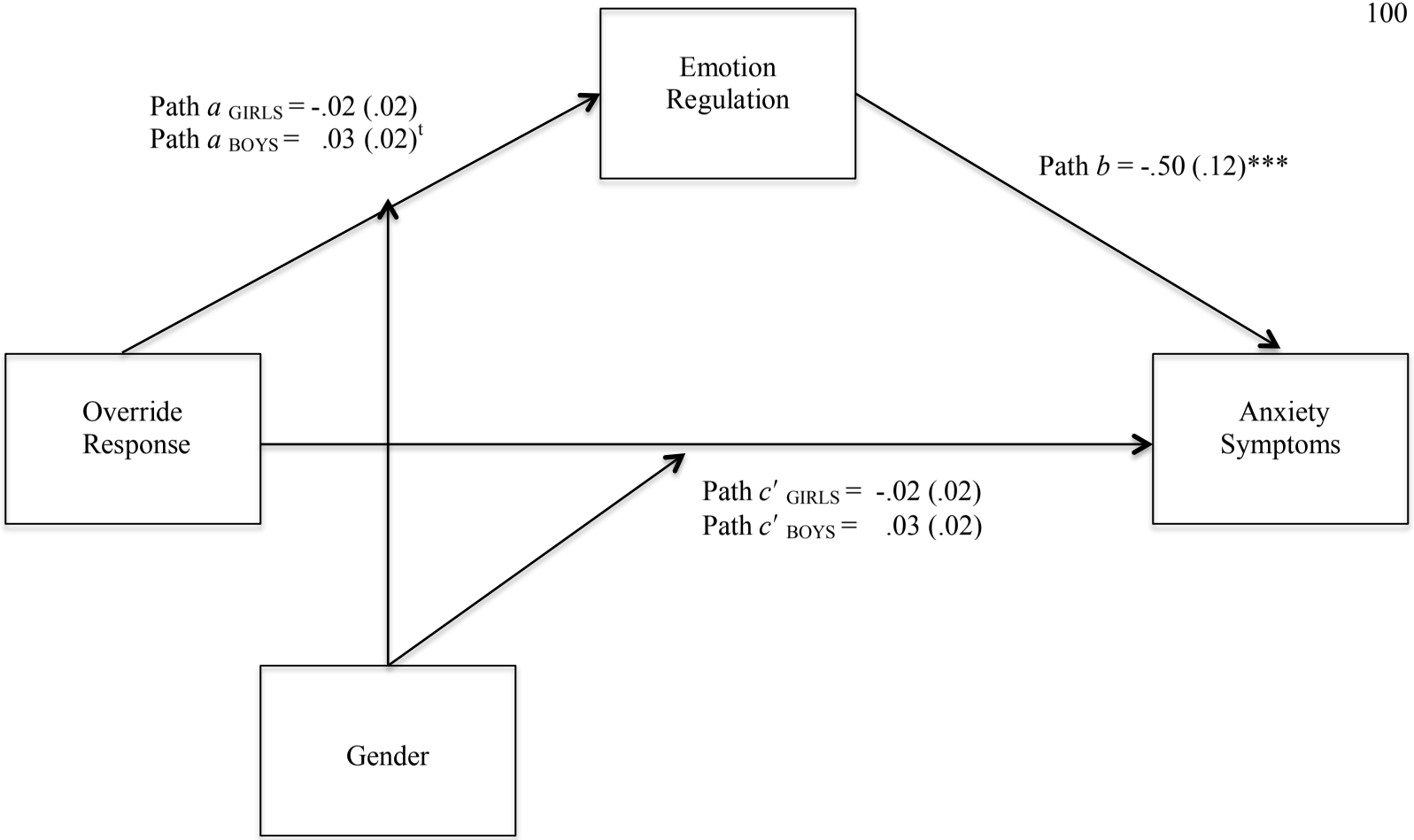

Figure 4. Indirect effect of Override responses on anxiety symptoms through emotion regulation. Gender was tested as a moderator of the indirect effect on the "a" and "c" paths. T1 anxiety, depression, and friendship quality were controlled for, but are not shown here for presentation ease. Unstandardized beta and standard error values from simple slope analyses are reported here. Pathway labels are simplified for presentation ease.
$^{t}p < .10$, $*p < .05$, $**p < .01$, $***$ $p < .001$.

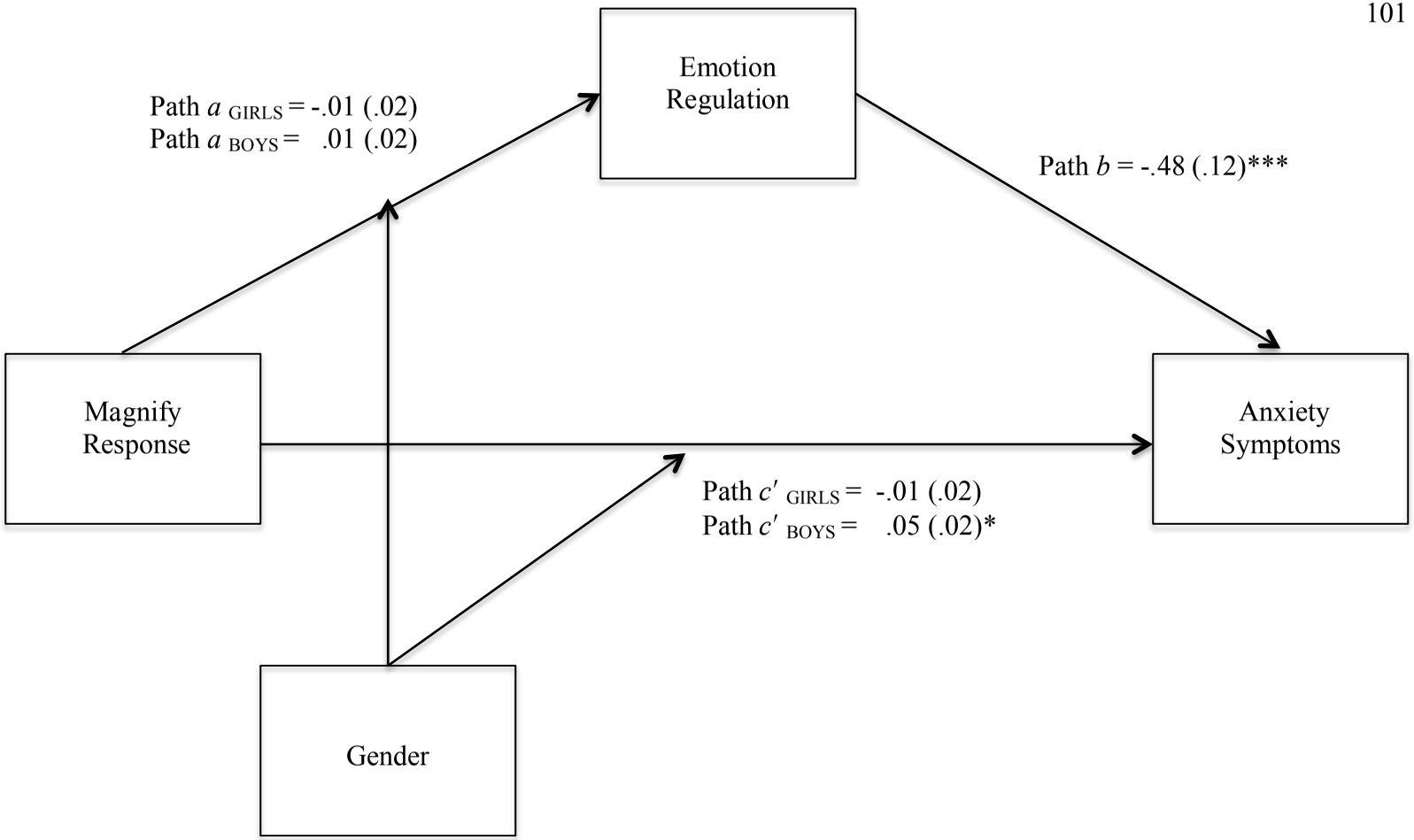

Figure 5. Indirect effect of Magnify responses on anxiety symptoms through emotion regulation. Gender was tested as a moderator of the indirect effect on the "a" and "c" paths. T1 anxiety, depression, and friendship quality were controlled for, but are not shown here for presentation ease. Unstandardized beta and standard error values from simple slope analyses are reported here. Pathway labels are simplified for presentation ease.
$^{t}p < .10$, $*p < .05$, $**p < .01$, $***$ $p < .001$.