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Rejection Sensitivity, Relationship Quality, and Adjustment in Late-Adolescent Romantic Relationships and Friendships

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REJECTION SENSITIVITY, RELATIONSHIP QUALITY, AND ADJUSTMENT IN
LATE-ADOLESCENT ROMANTIC RELATIONSHIPS AND FRIENDSHIPS

By

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B.A., Loyola University Maryland, 2015
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By Laura A. Foster

Thesis Advisors: Cynthia A. Erdley, Ph.D. and Douglas W. Nangle, Ph.D.

An Abstract of the Thesis Presented in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy (in Psychology)
August 2021

Rejection sensitive (RS) individuals are at greater risk for emotional maladjustment across the lifespan, with consistent links identified with depression and social anxiety. Yet little is known about interpersonal factors that may affect this association for late adolescents, especially with their romantic partners and close friends. The present study examined relationship qualities of support and negative interactions with romantic partners and friends as moderators of the link between RS and internalizing symptoms. Given the differences between male and female social relationships and experiences, these associations were expected to be further moderated by gender, with RS females in poorer quality relationships being at particular risk for internalizing symptoms. This short-term longitudinal investigation evaluated these associations concurrently and longitudinally to assess for changes in symptoms over time. A college sample of 384 late adolescents (217 females, 167 males, mean age 18.78 years) completed self-report measures of rejection sensitivity, relationship quality (i.e., support and negative interactions with friends and romantic partners), social anxiety, and depression. A portion of this sample (n = 197, 130 females, 67 males, 51.3% retention) completed these same measures approximately eight weeks later.

Results indicate that negative, rather than positive, relationship qualities appear to be
most influential for RS and associated internalizing symptoms. Friendships also seem to be the interpersonal context most relevant for RS adolescents. Specifically, highly rejection sensitive (HRS) individuals with more negative friendship interactions had greater increases in depressive symptoms over time. When close friendships had few negative interactions, RS was not associated with increases in depression. Therefore, negative relational experiences with close friends appear to function as a risk factor for further development of depressive symptoms among HRS youth. Conversely, preliminary results for social anxiety suggest that HRS individuals experience greater increases in social anxiety symptoms in friendships with low negative interactions. Adolescents with friendships characterized by high levels of negative interactions may be likely to experience social anxiety regardless of RS. Additional preliminary results suggest that HRS females with highly negative friendship interactions are at greatest risk for depressive symptoms, whereas HRS males are at greatest risk for social anxiety symptoms at follow-up. Further research is needed to replicate and confirm these preliminary findings. Clinical implications for RS individuals may include reducing negative friendship interactions as a primary intervention target to decrease current symptoms or prevent further risk for increases in internalizing symptoms.
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CHAPTER I
INTRODUCTION

Depression and social anxiety are two of the most common psychological disorders in late adolescence. With 12-month prevalence estimates of about 5% in mid- to late-adolescence, depression affects a considerable number of young people, with cumulative lifetime prevalence rates of up to 20% by the end of late adolescence (Costello, Egger, & Angold, 2005; Hankin et al., 1998; Lewinsohn, Rohde, Klein, & Seeley, 1999; Thapar, Collishaw, Pine, & Thapar, 2012). The third most common mental health disorder, social anxiety disorder (SAD) affects about 9% of adolescents (Merikangas et al., 2010) and over 13% of individuals at some point during their lifetime (Kessler et al., 1994). Adolescence is a particularly important period for these conditions, as rates rise across adolescence. Depression increases steadily after puberty, continuing through adolescence to match rates observed among adults (Thapar et al., 2012). Likewise, SAD has a mean age of onset in mid-adolescence (15.5 years; Schneier, Johnson, Hornig, Liebowitz, & Weissman, 1992), with rates increasing over time. These conditions are highly comorbid, often conceptualized as a set of internalizing syndromes (Schneier et al., 1992). Overall, compared to males, females experience higher rates of both disorders independently and in comorbid presentation (Ohayon & Schatzberg, 2010). After the onset of puberty in early-adolescence, depression is approximately twice as common in females as in males (Thapar et al., 2012). Rates of SAD are also consistently higher among females, with about 11% of adolescent females and 7% of males meeting criteria over their lifetime (Merikangas et al., 2010).

Not only are these disorders some of the most common in adolescence, but also they are among the most impairing and costly. Adolescents who suffer from depression and/or social anxiety experience impaired functioning across several domains. These conditions disrupt
academic and occupational success, impair the ability to socialize, and increase risk for suicide and other health-risk behaviors. SAD is highly comorbid with agoraphobia, alcohol use disorders, and increased suicidal ideation (Schneier et al., 1992). Depression has the greatest burden of illness among all health-related conditions with the largest number of disability-adjusted life years (DALYs; Costello et al., 2005). Notably, depression is one of the greatest risk factors for suicide, a leading cause of death in adolescence and young adulthood (Windfuhr et al., 2008). Even at subthreshold levels, symptoms of social anxiety and depression are impairing across psychosocial, academic, and occupational domains (Balázs et al., 2013; Filho et al., 2010; Karsten, Penninx, Verboom, Nolen, & Hartman, 2013; Lewinsohn, Solomon, Seeley, & Zeiss 2000).

Although the direct causes of depression and social anxiety have not been identified, there is likely significant heterogeneity in the etiology of these conditions. Rates and symptoms of these disorders increase during adolescence, which is a developmental period characterized by extreme social, emotional, biological, and cognitive change, along with increasing reported stress levels. Psychosocial experiences and stressful life events that may occur during this time, such as social transitions, peer victimization, and negative family relationships, are risk factors for the development of depression and social anxiety (Epkins & Heckler, 2011; Thapar et al., 2012). More sophisticated cognitive abilities also make adolescents more prone to engage in maladaptive cognitive and emotional processing implicated in social anxiety and depression, such as rumination (Heimberg, Brozovich, & Rapee, 2010; Nolen-Hoeksema, 1991; Steinberg et al., 2011). Other biological changes in adolescence, such as increased activity of the hypothalamic-pituitary-adrenal axis (HPA) and changes in neuroendocrine functioning, are also implicated in their development (Thapar et al., 2012).
Major Transitions During Adolescence

Social Transitions

During adolescence, youth are tasked with gaining independence and autonomy from parents while maintaining emotional ties (Collins, 2003; Collins & Laursen, 2004). In this transition adolescents spend less time with family and increasing time with peers (Collins & Laursen, 2004). Friendships and romantic relationships become some of the most important and central relationships for late adolescents, providing both emotional support and intimacy, as well as important opportunities for social development (Bukowski & Sippla, 2005; Collins & Laursen, 2004). Adolescents progress from socializing primarily with same-gender friends to having greater involvement in mixed gender groups, providing more opportunities for cross-gender interactions and romantic involvement. In addition to transitions in relationships, late adolescence is a critical period for the formation and stabilization of identity (Steinberg et al., 2011). Identity development coincides with changes in emotional maturity and advanced cognitive functioning, allowing youth to develop a complex understanding of the self in relation to others. A stable sense of identity has implications for both the adolescents’ emotional adjustment and relations to friends and possible romantic partners. Identity may influence with whom the adolescent choses to initiate relationships, as well as interactions within these relationships, which have been identified as important predictors of social anxiety and depression (La Greca & Harrison, 2005).

Emotional Changes

Adolescence also involves significant changes in emotional processing, with increasing complexity in emotional experiences and understanding, and growing rates of adjustment problems. With more sophisticated cognitive capabilities, adolescents have the opportunity to
develop more advanced emotion regulation strategies (Gross, 2007). As youth learn to manage emotions effectively they also face more complicated and challenging interpersonal experiences that are likely to give rise to negative emotions. The ability to successfully regulate negative emotional reactions can develop through interactions with peers and contribute to greater social competence (Bukowski & Sippla, 2005). Conversely, adolescents with poor emotion regulation skills may perpetuate their own rejection by peers over time by increasing the frequency of negative interactions and ultimately experience more internalizing symptoms (Deater-Deckard, 2001). The intersecting changes in domains of emotional functioning, cognitive abilities, and identity development can contribute to a more complex breadth of emotional experience and greater understanding of one’s relations to others during adolescence (Steinberg et al., 2011). The changes may be beneficial for adolescents’ social and emotional wellbeing or contribute to risk for internalizing problems.

**Biological Changes and Physical Development**

Adolescence is further distinguished by the biological and physical changes associated with puberty and neurological development. The most notable period of physical development in adolescence occurs during the peak of puberty in early- to mid-adolescence (Steinberg & Morris, 2001). Pubertal changes, such as the development of secondary sex characteristics, can exert powerful influences on adolescents’ self-perception and body satisfaction. Late-maturing males tend to have lower self-esteem and stronger feelings of inadequacy, whereas early maturing females commonly have more emotional problems, poorer self-image and higher rates of depression, anxiety, and eating problems (Steinberg & Morris, 2001). Observable physical changes also affect adolescents’ behavior in interactions with peers and the responses of peers, ultimately contributing to changes in social status and romantic attraction. Other biological
changes in adolescence include functional changes in brain structures and neuroendocrine processes. For example, adolescents experience increased activity of the hypothalamic-pituitary-adrenal axis (HPA), which has been implicated in the development of social anxiety and depression (Epkins & Heckler, 2011; Thapar et al., 2012).

**Cognitive Changes**

Physical changes in adolescents’ brains contribute to rapid increases in cognitive development. Cognitive changes make adolescents capable of more sophisticated, higher-order processes, with advancements in perspective taking, abstract thinking, and executive functioning (i.e., planning, impulse control, risk versus reward) beginning in early adolescence (Steinberg et al., 2011). The considerable increase in cognitive abilities during this period may be aided by the proliferation of myelination and synaptic pruning in the pre-frontal cortex (Steinberg et al., 2011). These changes increase the efficiency and speed of neuronal communication by establishing more direct pathways and increasing the rate at which communication can occur. Cognitive advancements also make adolescents more capable of introspection and social cognitive skills relating to others, including theory of mind and attributions of intent. In combination with neurochemical changes, advances in cognitive functioning may make adolescents more prone to engage in maladaptive cognitive processes implicated in social anxiety and depression, such as rumination (Heimberg et al., 2010; Nolen-Hoeksema, 1991; Steinberg et al., 2011).

**Rejection Sensitivity**

Research has increasingly aimed to identify interpersonal factors contributing to social anxiety and depressive symptoms in adolescence (Hebert, Fales, Nangle, Papadakis, & Grover, 2013; La Greca & Harrison, 2005; La Greca & Lopez, 1998). One such possible contributor is
rejection sensitivity (RS), the personal disposition to persistently expect, perceive, and overreact to rejection from others (Downey & Feldman, 1996). In fact, RS has been associated with symptoms of depression and social anxiety from childhood through adulthood (Chango et al., 2012; London, Downey, Bonica, & Paltin, 2007; McDonald, Bowker, Rubin, Laursen, & Duchene, 2010; Mellin, 2008). Rejection sensitive individuals may be particularly prone to develop greater symptoms of depression and social anxiety when they experience problematic interactions in their close relationships, as these experiences are likely especially meaningful for this population. Research has found that highly rejection sensitive (HRS) individuals tend to have disrupted romantic relationship experiences (e.g., Downey, Freitas, Michaelis, & Khouri, 1998), but interpersonal processes in romantic relationships have not yet been examined with regard to the commonly associated internalizing adjustment problems. Less is known about RS and late-adolescent friendships overall, a central relationship of this period. However, research during earlier periods, such as mid-adolescence, has identified that friendship support appears particularly important for adjustment, buffering RS youth from depression and social anxiety (McDonald et al., 2010). Alternatively, RS has been associated with social anxiety among those with low friendship support, and with depression among those also receiving lower support from friends or parents (Chango, McElhaney, Allen, Schad, & Marston, 2012; McDonald et al., 2010).

It is likely that interpersonal experiences and quality across friendships and romantic relationships contribute to the development of social anxiety and depression for RS individuals over time. However, to date, these associations have not been investigated empirically in late adolescence. Furthermore, studies have only considered the role of support, overlooking the potential influence of negative relationship qualities. The present study sought to fill these gaps in the literature to understand the ways in which the quality of romantic relationships and
friendships in late adolescence contributes to the association between RS and internalizing symptoms. The current investigation examined support and negative interactions in both relationships as moderators of the link between RS and adjustment problems, specifically symptoms of social anxiety and depression. These factors were investigated as predictors of internalizing symptoms concurrently, as well as longitudinally, to understand how they may contribute to the maintenance of symptoms as well as increases in symptoms over a brief period. The present study also aimed to examine potential gender differences in these associations.

Relationship experiences and their influences on social and emotional adjustment differ for males and females during adolescence (e.g., Rose & Rudolph, 2006), but little research has investigated possible gender differences in the links among relationship quality, RS, and adjustment problems. A major goal of this research is to provide critical information to effectively adapt treatments for those who are RS by targeting a particular relationship, relationship quality, or population of youth.

In subsequent chapters, the constructs of RS, relationship quality, and their intersection with adjustment are reviewed. First, an extensive review and analysis of RS theory and research are presented. Next, attention is directed at romantic relationships and their development, as this is the context in which RS has been examined most often. A developmental review is then extended to the peer context and friendship development, an important relationship in late adolescence that has yet to be investigated in relation to RS. Finally, these will be integrated to reveal several crucial gaps in the literature, and the current study is presented to investigate these questions.
CHAPTER II
REJECTION SENSITIVITY

Introduction

Rejection Sensitivity (RS) is a dispositional trait that guides an individual’s expectations, understanding, and behavioral responding to interpersonal events. Downey and Feldman (1996) conceptualize RS as a “tendency to anxiously expect, readily perceive, and overreact to rejection” interpreted from the ambiguous behavior of others (p. 1327). Highly rejection sensitive (HRS) individuals tend to anticipate and perceive rejection from people who are otherwise typically expected to be a central source of social support. In turn, RS individuals exhibit patterns of maladaptive behavioral responses to these rejection experiences. The negative cognitive and behavioral processes associated with RS are likely to influence both social and emotional maladjustment, including poorer quality relationships (e.g., reduced support, increased conflict, reduced satisfaction) and higher levels of social anxiety and depressive symptoms. The following chapter provides an in-depth review of the RS model to describe how RS functions in an interpersonal context, including the role of early experiences, and the expectations of, perceptions of, and responses to perceived rejection. This is followed by a review of the associated outcomes in relationship functioning and emotional adjustment.

The RS Model

The RS model is a theoretical framework of social relating describing the processes and etiology of the RS disposition. The RS model operates cyclically as the initial feared expectations and experiences of rejection are eventually reinforced by inadvertently eliciting rejection from others through maladaptive behavioral responses. The next section introduces the
framework of the RS model. This is followed by a description of the interpersonal processes involved in RS, and then a review of the etiology of RS as a dispositional trait.

The RS model draws from several interacting theories and is guided by two overarching, basic assumptions. The first assumption asserts that all humans need and thus are driven to pursue social acceptance for their socioemotional wellbeing (Romero-Canyas, Downey, Berenson, Ayduk, & Kang, 2010). In doing so, individuals open themselves up to possible rejection from others. Balancing the pursuit of acceptance and avoidance of rejection is a challenging but motivating process that is likely dysfunctional in RS individuals. Secondly, the RS model is established on an assumption that RS is a learned expectation for acceptance or rejection resulting from one’s inherited biological reactivity to threat and past social experiences (Romero-Canyas et al., 2010). This learning may result in expectations of rejection in particular contexts, such as expectations of rejection from peers but not family. Incorporated within this conceptualization of RS is the Cognitive-Affective Processing System framework (CAPS) proposed by Mischel and Shoda (1995). The CAPS framework asserts that personality emerges from person and situation interactions in which aspects of personality (e.g., behavioral responses) vary systematically according to the situation. This system reflects the cognitive processing and interpretation of an individual’s personal experiences, resulting in an expression of stable personality traits. This framework guides the model of RS to understand specific situational experiences triggering expectations of rejection, cognitive-affecting processing of social experiences, and related, systematic behavioral responses.

Ironically, although the interpersonal processes occurring in RS have been associated with various negative social and emotional outcomes, this process has been conceptualized as a defensive motivational system intending to protect individuals from the harm of possible
rejection (Romero-Canyas et al., 2010). In this framework, RS involves dysfunctional attentional and perceptual processing of social information, with identifiable biases serving to preventatively protect the individual from exclusion. The principal stages of negative expectations for rejection in specific interpersonal interactions, perceptions of rejection cues, and behavioral reactions to perceived rejection experiences are offset by social-cognitive learning histories of rejection. The maladaptive behavioral reactions are often followed by actual rejection experiences, which further reinforce rejection beliefs imparted from early experiences and ongoing expectations of rejection. The dispositional trait of RS is a composite of expectations, perceptions, and behavioral responses across all close relationships, rather than specific systems of functioning in particular relationships. The majority of the RS literature has examined romantic relationship functioning in adolescence and young adulthood (e.g., Downey, Feldman, & Ayduk, 2000; Downey, Freitas, Michaelis, & Khouri, 1998; Hafen, Spilker, Chango, Marston, & Allen, 2014; Norona, Salvatore, Welsh, & Darling, 2014), with more recent investigations in the domain of friendships during childhood and early-adolescence (e.g., Croft & Zimmer-Gembeck, 2014; McDonald et al., 2010). The present study examines both romantic relationships and same-gender best friendships in the late-adolescent period. A major contribution of the present study is the examination of RS in late-adolescent friendships, which to date is a relational context that has been understudied in the RS literature.
The following section reviews the cognitive-affective and behavioral processing stages of the RS model (see Figure 1). This process is offset by cues in specific social interaction situations (Link 2 in Figure 1) that are influenced from the compilation of prior experiences of rejection in an individual’s cognitive-social learning history (Link 1 in Figure 1). Evidence supporting each of the stages is presented, drawing from various experimental and self-report studies. Where studies with samples of late-adolescent populations are limited or unavailable, findings from samples with children or early- or mid-adolescents are presented.

**Expectations**

RS is a disposition in which individuals expect that they will be rejected by close others, particularly in situations where they make themselves vulnerable to exclusion, such as by requesting interaction or support (Romero-Canyas et al., 2010). Underlying beliefs and anticipation of rejection may initially be based on early rejection experiences where social goals of acceptance or support were not met. RS theory proposes that this initial anticipation develops
into a more persistent pattern of expectations when attempting to relate and connect with others. Expectations of rejection may initially develop from experiences with parents, and then later broaden in childhood and adolescence to incorporate interactions with peers, and eventually early romantic experiences. Consistent with the CAPS framework (Mischel & Shoda, 1995), these expectations of rejection may be prompted or elicited differently in various types of interactions. During adolescence, expectations and anticipation of rejection are particularly likely to occur in friendships and romantic relationships, as these are the major sources of social connection. Friendships become an increasingly important source of self-validation as adolescents gain more independence from parents and spend more time with peers. Furthermore, adolescents may experience an increased sense of social vulnerability as they navigate the initiation and dissolution of romantic relationships.

Supportive Evidence. Though rejection expectations in RS have not been directly targeted in empirical investigations, studies examining attentional processing of social threats and self-attributions provide some speculation about the existence of underlying biased expectation of social threat cues. Experimental studies examining attention allocation suggest that RS is associated with biased attentional processing, specifically with disruption to goal-directed attention and diversion of attention away from social threat cues (Berenson et al., 2009). One such study by Berenson and colleagues (2009) evaluated college students’ performance on an Emotional Stroop task in which the color of a written word must be verbally indicated while the content or meaning of the rejection word (e.g., ignored, shunned, disliked) is ignored. RS was associated with greater attentional interference for rejection but no other negative words, suggesting specificity to cues of social rejection. In addition to increased attentional interference, results of a Visual Probe task with threatening and nonthreatening facial expressions indicated
that RS is associated with attentional avoidance away from social threat cues. While this is somewhat unexpected, attentional avoidance of socially threatening information may serve a protective function by motivating maintenance of close connection with the source of threat (e.g., friend; Berenson et al., 2009). Though not directly evaluating beliefs about social interactions, attentional biases may suggest presence of underlying expectations of rejection that contribute to biased deployment of attentional resources. However, findings of an attentional bias in RS have not been consistently replicated (e.g., Mor & Inbar, 2009).

More direct evidence of beliefs about rejection has been found in a study examining self-referential attributions. Individuals high in rejection sensitivity were more likely to endorse rejection-related words as being relevant to or descriptive of the self in an experimental self-referential encoding task (Mor & Inbar, 2009). These findings suggest that RS is associated with underlying beliefs about rejection and the self, making it likely that RS individuals also expect or anticipate rejection in situations involving social risk. Overall, despite a limited number of experimental studies targeting this particular stage of the model, findings are suggestive of an underlying anticipation of rejection. These expectations of rejection during social interactions are at the core of the rejection sensitivity disposition and are theorized to offset each of the other cognitive-affective processing stages during social interactions.

**Summary of Gender Differences.** Limitations in the literature prevent any conclusions from being drawn about possible gender differences in anticipatory beliefs about rejection. However, explanations of the theoretical RS model (e.g., Romero-Canyas et al., 2010) do not hypothesize gender differences in the anticipatory beliefs or expectations of rejection during social situations. In contrast, expectations of rejection are one of the central cognitive aspects assessed in RS and therefore would likely need to be present during some forms of social
interactions for both rejection sensitive males and females. However, Ayduk and colleagues suggest that situational cues triggering expectations and perceptions of rejection may be gender-specific, such that women are more concerned with threats of losing a relationship and men are more sensitive to threats about social status or identity (Ayduk, Downey, Testa, Yen, & Shoda, 1999).

Perceptions

Biased processing and interpretation of social cues is a central component of the RS system. Following the expectation or anticipation of rejection, this stage of an interaction results in the perception of rejection from identified social cues (Link 2 in Figure 1), contributing to an associated “over-reaction” with emotional and behavioral responses (Link 3 in Figure 1). The RS model posits that individuals who tend to expect rejection have core cognitive processing biases when interpreting social information and more readily perceive cues of rejection or threat among the negative and neutral behavior of others (Romero-Canyas et al., 2010). The bias to interpret the behavior or others as rejecting, intentional, and hurtful persists even when intentions for the behavior are ambiguous (e.g., Zimmer-Gembeck & Nesdale, 2013).

Supportive Evidence. Perceptual processing biases in RS have been examined primarily in romantic interactions. An initial prospective study by Downey and Feldman (1996) found that RS predicted later perceptions or attributions of hurtful intent to a new romantic partner’s insensitive or ambiguous negative behavior (e.g., acting distant). Importantly, these perceptions were not better predicted by other dispositional traits, such as social anxiety or attachment. Therefore, the RS disposition predicts biased perceptions of rejection in new romantic relationships even before any learning about rejection expectations or experiences can take place in the relationship. Daily diary methods tracking conflicts and expectations of rejection also
provide evidence of biases present in the assumptions about romantic partners’ intentions (Downey, Frietas, et al., 1998). On days preceded by conflict, HRS college women, but not men, perceived their partner as being significantly less accepting and more withdrawn. However, biased perceptions of behavior are pervasive, even under circumstances without prior evidence of conflict. For example, HRS women perceived that their partners were less accepting than low rejection sensitive (LRS) women even on days that were not preceded by conflict. Further evidence of biased perceptions has been revealed in a study using observational methods with a Video-Recall Procedure. Adolescent romantic couples completed a video-recorded social interaction task discussing topics of disagreement with their partner and then coded their own and their partner’s conflictual behaviors in segmented clips of the interaction (Norona et al., 2014). Confirming presence of an actual perceptual biases for rejecting behavior, RS individuals tended to perceive their partners’ behavior as more conflictual compared to an objective observer, who often rated the same behaviors as neutral (Norona et al., 2014). Therefore, not only do HRS individuals perceive more rejecting behavior overall, but they also do so in instances where the behavior is objectively neutral. HRS adolescents perceived similar levels of conflict in neutral and conflictual segments of the interaction compared to LRS individuals, highlighting the presence of a social-cognitive processing difference between low and high RS individuals (Norona et al., 2014).

Summary of Gender Differences. The examination of gender differences in the perceptual stage of RS is considerably limited in the literature. Downey and Feldman (1996) used a gender-balanced sample but did not evaluate possible perceptual differences relating to gender. Likewise, specific gender differences with RS and conflict perceptions were not directly examined in the Video Recall Procedure study, but gender did not appear to influence general
ratings of conflict (Norona et al., 2014). Furthermore, the model showed little change when multiple factors, including gender, were controlled for. The only study reporting significant gender differences indicated that HRS women, but not HRS men, perceived greater amounts of rejecting behavior from their partner on days preceded by conflict (Downey, Freitas, et al., 1998). Overall, evidence of gender differences for perpetual processing differences in RS is limited and somewhat mixed. Studies using both all-male and all-female samples (e.g., Downey et al., 2000) have identified maladaptive relationship outcomes, as discussed later in this chapter, suggesting that some form of perceptual bias likely occurs for both males and females during the processing of social information.

**Responses**

Once an interaction has been perceived as rejecting, RS individuals tend to respond with negative cognitive-affective reactions (e.g., anger, thoughts about being rejected; Link 4 in Figure 1) and patterns of maladaptive behavioral responses (Link 5 in Figure 1). Experimental methods have provided initial evidence of an inherent cognitive reactivity to rejection cues. Behaviorally, rejection sensitive individuals tend to respond in maladaptive ways in an attempt to protect or defend oneself from the source of rejection. Two general behavioral responses have been identified, including patterns of withdrawal/avoidance or aggression/retribution (Downey, Bonica, & Rincon, 1999; Downey & Feldman, 1996; Zimmer-Gembeck & Nesdale, 2013). RS theory proposes that maladaptive responses may be motivated by self-protective strategies of avoidance or overinvestment (Downey et al., 1999). Strategies of avoidance (e.g., avoiding the development of romantic relationships or avoiding investment in established relationships) may result in withdrawal responses, whereas strategies of overinvestment (e.g. making threats of
aggression toward the partner or oneself to coerce the partner to remain in the relationship) are more likely to result in hostility and retribution.

**Supportive Evidence.** Prior to behavioral responses, RS theory proposes that individuals first experience negative cognitive-affective reactions. Consistent with this hypothesis, rejection sensitive individuals appear to experience more negative emotional reactions to rejection experiences manipulated in the lab, as assessed by an observer and self-reported rejected mood ratings (Downey & Feldman, 1996). These feelings of rejection and more negative affective responses likely precede maladaptive behavioral responses. Studies of functioning in both romantic relationships and friendships have identified behavioral responses of withdrawal and retribution associated with RS. Evidence supporting these two patterns of responding will be presented, with particular consideration given to gender differences.

**Retribution/Aggression.** Aggressive and hostile behavior have long been associated with RS. In their original study examining RS, Downey and Feldman (1996) identified a link with aggressive behaviors through romantic partner reports. HRS college females were reported to be hostile, and HRS men were reported to engage in jealous and controlling behavior in the romantic relationship. Later studies have confirmed the presence of these behavioral responses across various methodologies, including self-report, experimental tasks, and diary methods. An experimental study by Ayduk and colleagues (1999) examined female college students’ implicit associations between rejection and hostility. A sequential priming-pronunciation paradigm compared pronunciation reaction times for words about rejection (e.g., abandon), hostility (e.g. revenge), disgust (e.g., infect), or neutral content (e.g., chalk) following a priming word. Highly rejection sensitive women pronounced hostility words following rejection priming words more quickly compared to low rejection sensitive women, suggesting that hostile thoughts are more
readily activated by cues of rejection. Extending these cognitive associations to behavioral responses, Ayduk and colleagues (1999) found that HRS women were more hostile when evaluating a potential dating partner’s online profile after experiencing an ambiguous rejection by this partner. These findings have also been replicated in a similar experimental design using both HRS male and females, suggesting presence of hostile responses for both genders (Ayduk, Gyurak, & Luerssen, 2008).

RS has also been associated with maladaptive aggressive behaviors used to prevent rejection in earlier adolescent romantic relationships. A one-year longitudinal, self-report study of economically disadvantaged adolescent girls in grades 6 to 8 examined rejection sensitivity and associated romantic relationship difficulties (Purdie & Downey, 2000). Girls with high anxious and angry rejection expectations reported a willingness to engage in any behaviors, even those “known to be wrong,” in order prevent rejection in their romantic relationship. Therefore, HRS individuals may be greatly motivated to maintain relationships, even at high costs. Results suggested that withdrawal may even be enacted in a hostile manner more consistent with retribution in an attempt to upset one’s partner, such as through ignoring (Purdie & Downey, 2000). In addition to more covert, controlling behaviors, angry and anxious rejection expectations were associated with any previous engagement in a physical fight with a romantic partner. A study with college males also revealed RS reactions with physical dating violence, but only when the HRS males reported relatively high relationship investment (Downey et al., 2000).

Evidence of hostile and aggressive responses to rejection in romantic relationships has been identified across various research methods (e.g., self-report, partner-report, observations). A college-sample study using daily diary methods examined whether RS women’s hostility occurs within their current romantic relationships along with daily variation in feelings of rejection.
High RS women, but not low RS women, were more likely to become engaged in conflict with their partner (i.e., increased hostility) following days when they felt rejected (Ayduk et al., 1999). Importantly, these findings also suggest that responses may extend beyond the initial situational encounter. Studies with observational methods have also confirmed that RS individuals engage in more conflictual and negative behaviors when talking about an unresolved disagreement with a romantic partner (Downey, Freitas, et al., 1998; Hafen et al., 2014). However, Downey, Freitas, and colleagues (1998) found that only HRS women, and not men, exhibited more negative, hostile behavior during the conflict discussion than their LRS counterparts. More recent findings from Hafen and colleagues (2014) indicate that negative response processes are present for both males and females during similar encounters.

Research considering this response in peer relationships is more limited. One such investigation in late adolescence assessed the response of retribution and reactive aggression in vignette scenarios with peers (Zimmer-Gembeck & Nesdale, 2013). Individuals with higher expectations of rejection reported that they were more likely to engage in retribution (e.g., arguing with friends) in response to overt rejection experiences. Distinct from anxious reactions, angry reactions to rejection were uniquely associated with reactive aggression. HRS youth reported more responses of reactive aggression than LRS youth, particularly when the rejection was more ambiguous in nature. These findings suggest that adolescents who tend to expect rejection in peer relationships and experience angry reactions to rejection concerns may respond with retribution, particularly when the rejection elicits more doubt or uncertainty.

**Summary of Gender Differences.** Our understanding of possible gender differences in aggressive responding and retribution is greatly limited by multiple studies using female-only samples (e.g., Ayduk et al., 1999; Purdie & Downey, 2000). Research has likely targeted this
population due to initial research suggesting that these behaviors were present primarily among women and that only women’s behaviors accounted for relationship functioning problems (Downey, Freitas, et al., 1998). However, when Ayduk and colleagues (1999) replicated an experimental study with a male and female sample, findings provided evidence of the presence of hostile reactions for both genders (Ayduk et al., 2008). Additional research with all-male samples (e.g., Downey et al., 2000) has provided further evidence of aggressive patterns of responding, specifically with physical dating aggression. However, two romantic relationship studies using observational methods have revealed more inconsistent gender findings. Downey, Freitas, and colleagues (1998) found that only HRS women, and not men, exhibited more negative, hostile behavior during a conflict discussion, whereas findings from Hafen and colleagues (2014) suggest that these negative response processes are present for both males and females. It is possible that the observational coding system in the Downey et al. (1998) study, the Marital Interaction Coding System – IV (MICS – IV; Weiss & Summers, 1983), may have accounted for more behaviors consistent with female displays of negative behavior (e.g., hostile tone of voice, denial of responsibility) compared to males, who may be more likely to engage in other reactions, such as hostile withdrawal. Instead, the observational coding system in the Hafen et al. (2014) study, adapted from an original system designed by Grotevant and Cooper (1985), incorporated greater consideration of hostile withdrawal captured by negative displays of autonomy (e.g., “Whatever. I don’t care that much. I don’t want to talk about it”) and relatedness (“That’s a really stupid thing to say”). It is possible that these different methods may account for the conflicting gender findings in hostile behavioral responses to romantic rejection experiences.

**Withdrawal.** Extending findings about a “fight” response characterized by aggressive responses, research also provides evidence to support a “flight” response involving social
withdrawal. RS individuals may respond to rejection cues with withdrawal in an attempt to minimize their investment or behave in a submissive manner in order to prevent the feared rejection from occurring. Withdrawal responses have been examined in both romantic relationships and peer relationships. Self-silencing is one form of behavioral withdrawal and submission in which individuals elect to suppress their personal perspectives, needs, and opinions in an attempt to maintain the relationship. Harper, Dickson, and Welsh (2006) examined self-silencing behaviors among early to late adolescent romantic couples and found that individuals who were more sensitive to rejection engaged in higher levels of self-silencing in their relationship. Though self-silencing is intended to maintain the relationship and increase intimacy, it may instead result in the adolescent presenting with an artificial personality and behaviors, therefore preventing the development of a genuine and sustainable relationship. A similar pattern of withdrawal has also been identified in longitudinal research with submissive behavior. A 6-year longitudinal study with a community sample of adolescents found that increases in RS over time (i.e., across ages 16 to 19) predicted a higher likelihood of behaving in a submissive manner within an early adult romantic relationship (i.e., age 22), particularly for females (Hafen et al., 2014). This result suggests that RS women may be especially likely to avoid rejection through efforts to comply with a partner’s requests. Submission may take several forms in adolescent romantic relationships, such as engaging in sexual activity before they feel ready, enacting risky or delinquent behavior (e.g., truancy, substance use), or tolerating emotionally, physically, or sexually abusive behavior (Downey et al., 1999). Tendencies to respond to rejection experiences with submissive or withdrawn behavior are also evident for HRS males. Downey and colleagues (2000) found that among HRS men reporting relatively low investment in their romantic relationship, expectations of rejection predicted reduced
involvement in close relationships with friends and romantic partners, rather than relationship violence. It appears that level of investment may be an important predictor of patterns of submissive behaviors among HRS men.

Though more limited, patterns of withdrawal responses have also been identified in peer relationships. A longitudinal study by London and colleagues (2007) examined RS and patterns of behavior with a diverse sample of middle school students in a school setting. Findings provide support for a response of social withdrawal to expectations of rejection in the early adolescent peer context. Importantly, anxious expectations of rejection uniquely predicted increases in this pattern of responding apart from angry expectations of rejection (London et al., 2007). Evidence of these same patterns has been identified in late adolescence. For example, Zimmer-Gembeck and Nesdale (2013) found that anxious reaction to rejection was uniquely associated with withdrawal responses to rejection experiences with friends described in written vignettes. Results suggest that HRS adolescents are more likely to engage in responses of withdrawal in overt versus ambiguous rejection expectations. Less situational ambiguity or increased evidence of rejection experience may motivate RS individuals to avoid the rejection experience rather than engage in an aggressive response that may further damage the relationship. If the desired outcome for RS individuals is relationship maintenance, the selection of behavioral responses of withdrawal or retribution is likely determined according to identified social goals and perceived risk for each response.

**Summary of Gender Differences.** The literature provides evidence of withdrawal responses for both males and females. Though some research in romantic relationships is limited by studies using single-gender samples (e.g., Downey et al., 2000), the literature has provided evidence to suggest that this pattern of responding occurs for males and females across romantic
relationships and peer relationships. Harper et al. (2006) found significant gender differences in the levels of self-silencing in dating adolescents, with males reporting significantly more self-silencing behaviors than females. It is possible that males and females interpret self-silencing behaviors differently. Males tend to withdraw during conflicts (e.g., silence or walking away) and may use self-silencing as a method to avoid undesired intimacy, conflict, or situations that may inhibit their independence (Harper et al., 2006). Females may instead avoid self-disclosure to prevent causing harm to others or to avoid initiating relationship conflict. Alternatively, some gender differences have also been identified in patterns of withdrawal across time. Both males and females who experienced increasing rates of RS across adolescence were more likely to engage in submissive behavior in their late-adolescent romantic relationships than non-RS peers (Hafen et al., 2014). However, this association was significantly stronger for females than males. These results suggest that females may be more likely to develop withdrawal responses over time as a coping strategy for rejection concerns. These gender differences in late-adolescent romantic relationships have not been identified in early-adolescent peer relationships, suggesting possible differences relating to age or relationship types (London et al., 2007).

**Summary.** Substantive research has identified that those high in RS might engage in behavioral responses of both withdrawal and retribution, particularly in romantic relationships. Though evidence is more limited in friendships, the available literature suggests that these responses are present across both types of relationships. Conflicting gender findings prevent definitive conclusions from being drawn, but various studies have found evidence that these responses occur in both males and females.
Self-Fulfilling Prophecy

HRS individuals tend to respond to perceived rejection experiences in maladaptive ways that inadvertently contribute to the occurrence of the feared outcome, namely rejection. This cycle of behavior serves as a self-fulfilling prophecy to maintain expectations of rejection from others and further embed biases associated with rejection (Downey et al., 1999). The original study by Downey and Feldman (1996) found that RS males and females were reported by partners as being jealous, hostile, and emotionally unsupportive. These behaviors accounted for a significant portion of their partner’s relationship dissatisfaction, suggesting that the partners may be less likely to respond with accepting behavior. Relationship dissatisfaction is also an established predictor of relationship break-up, indicating that RS individuals may increase the probability of relationship dissolution. In fact, a longitudinal study across one-year revealed that HRS individuals were more likely to break-up than individuals without significant rejection concerns (Downey, Freitas, et al., 1998). Through methods of daily-diary reports from both romantic partners, Downey and colleagues found that processes contributing to relationship erosion were present for HRS females, but not males. Following naturally occurring relationship conflicts, HRS women’s partners experienced more relationship dissatisfaction and thoughts of ending the relationship than LRS women’s partners. HRS women were aware of their partner’s increased dissatisfaction and consideration of ending the relationship and perceived their partner as being less accepting and more withdrawn following days where conflict had occurred. Observational methods have also provided evidence of a self-fulfilling prophecy in romantic relationships. HRS women’s more negative behavior during observed laboratory conversations about an unresolved disagreement accounted for their partner’s more rejecting behavior and eventual relationship breakup (Downey et al., 1998). Compared to partners of LRS women, HRS
women’s partners were significantly more angry following relationship conflict. Importantly, HRS women’s increased negative behaviors during conflictual interactions with their partners helped to account for their partner’s increased anger following conflict.

Collectively, these findings provide evidence consistent with the CAPS model that the personal disposition to expect and respond to rejection perceptions influences the individual’s behavior in situations where these concerns are activated. HRS women’s more negative behavior is associated with their partner’s more rejecting behavior, likely contributing to reductions in satisfaction and eventual break-up. Though findings from Downey and colleagues (1998) have suggested that this process occurs only for women, more recent evidence has indicated that HRS men also demonstrate more negative, hostile behaviors toward their partners and experience more negative relationship outcomes. Therefore, it is possible that RS offsets a self-fulfilling prophecy for both men and women, in which they behave in ways that elicit rejection from romantic partners (e.g., Ayduk et al., 2008; Hafen et al., 2014).

**Etiology and Course of RS**

RS theory suggests that RS develops from early rejection and negative attachment experiences. Individuals with exposure to harsh and inconsistent parenting, family violence, emotional neglect, bullying, or peer rejection may be more likely to develop RS through their social-cognitive learning history. From these experiences, individuals may learn to expect rejection and develop biases or cues that trigger anxious expectations of rejection in interactions with others. This section will review the association between RS and experiences with parents, including a discussion of attachment experiences. Next, a review of later attachment with early romantic partners and rejection experiences with peers is presented. The development and course of RS over time in adolescence is also discussed.
Experiences with Parents: Attachment

RS theory is informed by an attachment framework, suggesting that RS develops as a result of early rejection experiences with parents. Attachment is a behavioral system that is theorized to result from the quality of care provided by a parent early in life, specifically the sensitivity, warmth, responsiveness, and attentiveness provided to the child (Bowlby, 1988). An individual’s expectations that others will satisfy one’s needs are central components of internal working models about the self and of others, which develop from early experiences with attachment figures (Bowlby, 1988). The early mother-child or primary caregiver-child attachment relationship serves as a unique and principal relationship from which the child develops a pattern of behaviors in response to the environment.

A consistent, stable environment with close proximity and access to the mother allows children to organize their behavior, explore their environment with safety, and expect their needs to be met, leading to a secure attachment relationship (Bowlby, 1988). Children who receive inconsistent care, lack a secure base, and do not have responsive caregivers may develop insecure working models and an insecure attachment style (Ainsworth, Blehar, Waters, & Wall, 1978). These insecure working models may contribute to beliefs about others’ rejecting behavior and general inability to meet one’s needs. These types of attachment styles were demonstrated in the work of Ainsworth with the Strange Situations Task, wherein insecurely attached children exhibited maladaptive patterns of behavior particularly during the stressful experience of being separated from and reunited with the caregiver. Insecurely attached children may exhibit anxious-avoidant (i.e., avoiding the parent upon return), anxious-resistant (i.e., demanding reassurance/proximity and comfort and reacting with hostility or not being soothed), or disorganized attachment (i.e., engaging in inconsistent behavior in response to the caregiver).
styles. Other specific early rejection experiences from parents may also include overt rejection (e.g., physical abuse) and covert rejection (e.g., emotional neglect). Experiencing different forms of rejection from parents may further contribute to insecure attachment styles that can persist into adolescence and early adulthood. In fact, early attachment organization extends across infancy through adolescence and remains even more stable from early-adolescence to early adulthood (Allen, Grande, Tan, & Loeb, 2018; Sroufe, Egeland, Carlson, & Collins, 2005).

Despite the influence of attachment theory, there has been limited empirical research examining RS as it relates to attachment and early rejection experiences. One retrospective study with college students found that self-reported early rejection experiences with parents predicted late-adolescent RS (Feldman & Downey, 1994). The frequency and severity of such experiences, including physical aggression in the parental relationship (i.e., witnessing aggression between parents) and physical aggression directed toward the child, were also associated with RS. Individuals who were more rejection sensitive were more likely to report childhood exposure to family violence and being a victim of physical aggression from caregivers. Though limited by retrospective methods, these findings provide initial support for RS theory. Furthermore, RS has been associated with less secure attachment styles in adolescent parent-child relationships (Natarajan, Somasundaram, & Sundaram, 2011). An examination of RS in a mid-adolescent Indian sample found that attachment qualities (e.g., mutual trust) with mothers, but not fathers, were significantly associated with RS concurrently (Natarajan et al., 2011). Cultural differences within this sample may have contributed to the lack of association within the father-child relationship, as it is culturally normative for youth to not have close, emotional relationships with fathers.
Attachment Quality in Late Adolescence/Adulthood and RS

Though attachment behavior first emerges in the mother/primary caregiver-child relationship, these same patterns of behavior continue in other relationships, particularly romantic relationships (Bowlby, 1988). When adolescents or adults experience stress or anxiety, their original attachment expectations and behaviors may be particularly likely to emerge based on prior learning. Consistent with this theory, rejection sensitivity has been inversely associated with the security of adult attachment in college samples. Findings indicate that RS is associated with less secure and more insecure (i.e., avoidant or ambivalent/resistant) adult attachment styles (Downey & Feldman, 1996; Feldman & Downey, 1994). Specifically, Downey and Feldman (1996) found that RS was inversely associated with secure adult attachments and positively associated with resistant and avoidant attachments. In another college student study, RS was predictive of adult attachment behavior, wherein HRS individuals were more likely to exhibit insecure patterns of adult attachment (Feldman & Downey, 1994). Furthermore, securely attached individuals were significantly less rejection sensitive compared to those categorized with avoidant or ambivalent styles.

Peer Rejection Experiences

Experiences of peer rejection are also theorized as an important early social experience contributing to the development of RS. A retrospective study with adolescents found evidence suggesting that early peer rejection experiences contribute to the development of RS. Late adolescents high in interpersonal sensitivity, a related construct often used interchangeably with RS, were more likely to retrospectively report histories of peer teasing in childhood than those low in interpersonal sensitivity (Butler, Doherty, & Potter, 2007; Stafford, 2007). Importantly, experiences of peer acceptance were not protective for adolescents with histories of peer
rejection. These findings suggest that experiences of teasing and rejection, but not acceptance, may be more critical to the development of RS. However, it is also possible that RS individuals may be more likely to remember or misremember past experiences of peer rejection. A study examining concurrent associations between adolescents’ RS and more immediate peer acceptance experiences provides some additional support of these links without the limitation of retrospective bias. Self- and peer-reported RS were significantly correlated with overt and relational peer victimization in early-adolescence (Zimmer-Gembeck, Trevaskis, Nesdale, & Downey, 2014). A longitudinal investigation by London and colleagues (2007) with a diverse sample of middle school students provides more direct evidence of the role of early peer rejection experiences in the development of RS. Findings indicated that peer rejection, assessed through peer report, predicted increased angry and anxious expectations of rejection across four months. However, this association was found only for males. In contrast to retrospective findings from Butler et al. (2007), experiences of acceptance were protective for both boys and girls. Specifically, acceptance from peers reduced anxious expectations of rejection over time, suggesting that positive social relationships and experiences may protect youth from developing increased RS. The retrospective approach used by Butler and colleagues (2007) likely involved more biased perceptions that overshadowed the possible protective aspects of peer acceptance. Though more research is needed to understand the role of early childhood peer experiences, the available literature suggests that experiences of peer rejection in adolescence influence the development and trajectory of RS across time.

**RS Across Development**

RS theory proposes that RS develops in response to early experiences of rejection with others, and research has indicated that RS processes are evident as early as during childhood
Importantly, expectations and behaviors associated with RS are likely to become increasingly influential and activated in late adolescence as personality dispositions become more entrenched. Expectations of rejection and acceptance are likely to be tested in new contexts, social experiences, and changing social networks during adolescence. Longitudinal research indicates that RS peaks in adolescence and decreases over time into early adulthood (Hafen et al., 2014; Marston, Hare, & Allen, 2010). Those with higher initial levels of RS also appear to experience greater rates of decline (Hafen et al., 2014). However, there is some other evidence of stability in RS, with adolescents’ RS remaining stable relative to their position among peers from age 16 to 18 (Marston et al., 2010). It is possible that RS may naturally reduce as individuals develop a more stable identity and secure sense-of-self, thereby decreasing the threat of rejection.

With regards to gender, initial differences are present in mid-adolescence and subside over time by late adolescence. Males tend to exhibit higher levels of RS around ages 16 and 17 and by late adolescence (i.e., ages 18 and 19), these gender differences are no longer present (Hafen et al., 2014; Marston, et al. 2010). Males may be more prone to RS during early to mid-adolescence as this is the developmental stage during which romantic relationships are typically being initiated for the first time. Traditional gender roles may increase males’ sense of obligation to make the first overt indication of interest to a potential romantic partner, and thereby increase their concern about and eventual experiences with romantic rejection. Males may also experience heightened RS compared to females and exhibit greater difficulty transitioning to cross-gender relationships and intimate relationships as they emphasize shared activities rather than disclosure and closeness (Marston et al., 2010). The present study examined RS in late adolescence, a period during which RS is particularly salient and beginning to stabilize. RS is especially likely
to influence close relationships and emotional functioning during this important developmental period.

**Outcomes**

RS is associated with multiple maladaptive outcomes in the domains of relationship development and functioning, and emotional adjustment. The types of relationships affected by RS, particularly romantic relationships and friendships, will be discussed in more detail in subsequent chapters. This section will provide a brief overview of implications of RS for relationship functioning in romantic relationships and friendships followed by related emotional adjustment outcomes. More in-depth reviews of implications for emotional functioning and relationship outcomes are presented in a later chapter.

**Relationship Functioning**

In the domain of emerging romantic experiences, RS appears to impair the normative process of romantic development in adolescence by disrupting the stages of relationship initiation or maintenance (Hafen et al., 2014). HRS adolescents are less likely to have a romantic partner by early adulthood, suggesting that they may be less apt to become involved in romantic experiences across development. The romantic relationships of HRS individuals are also more likely to break-up over time (Downey et al., 1998). Among the HRS individuals who do have romantic partners, their relationships are marked by increased avoidance and anxiety (Hafen et al., 2014). It is possible that these same impairments may be present in friendships. In fact, some evidence suggests that RS impairs friendship maintenance and stability in adolescence (Croft & Zimmer-Gembeck, 2014). RS has also been associated with relationship dissatisfaction from both partners in the relationship, particularly in the romantic context (e.g., Downey & Feldman, 1996). Difficulties with relationship maintenance and satisfaction may be particularly likely for
HRS individuals as a result of frequent responses of retribution or withdrawal. It is possible that the romantic and friendship contexts also contribute to the emotional adjustment of RS individuals depending on the amount of support received from relationship partners (e.g., McDonald et al., 2010) and increasing relationship conflict (e.g., Downey, Freitas, et al., 1998).

Psychological Adjustment

RS also has been associated with a range of internalizing symptoms across early- to late-adolescence, including depression, anxiety, and social anxiety (Downey & Feldman, 1996; McDonald et al., 2010; Mellin, 2008). RS has been associated not only with concurrent states of emotional dysfunction but also with increasing levels of symptoms over the span of several months and up to multiple years (e.g., London et al., 2007; Marston et al., 2010). Compared to low RS individuals, HRS youth are more likely to experience elevated symptoms of anxiety and depression. The role of stress and stressful interpersonal events has also been identified as a significant moderator of the association between RS and depressive symptoms (Chango et al., 2012; Liu, Kraines, Massing-Schaffer, & Alloy, 2014). Overall, RS has been consistently linked with emotional maladjustment outcomes and increasing internalizing distress across development.
CHAPTER III

ROMANTIC RELATIONSHIPS

Introduction

Romantic relationships have most commonly been identified as a key relationship affected by RS (e.g., Downey & Feldman, 1996; Downey, Freitas, et al., 1998; Hafen et al., 2014). RS is particularly influential during the late-adolescent period when romantic relationships become increasingly central in the social lives of youth. Romantic involvement is a significant task of adolescence, occurring as a natural progression of social relating in mid- to late-adolescence (Collins, Welsh, & Furman, 2009). These relationships support adolescents’ socioemotional development and help them to accomplish other characteristic tasks of this period. For example, romantic relationships provide adolescents with a context to understand their emerging identities (e.g., attraction, sexuality), to navigate this new social domain, and to accomplish developmental tasks or goals (e.g., experience a relationship with mutual self-disclosure and commitment, future goals of marriage or starting a family). Dyadic romantic relationships become one of the most important relationships for late adolescents. It is the social context in which they receive the most support and spend most of their time (Collins, 2003).

Another central relationship of adolescence are friendships, and adolescent friendship experiences are also examined in the present study and are reviewed in the next chapter.

Defining Romantic Relationships

Romantic relationships are characterized by “on-going, voluntary interactions that are mutually acknowledged” by both members of the pair (Collins, 2003, p. 2). Romantic relationships can be differentiated from other peer relationships during adolescence by their dyadic quality and distinct intensity (Collins, 2003, p. 2). Romantic relationships involve unique
expressions of affection (physical and verbal) and, often, expectations of engagement in sexual behaviors. Due to their intensity, romantic relationships can require greater motivation or commitment to maintain than peer relationships (Collins & van Dulmen, 2006). Importantly, romantic relationships in adolescence can be heterosexual or non-heterosexual (e.g., same-gendered individuals, non-gender binary individuals) in nature. However, the current literature is primarily limited to heterosexual relationships, and therefore this chapter will focus predominantly on the development and interpersonal processes of heterosexual romantic relationships. A review of the romantic relationship development process, including the social, emotional, and biological domains in which this process occurs is followed by a review of romantic relationship qualities and associations with adjustment in adolescence.

**Romantic Relationship Development**

Depending on definitions of involvement, romantic relationships can begin as early as the childhood period and become part of the typical adolescent experience by age 15, when more than half of all adolescents report having a current or previous relationship (Carver, Joyner, & Udry, 2003). Nevertheless, some adolescents are more likely to develop romantic relationships than their peers. Males are more likely to be involved before age 15, after which an increasing number of females become involved (Carver et al., 2003). Social competence with peers is also associated with romantic development, through its association with larger social networks, a greater number of close friends, and in turn, romantic dating (Connolly & Johnson, 1996). Furthermore, when adolescents’ friends are involved in romantic relationships, then those adolescents are more likely to be involved in serious romantic relationships themselves, suggesting an important role of social networks (Furman & Winkles, 2010). Some of the same motivations for romantic relationships persist from early- to late-adolescence, principally a desire
for closeness. However, with age, thoughts about romantic relationships become more differentia-
ted, and adolescents develop a more complex understanding of romantic relationships (Waldiner et al., 2002). It should be noted that romantic relationship development and dating norms are likely to vary across different cultural, ethnic, and racial groups, particularly regarding expected and acceptable dating behaviors (Collins et al., 2009). The following section will review the major models of adolescent romantic relationship development.

**Models and Romantic Relationship Development Pathways**

Several theories have been proposed about adolescents’ drive toward romantic relationship development. Furman and Wehner (1994) present a notable romantic attachment theory informed by the attachment perspectives of Ainsworth and colleagues (1978) and Shaver and Hazan (1988), as well as Sullivan’s interpersonal theory (Sullivan, 1953). Importantly, early attachment is believed to directly influence later attachment with romantic partners. Initial attachment relationships with parents shift in adolescence to promote increased autonomy, motivating adolescents to seek an alternate primary attachment figure with an opposite-gender peer (Ainsworth, 1989). Evolutionarily, romantic attachment is an adaptive biological process serving to promote attachment between sexual partners to create attentive, reliable caregivers (Shaver & Hazan, 1988). Furthermore, Sullivan’s (1953) theory proposes that romantic relationships fulfill the social needs of intimacy and sexuality for adolescents. Building on these theories, Furman and Wehner (1994) proposed a behavioral systems conceptualization of adolescent romantic relationships, involving the affiliative behavioral system, attachment system, caretaking system, and sexual/reproductive system. Adolescent romantic relationship systems are influenced by their understanding of and experiences in other relationships, such as attachment in parent-child relationships and affiliation in peer relationships.
Romantic relationship development occurs through a variety of stages and processes over time. Informed by Dunphy (1963) and Brown (1999), Connolly and Goldberg (1999) provide a stage-based model of romantic relationship development, including four distinct phases of initiation, affiliation, intimacy, and commitment. Initiation is characterized by attraction and desire with limited interpersonal interaction. The affiliation stage involves increasing interaction between opposite-gender adolescents in group settings, providing adolescents experience with cross-gender interaction and opportunities to meet potential partners. In the intimate phase, dyadic couples are formed and invested in apart from the peer group. Once couples reach the commitment phase, they develop attachment and share emotional and physical intimacy.

Research has also informed similar models of romantic relationship development. Consistent with Connolly and Goldberg’s (1999) proposed stage model of romantic development in the friendship context, Connolly, Craig, Goldberg, and Pepler (2004) found evidence that romantic relationships are generally formed through friendship involvement. The longitudinal study examined friends’ roles in romantic relationship development. Findings indicate that small groups of close friends are predictive of other-gender peer networks and future romantic relationships (Connolly et al., 2004). In childhood, same-gender friends are primary and cross-gender friendships progressively become more common in early- to mid-adolescence. In late adolescence, youth spend increasing time with cross-gender peers and socialize in mixed-gender groups, providing a context for dating activities and dyadic romantic relationship development (Lam, McHale, & Crouter, 2014). Importantly, involvement in mixed-gender groups continues after the development of romantic relationships. Informed by these results, Connolly and Laursen (2004) propose a flexible stage model in which children and adolescents flexibly move through stages, at times moving backwards as they navigate interpersonal changes.
Longitudinal studies have also supported the unique role of friends in shaping the trajectory of romantic relationship development. An 8-year longitudinal investigation with Italian youth conducted by Dhariwal and colleagues (2009) found that early peer relationships at age 13 were indirectly associated with two broader romantic relationship outcome styles. A consolidated style involves advancement through stages of a committed dyadic relationship, feelings of relationships satisfaction, and development of sexual intimacy. In contrast, an exploratory style is characterized by having multiple partners over time and seeking romantic relationships to meet adolescents’ emerging or changing needs. Interpersonal functioning in mid-adolescence mediated the link between early peer relationships and both romantic relationship styles such that involvement in early peer relationships encouraged the development of committed relationships. The link between early peer relationships and the exploratory style was also uniquely mediated by challenges in emotion regulation in mid-adolescence, suggesting an important, differentiated function of this romantic pathway (Dhariwal, Connolly, Paciello, & Caprara, 2009).

Studies have also examined trajectories of romantic involvement without a focus on friendship involvement. Davies and Windle (2000) explored developmental pathways over the span of a year with 15- and 16-year-olds. Evidence suggested four patterns of dating behavior, characterized either by no dating, a single casual dating relationship, multiple casual relationships, or steady dating. Findings supported a stage model in which most adolescents transition through these stages with movement from fewer relationships to more relationships with the eventual development of a single committed romantic relationship. However, patterns of romantic relationship development may have changed considerably in recent years. Collins and van Dulmen (2006) note that romantic relationships often continue to emerge from mixed-gender peer groups, but traditional dating patterns may be somewhat outdated or obsolete. More recent,
extended longitudinal research provides some evidence of more varied developmental trajectories. A 7-year longitudinal study with Israeli young adults (ages 22 to 29) revealed four major romantic pathways: sporadic (e.g., many short involvements and casual encounters), lengthy relationships with absence of experiential learning (i.e., involvement in long relationships marked by a lack of intimacy and mutual respect), moving from casual to steady involvements (i.e., period of exploration followed by a steady relationship), and steady relationships (i.e., tendency to form and maintain long-term relationships; Shulman, Seiffge-Krenke, Scharf, Boiangiu, & Tregubenko, 2018). Adolescents with low efficacy (i.e., low resiliency and strength), immature dependency (i.e., a desire to be cared for and protected, abandonment fears), or low maternal support were more likely to follow the two less optimal pathways (i.e., sporadic and lengthy relationships with absence of learning). Romantic developmental pathways also appear to be influenced by gender. Females were more likely to have steady relationships throughout adolescence, whereas males were significantly more likely to engage in sporadic romantic pathways (Shulman et al., 2018). These findings suggest possible sociocultural learning differences according to gender roles and expectations.

Typical patterns of involvement in romantic relationships have also been disrupted by more recent cultural changes. Less emphasis on traditional dyadic dating may make it more challenging to differentiate between the boundaries of close opposite-gender peer friendships and romantic relationships (Collins & van Dulmen, 2006). Within existing romantic relationships, deep commitment is now often delayed in place of more short-term non-committed relationships due to a need to prioritize developmental life tasks, such as developing a career and coordinating life plans. These factors are at odds with older stage theories that suggest one typical pathway for all adolescents. With consideration for recent cultural changes, Shulman and Connolly (2013)
propose a transitional adult romantic stage that may account for the period during which an adolescent is balancing the integration of meeting the demands of transitional goals with a romantic partner. Once this integration is completed and the adolescent has more stability, the foundation for more long-term commitment may be established (Shulman & Connolly, 2013).

**Context of Romantic Relationship Development**

Romantic relationship development occurs in the context of a multitude of social, emotional, and biological changes in adolescence. Romantic relationships become more central as adolescents develop increasing autonomy from the family and spend more time in mixed-gender peer groups (Collins & Laursen, 2004). Adolescents’ emerging involvement in romantic experiences may give rise to conflict in the parent-child relationship, such as about expectations for the adolescents’ behavior and differing perspectives about appropriate dating partners, relationship investment, and living arrangements. Romantic relationships provide additional opportunities for challenging new experiences, such as rejection, and give rise to more complex negative emotions, requiring adolescents to develop effective emotion regulation skills (Bukowski & Sippla, 2005). The adolescent period is also marked by the increasing importance of self-image and identity (Steinberg et al., 2011). One aspect of identity that is specific to romantic experiences is the development of sexuality and sexual identity, a normative and integral aspect of adolescent identity development (Tolman & McClelland, 2011). An individual’s sexual development peaks in adolescence, coinciding with considerable increases in sexual interest and socialization. The development of more defined, dyadic and invested romantic relationships typically occurs following puberty and sexual development. Though changes associated with pubertal development occur in earlier periods of adolescence, physical development typically has the strongest implications for sexual attraction and involvement in
romantic relationships in late adolescence. Pubertal changes influencing sexuality development and romantic attraction include external physical appearances with the development of secondary sex characteristics, as well changes to the physiological system with increases in hormones (Steinberg et al., 2011). Puberty also coincides with and influences the development of gender identity, sexual orientation, and increases in sexual behavior. In the context of romantic involvement, neurochemical changes may co-occur with more risky sexual behaviors or impulsivity in romantic decision making. Other advancements in cognitive developments provide adolescents with more complex understanding of romantic relationships, such as considering the multifaceted implications of interpersonal behaviors (Steinberg et al., 2011).

**Developmental Provisions**

Romantic relationship development is one of the central social tasks of adolescence. These relationships meet some of the most basic needs for affiliation, intimacy, attachment, and commitment or caregiving in adolescence (Furman & Shaffer, 2003; Furman & Wehner, 1994). In addition, they aid in the achievement of other important goals and tasks during adolescence, which will be discussed in detail below.

**Identity Formation.** Identity development is an ongoing task in late adolescence, particularly as youth navigate new questions about their identity in relation to others and determine who they want as their future life partner. Erikson’s (1968) psychosocial stage of identity development suggests that adolescents must resolve identity issues before they are able to experience intimacy and commit to a relationship. With a shifting sense of identity, adolescents may continually seek new experiences and relationships, contributing to a lack of relationship commitment and stability. However, romantic relationships also support identity formation and introduce new aspects of romantic identity. For example, adolescents must
integrate their identity relating to romantic relationships (e.g., desirability as a partner) into their schemas and global self-esteem. With maturity and age, adolescents may also develop a better understanding of their sexual identity, a central task of adolescence proposed by Sullivan (1953). This stage involves both the emergence of sexual interest and involvement in sexual behaviors while balancing the needs for security and intimacy (Furman & Wehner, 1994). Relationships involving intimate sexual behaviors tend to be characterized by positive romantic relationship qualities and emotional engagement between partners (e.g., feelings of caring), confirming the intersection of sexual and attachment needs (Giordano, Manning, & Longmore, 2010). Late adolescents must also navigate how romantic relationships and behaviors in these relationships fit into other beliefs, values, religious, and cultural identities, as well as plans for future career goals (Collins & van Dulmen, 2006; Shulman & Connolly, 2013; Zimmer-Gembeck, 2002).

**Social Changes.** Romantic relationship development occurs during a period with increasing emphasis on social networks and status within the peer group. Romantic relationships may serve to increase an adolescent’s set of social skills (e.g., self-disclosure) required to develop closer relationships and build larger social networks (Collins, 2003; Collins & Laursen, 2004). Partners may also introduce adolescents to new friends and expand their existing network of social connections. Alternatively, romantic relationships may result in the replacement of existing best-friendships with romantic partners, as more time is spent with partners as adolescence progresses (Zimmer-Gembeck, 2002). Likewise, in the family, late adolescents are adjusting to the transformation of parent-child relationships, and romantic relationships may present new challenges or contexts that adolescents must navigate in conjunction with the family system. (Collins, 2003; Collins & Laursen, 2004).
Academic and Occupational Transitions. Another central component of late adolescence is the great variability in trajectories for advanced academic or occupational training. Romantic relationships may either disrupt adolescents’ academic or occupational goals or be integrated into education or early career planning and developmental life tasks, such as securing housing and financial independence (Shulman & Connolly, 2013). Decision making in this transition may be influenced by the achievements and educational or occupational goals of romantic partners. For example, late adolescents often value financial security in the romantic relationship and consider the partner’s likelihood of financial success (Shulman & Connolly, 2013). Other mutual values and goals, such as beginning a family, may influence an adolescent’s decision making about educational and occupational transitions.

Partner Selection and Length

Romantic relationship development involves two basic stages of initiation and maintenance. Partner selection is one aspect of relationship initiation that is largely influenced by an adolescent’s social goals and attraction. Younger adolescents typically select partners according to benefits for social networks (e.g., gain status), whereas older adolescents select partners according to characteristics (e.g., intimacy, compatibility; Collins, 2003). Adolescents are more likely to be attracted to potential partners whose profiles (i.e., external traits and achievements) match their conception of an ideal partner. However, some findings suggest that the degree of match between the partner’s qualities and the adolescent’s ideal is not predictive of romantic attraction (Eastwick et al., 2011). Therefore, adolescents’ selection of romantic partners may differ from their original expectations. Nonetheless, most adolescents identify preferences for characteristics of warmth, kindness, expressivity, openness, and humor as well as physical attractiveness, social status, and intelligence (Sprecher & Regan, 2002). Romantic partner
preferences also appear to be influenced by perceptions of one’s own desirability as a partner. Adolescents are likely to balance preferences with their own perceptions of attractiveness as a potential partner (Sprecher & Regan, 2002). As adolescents navigate this process, it appears that factors of partner preferences and personal qualities are ultimately balanced, as most adolescents have partners who are similar in popularity and physical attractiveness (Simon, Aikins, & Prinstein, 2008).

Once romantic relationships are initiated, adolescents are tasked with relationship maintenance. Though the length of most early romantic relationships is relatively brief, later relationships tend to be longer (Collins, 2003; Connolly & Johnson, 1996; Roberson, Norona, Fish, Olmstead, & Fincham, 2017). By mid- and late-adolescence, about 35% of mid-adolescents and 60% late adolescents have had a relationship lasting 11 months or more (Collins, 2003). Carver et al. (2003) indicate an average duration of approximately 14-months across adolescence, though there is considerable variability based on age. Some findings have suggested that most late-adolescence romantic relationships last just under two years, with an average duration of 20-months (Carver et al., 2003). However, other findings indicate the average relationship duration falling closer to one-year in length (Roberson et al., 2017). Overall, females report longer relationships than males, suggesting that females and males may conceptualize the beginning of dating relationships differently (Carver et al., 2003).

**Romantic Relationship Qualities**

The quality of romantic relationships is associated with a variety of important outcomes, including those of adjustment (e.g., depression, anxiety), academic and goal-related success, and functioning or quality in other relationships. The present research is particularly interested in the potential role of romantic relationship quality in the outcome of psychological adjustment. The
following section will review the positive and negative qualities of adolescent romantic relationships, focusing on the central components of support and negative interactions. Finally, the adjustment outcomes associated with romantic relationship quality will be described.

Romantic relationships become increasingly central and valued across adolescence. As romantic relationships become longer, adolescents tend to perceive the relationship as more important compared to other relationships (Carver et al., 2003; Connolly & Johnson, 1996). However, late-adolescents tend to report romantic relationships as the most important relationship regardless of length (Connolly & Johnson, 1996). In addition to being one of the most important relationships for adolescents, romantic relationships are a significant source of both support and conflict. High quality relationships are comprised of high levels of support and intimacy, appropriate levels of relationship commitment, and equal levels of power between partners (Adams et al., 2001; Collins et al., 2009). Alternatively, low-quality romantic relationships are characterized by irritation, antagonism, and high levels of conflict or controlling behavior (Collins et al., 2009). The following section reviews both the positive and negative qualities of romantic relationships in adolescence, focusing on the late-adolescent period.

**Positive Qualities**

Romantic relationships can provide adolescents with high levels of support, companionship, and intimacy (Feiring, 1996). During mid-adolescence, romantic partners provide similar levels of support compared to mothers and less support than friends (Collins et al., 2009; Furman & Shomaker, 2008). By late adolescence, romantic relationships are the most significant source of support, particularly for males, while they are among the most supportive relationships for females. Compared to romantic relationships in early adolescence, which tend to be characterized by companionship and affiliation, late-adolescent relationships are more
committed, loving, supportive, and close (Furman, McDunn, & Young, 2008; Shulman & Scharf, 2000). The progression to more stable, long-term dyadic romantic relationships from dating is associated with more emotional and sexual intimacy (Connolly & Johnson, 1996; Meier & Allen, 2009). As the length of these dyadic relationships increases, adolescents receive higher levels of social support from partners (Connolly & Johnson, 1996). Age is also associated with increased closeness, interdependence, daily interaction, and reciprocity with partners in late adolescence (Adams, Laursen, & Wilder, 2001). Aspects of balance and equality within the relationship are important for positive relationship quality, as equal power between partners is associated with more trust and happiness in the relationship (Hall & Knox, 2017).

Earlier relationship involvement and functioning also appears influential for the quality of late-adolescent romantic relationships. Having fewer dating partners in mid-adolescence is predictive of higher quality romantic relationships during late adolescence (Madsen & Collins, 2011). However, romantic involvement in earlier adolescence does not appear to be exclusively detrimental. Rather, higher quality relationships earlier in adolescence are predictive of more stable transitions and romantic behaviors, such as better conflict negotiation and more responsive and effective caregiving, in late adolescence and early adulthood (Madsen & Collins, 2011).

Commitment to multiple relationships earlier in development is also predictive of romantic relationship quality in late adolescence. Higher baseline commitment to romantic partners in early- to mid-adolescence, and stronger development of commitment in other relationships with parents and friends is predictive of later commitment to romantic partners in late adolescence (De Goede, Branje, van Duin, VanderValk, & Meeus, 2012). The qualities and behaviors in other central relationships (e.g., friendships and parents) in adolescence also predict and influence the
quality of romantic relationships (e.g., Roisman, Booth-LaForce, Cauffman, Spieker, & NICHD Early Child Care Research Network, 2009).

**Negative Qualities**

Romantic relationships can also be a significant source of negative interactions for adolescents. Negative qualities can include high rates of conflict, dominance, criticism, and antagonism. Compared to other relationships, romantic relationships involve more conflict and negative interactions than close friends, but not mothers, in mid-adolescence (Furman & Shomaker, 2008). As adolescents develop more autonomy from parents in late adolescence, romantic relationships are likely to become the primary source of conflict interactions. Romantic partners are also often less responsive to the needs of adolescents compared to best friends and mothers (Collins et al., 2009).

Conflict processes in late-adolescent romantic relationships appear to emerge from interaction between both partners, particularly in the form of attacking behaviors. Self-reports of these behaviors from both partners are positively correlated, suggesting an interactional cycle of conflict and “attacking” (Marchand-Reilly, 2012). Conflicts in romantic relationships most often center on topics of trust, money, and the initiation and refusal of sexual activities (Reese-Weber, Kahn, & Nemecek, 2015). However, late adolescents also engage in more compromise during conflict resolution than early adolescents, suggesting that they may be better able to manage conflicts as they arise (Collins et al., 2009). The balance of equality within the adolescent romantic relationship also has significant bearing on negative qualities. Unequal power in late-adolescent romantic relationships, specifically the ability to influence or manipulate a partner to meet one’s own needs, can create a coercive environment contributing to poorer quality. In fact, unequal power is associated with jealousy, greater instances of lying, reduced trust, increased
impulsivity in relationship decision-making, and less happiness with the relationship (Hall & Knox, 2017). Previous involvement and experience with romantic partners is also influential for relationship conflict. Adolescents who have a greater number of dating partners in mid-adolescence tend to experience more negative interactions with partners in late adolescence and early adulthood (Madsen & Collins, 2011). It is possible that this may reflect an overall pattern of relationship conflict, break-up, and opportunities for more relationships over time.

**Romantic Relationships and Adjustment**

Experiences in romantic relationships are closely associated with adolescent adjustment, including positive and negative influences on internalizing symptoms and social behavior.

**Positive Influences**

Romantic relationships are a necessary aspect of social development and can improve psychosocial well-being (Meier & Allen, 2009). Late adolescents describe romantic relationships as having a positive influence on their quality of life by providing positive feelings of happiness and reducing negative feelings such as anger and sadness (Gala & Kapadia, 2013). Late adolescents involved in romantic relationships are less likely to experience maladjustment across multiple domains (e.g., substance use, depression, stress, problematic eating), possibly through a reduced number of sexual partners (Braithwaite, Delevi, & Fincham, 2010). Romantic relationships can also protect late adolescents from the association between insecure parental attachment and emotional dysfunction, likely by providing a source of secure attachment (Overbeek, Vollebergh, Engels, & Meeus, 2003). In addition to preventive or protective functions, romantic relationships may increase positive socioemotional adjustment. For example, global romantic relationship satisfaction is positively associated with happiness, even when controlling for a variety of personality factors (Demir et al., 2008). High quality romantic
relationships are particularly influential for happiness during peaks in identity formation (Demir et al., 2008). Romantic relationship involvement can also contribute to the development and improvement in self-esteem, self-confidence, and social competence (Collins et al., 2009). Development of romantic competence through romantic engagement helps adolescents develop social skills germane to healthy romantic relationship functioning (Davila et al., 2017). In fact, greater romantic competence (i.e., insight, mutuality, and emotion regulation) has been associated with higher security, more adaptive decision making, greater romantic relationship satisfaction, and fewer internalizing problems. Likewise, romantic relationships provide adolescents a context to build positive relationship skills applicable across all relationship types (e.g., negotiation, equality, commitment; Collins, 2003). Most importantly, romantic relationships can provide adolescents with a significant amount of social support, contributing to better adjustment and well-being.

**Negative Influences**

Although romantic involvement is typical by late adolescence, it appears that those who participate in romantic relationships before the majority of their peers are at particular risk for maladjustment during early adolescence. Indeed, early dating involvement in adolescence has consistently been associated with poor academic performance, externalizing and internalizing symptoms, and substance abuse (Collins et al., 2003; Zimmer-Gembeck, Siebenbruner, & Collins, 2001). Patterns of negative interactions in existing romantic relationships and romantic experiences (e.g., failed attempts in initiation) also influence emotional functioning, particularly with age as these experiences become more important to adolescents (Collibee & Furman, 2015; Collins et al., 2009). Inequality in power and decision making in the relationship is associated with increased internalizing symptoms, especially for females (Collins et al., 2009). Less
satisfying romantic relationships are also more likely to be associated with negative adjustment. In late-adolescent romantic relationships, lower satisfaction is associated with internalizing symptoms and physical symptoms of distress (Pereira, Taysi, Orcan, & Fincham, 2014). Furthermore, evidence suggests that the association between romantic relationship qualities and emotional adjustment is bidirectional, such that internalizing or externalizing problems may also influence romantic relationship quality. For example, depressive symptoms can contribute to high conflict, and aggressive behaviors may ultimately escalate to dating violence (Collibee & Furman, 2015; Collins et al., 2009; Halpern, Oslak, Young, Martin, & Kupper, 2001; Vujeva & Furman, 2011).

**Social Anxiety.** Although some research has found that romantic relationship involvement is associated with lower levels of social anxiety symptoms in mid-adolescence (La Greca & Harrison, 2005), this might be explained by the likelihood that socially anxious youth are less likely to initiate and maintain romantic relationships. Notably, other studies have indicated that social anxiety impairs existing romantic relationships in mid-adolescence (Hebert et al., 2013). In college-aged romantic relationships, social anxiety has been associated with significantly lower satisfaction and support from partners (Porter & Chambless, 2014). Though socially anxious females tended to indicate that they desired less social support in their romantic relationship, they were ultimately less satisfied with the relationship when they received less support from partners. It is possible that socially-anxious individuals are less aware of their own needs and have less accurate perceptions of social support provided by romantic partners. Socially anxious college students also exhibit more aggressive behaviors, negative communication behaviors, fewer positive communication behaviors, and poorer social skills (e.g., more fidgeting, less eye contact, less smiling) in conversations with romantic partners,
which may contribute to poorer quality (Bagner, Storch, & Preston, 2007; Wenzel, Graff-Dolezal, Macho, & Brendle, 2005). Other findings suggest that socially anxious college women exhibit more negative social behaviors with romantic partners under stress. However, this pattern was found only in relationships with high satisfaction, suggesting that romantic relationship security may allow socially anxious women to feel more comfortable behaving negatively when anxious (Beck, Davila, Farrow, & Grant, 2006). It is possible that repeated occurrences of negative behaviors may be detrimental over time, even in high quality relationships. Social support in romantic relationships appears to be a particularly central relationship quality in the context of risk for social anxiety symptoms, potentially serving both as both a risk and protective factor.

**Depression.** Negative romantic relationship qualities have been associated with concurrent reports of depressive symptoms during mid-adolescence (La Greca & Harrison, 2005). Furthermore, prior romantic involvement in middle adolescence is associated with increased depressive symptoms by late adolescence (Vujeva & Furman, 2011). However, it is possible that the experience of a break-up may actually account for this increase in depression rather than involvement (Collins et al. 2009; Rhoades, Kamp Dush, Atkins, Stanley, & Markman, 2011). During the late-adolescent period, negative behaviors in romantic relationships, such as attacking behaviors from the adolescent or partner, are predictive of greater depressive symptoms (Marchand-Reilly, 2012). The interaction between the adolescent and partner behaviors may be particularly critical in depression, serving to increase and maintain symptoms. More serious maladaptive behaviors occurring within college romantic relationships, such as romantic relational aggression or dating violence, are also associated with increased depressive symptoms (Bagner et al., 2007). Anxiety about romantic relationships may also
contribute to depressive symptoms. In late-adolescence, attachment anxiety in the romantic relationship is predictive of increased depressive symptoms (Marchand-Reilly, 2012). Anxiety may also contribute to negative behaviors serving to maintain depressive symptoms, such as self-silencing (Collins et al., 2009). Overall, negative interactions in romantic relationships, ranging from conflicts to more extreme overt aggression, are significantly influential in depression, possibly contributing to the development and maintenance of symptoms.

**Summary**

Romantic relationships are one of the most influential and central relationships in the lives of late adolescents. These relationships develop in the context of many social, emotional, and biological changes, and assist adolescents in accomplishing some of the key developmental tasks of this period. Romantic relationship qualities, including positive characteristics of support, commitment, and intimacy, as well as negative factors of conflict, antagonism, and coercion have implications not only for the relationship but also for the adolescents’ psychological adjustment. The present study examined these interacting factors to understand the influence of romantic relationship quality (i.e., support and conflict) on the link between rejection sensitivity and symptoms of social anxiety and depression in late adolescence. Another contribution of this research is the examination of these associations both concurrently and over time using a short-term longitudinal design to understand whether these factors are predictive of internalizing symptoms as well as changes in internalizing symptoms over time. Consistent with the existing literature, it should be noted that the present study focused on heterosexual romantic relationships.
CHAPTER IV

FRIENDSHIPS

Introduction

Friendships are one of the most central relationships in adolescence, providing the majority of social interactions in this period. The developmental influence of friends is also greatest in adolescence compared to other stages (Furman & Buhrmester, 1992). Therefore, in addition to romantic relationships, the present study examined friendship functioning in late adolescence. Friendships are defined as mutually agreed upon and reciprocated relationships between both partners of a dyad (Rubin, Fredstrom, & Bowker, 2008). Friendships offer the first opportunity for close, voluntary relationships and provide critical social experiences and expectations for future close relationships (Collins & Laursen, 2004). Friendships are established on a foundation of mutual affection and often serve to meet adolescents’ needs. Friendships provide opportunities for companionship, pleasant and shared experiences, and positive emotional experiences with acceptance, closeness, loyalty, and security (Bukowski & Sippola, 2005). Regardless of age, most children and adolescents have at least one same-gender, mutually agreed upon friend (Rubin et al., 2008). The majority of adolescents also have larger networks of close friends, though dyadic friendships and friendship groups often shift over time (Rubin et al., 2008).

The following chapter will review the process of friendship development in adolescence and the social, emotional, and biological changes that influence these relationships. An overview of friendship qualities and adjustment in adolescence follows. The reviews will focus on the late-adolescent period, the interest of the present study. However, when information about this period
is not available, literature about early- or mid-adolescence is incorporated to inform possible associations.

**Friendship Development**

Compared to early adolescence, late-adolescent friendships are marked by increasing intimacy and mutuality (Azmitia, Ittel, & Radmacher, 2005). With age, adolescents also tend to develop more cross-gender friendships, which is discussed in more detail in the following section. Along with increases in friendship intimacy, the size of overall social networks decreases, possibly in efforts to maximize intimacy in dyads or smaller groups (Deater-Deckard, 2001). Shrinking social networks in late adolescence are viewed as developmentally normative and are generally associated with socially competent behavior rather than maladjustment.

**Same- and Cross-Gender Friendships**

Friendships are typically first developed between same-gender individuals during the majority of childhood. In adolescence, cross-gender friendships are increasingly normative and by late adolescence these relationships are expected components of a complete social network. Cross-gender friendships offer the unique opportunity to see perspectives and friendship expectations from another gender (McDougall & Hymel, 2007). Cross-gender friendships also provide an important context for the development of dyadic heterosexual romantic relationships. Otherwise, cross-gender friendships share many of the same qualities of same-gender friendships, such as loyalty and intimacy, though youth may perceive these differently (McDougall & Hymel, 2007). In same-gender friendships, females often emphasize intimacy and commitment, whereas males place more importance on affiliation (McDougall & Hymel, 2007). With regard to cross-gender friendships, adolescent females tend to rate their same- and cross-gender relationships similarly, whereas males rate best friendships with females as more
interpersonally rewarding compared to same-gender friendships (Thomas & Daubman, 2001). Though cross-gender friendships are increasingly common in adolescence, the majority of friendships are same-gender in nature. Therefore, the present study will target same-gender best friendships. The current work also aims to compare friendships to heterosexual romantic relationships. Cross-gender friendships and heterosexual romantic relationships can be particularly difficult to differentiate in adolescence due to imprecise boundaries in the early stages of romantic relationship formation (Collins & Laursen, 2004). Use of same-gender friendships will allow for clear relationship categorization distinct from heterosexual romantic relationships.

**Context of Friendship Development**

Friendship initiation and maintenance is an ongoing task during adolescence, occurring in the context of many social, emotional, and biological changes. Socially, the development of more intimate peer friendships coincides with a shift in the parent-child relationship. Compared to parent-child relationships, friendships involve more equality and provide opportunities to navigate new roles and expectations in adolescence. While parents serve as a dependable source of advice, friendships become the relationships in which adolescents spend the most time and seek support in the face of negative emotions (Collins & Laursen, 2004). Additionally, unlike other early relationships with parents or siblings, friendships are voluntary in nature and require more effort to maintain (Bukowski & Sippola, 2005). In late adolescence, friendships afford youth a unique context to discuss developmental transitions and important social changes, such as navigating early romantic relationships, as well as learning appropriate emotion regulation strategies to overcome challenging experiences (Bukowski & Sippla, 2005). Friendships are also an important context for the formation of identity and the development of new social roles and
goals (Sullivan, 1953). Specifically, perceptions of the self are developed and shaped by experiences with friends, as well as the development of awareness and sensitivity to the needs of others (Bukowski & Sippola, 2005). Advancements in cognitive development allow adolescents to process and reflect on their own and their friends’ behaviors, intentions, and emotions (Azmitia et al., 2005). This understanding influences the interpretations of relationship experiences, and relationship quality and functioning. Biological changes to hormonal functioning, and structural and neurochemical changes in the brain may also contribute to increased interest in cross-gender friendships during adolescence. In addition, the sequence of developmental changes in the brain (e.g., the limbic system undergoing further development before the prefrontal cortex) may make adolescents more susceptible to peer influence and risk-taking behaviors with friends (Steinberg et al., 2011).

**Developmental Provisions**

The development and maintenance of close friendships assists with several important tasks in adolescence, including identity formation and autonomy development, the adjustment to critical transitions (e.g., college), and academic achievement. Friendships can greatly influence adolescents’ behaviors in these domains according to the friends’ behaviors and values. However, high quality friendships tend to promote positive development regardless of the friend’s individual characteristics (Berndt, 2002).

**Identity Formation and Autonomy.** As discussed previously, identity formation extends into late adolescence and is influenced by friendships and important social transitions in adolescence (Steinberg et al., 2011). In the context of Erikson’s developmental stage of identity achievement vs. role confusion, friendship conflict and support contribute to late-adolescent identity achievement, exploration, or diffusion (i.e., unresolved identity; Jones, Vaterlaus,
Jackson, & Morrill, 2014). Adolescents with higher levels of friendship support are more likely to experience identity achievement, whereas those with high friendship conflict are at risk of being stuck in identity exploration or confusion (Jones et al., 2014). Friendship quality also influences adolescents’ adjustment outcomes associated with their achievement of autonomy and relatedness. In fact, high quality friendships serve to protect youth with low autonomy and relatedness and high undermining of autonomy from typically related negative adjustment outcomes (Collibee, LeTard, & Wargo Aikins, 2016).

**Social Changes.** Adolescence is marked by a number of social changes across domains of friendships, romantic involvement, and family life. The transition to romantic relationship engagement is a major task of this period supported by friendships (Roisman, Masten, Coatsworth, & Tellegen, 2004). Success in friendships and social competence developed in the friendship context during late adolescence predicts later success in early adult romantic relationships. Friendships also help adolescents adjust to the transformation of parent-child relationships. These relationships serve as a new source of support and closeness as late adolescents develop greater autonomy from the family.

**Academic Transitions.** Another considerable adjustment during late adolescence is the transition to college or a career path. These transitions may result in significant changes to social networks and adolescents’ proximity to friends, which often strains existing friendships. Adolescents who transition to college away from home must learn how to maintain existing friendships while working to establish friendships in their new social setting (Azmitia et al., 2005). During the first year of college, high school best friendships tend to decline in satisfaction, commitment, rewards, and investments (Oswald & Clark, 2003). At the same time that these relationships require more resources and costs to maintain, adolescents have increasing
alternatives to replace existing best friendships. However, maintaining existing friendships can protect adolescents from feelings of loneliness during the transition. Importantly, the quality of new friendships in college, and less so the number of friends, is associated with greater social (e.g., positive changes in self-perceptions and self-worth), emotional (e.g., reduced depression), and academic adjustment (e.g., academic competence; Buote et al., 2007; Pittman & Richmond, 2008).

**Friendship Selection and Length**

There is a significant amount of similarity between adolescents in dyadic friendships and across social groups. Two theories have provided possible explanations for these similarities: social selection and social influence. Social selection theory suggests that adolescents select similar friends (e.g., homophily), whereas the socialization processes theory instead proposes an interactive process in which friends become similar through a function of the relationship and shared experiences (Steinberg et al., 2011). Some evidence supports social selection theory by homophily as most friendships are formed between adolescents who are similar (e.g., ethnic identity, academic success, gender, victimization status; Rubin et al., 2008). However, in settings where friendship choices are more constrained (e.g., school setting), social influence may explain more similarity through social categorization and peer control (De Klepper, Sleebos, Van de Bunt, & Agneessens, 2010). Though youth may affiliate and form friendships with similar peers, they are also typically motivated to seek or maintain higher social status by associating with higher-status peers (Dijkstra, Cillessen, & Borch, 2013). Adolescents who already have high status instead seek to maintain their status by limiting contact and proximity with low-status peers. Similarities in characteristics, attitudes, and behaviors may therefore motivate late
adolescents’ selection of friends, as well as attempts at maintaining or elevating their peer status through friendship affiliation.

Adolescents report increasing numbers of friends over time (Ojanen, Sijtsema, Hawley, & Little, 2010). However, not all friendships are maintained through the significant social changes of late adolescence (e.g., dating, college), and the overall size of social networks decreases as adolescents drop unreciprocated friendship connections and focus on maintaining mutual friendships within small groups (Deater-Deckard, 2001; Rubin et al., 2008). Nonetheless, attempting to measure friendship maintenance and determine the length of a friendship can pose some challenges. Friendship length can be difficult to define, as the boundaries between stages of the relationship, such as from acquaintances to friends, may not be clear for each person in the dyad. Early to mid-adolescent samples, with students from grades 3 to 12, suggest that friendships are maintained for approximately three years on average (McDougall & Hymel, 2007). Late-adolescent college samples with commuter students have suggested somewhat longer lengths of approximately 6.5 years (Johnson, 2012).

**Friendship Qualities**

Friendships are a significant source of positive interactions for adolescents, but naturally can include negative experiences and conflict. High quality friendships are characterized by prosocial behavior, intimacy, positive interactions, and low levels of conflict, rivalry, and other negative interactions (Berndt, 2002). Adolescents’ perceptions of quality may also differ according to the partners in the dyad (Hiatt et al., 2015). However, longitudinal research suggests that partners share moderately similar perceptions of relationship quality (e.g., perceptions of help, disclosure, companionship, conflict), regardless of gender, age or type of quality.
The following section reviews the positive and negative dimensions of relationship quality in adolescent friendships.

**Positive Qualities**

Overall, as one of the most important relationships during late adolescence, friendships serve as a central source of support and intimacy for adolescents. Perceptions of friendship support increase across late adolescence and emerging adulthood (Pettit, Roberts, Lewinsohn, Seeley, & Yaroslavsky, 2011). Youth also experience more complex friendship qualities of intimacy, mutuality, and self-disclosure in adolescence as they develop a more sophisticated understanding of interactions in friendships, such as how self-disclosure fosters feelings of intimacy (Berndt, 2002; Collins & Laursen, 2004). Compared to other relationships, adolescents report receiving levels of support from friends that are equal to or greater than the amount of support provided from parents (Collins & Laursen, 2004). Friendships are also one of the most supportive peer relationships in late adolescence, often providing adolescents more support than romantic relationships. Positive qualities of same-gender relationships also differ for males and females. Female friendships tend to be described as stronger, more intimate, and more interpersonally rewarding, and yet more stressful than male friendships in adolescence (Thomas & Daubman, 2001). College women also report higher levels of companionship, protection feelings, and affective bonds with their friends than males (Saferstein, Neimeyer, & Hagans, 2005). In contrast, male relationships tend to focus more on shared activities than self-disclosure or affection.

Several factors influence positive friendship interactions, such as motivation for the friendship, personality characteristics, social behaviors, and social skills. Adolescents who are intrinsically motivated to establish and maintain friendships for the enjoyment of the relationship
experience higher friendship quality across time (Ojanen et al., 2010). However, the development of friendships can also be influenced by external rewards or pressure to be accepted by parents, teachers, or romantic partners. Unsurprisingly, friendships created due to such extrinsic factors tend to be characterized by fewer positive relationship qualities. Interpersonal behaviors, and shared traits and activities are also important factors facilitating friendship support and closeness (Linden-Andersen, Markiewicz, & Doyle, 2009; Mathur & Berndt, 2006). Self-disclosure has been identified as a particularly important factor contributing to positive interactions for late-adolescent friendships during college (Festa, Barry, Sherman, & Grover, 2012). Additionally, empathy and engagement in prosocial behaviors have been associated with greater perceptions of intimacy, closeness and lower levels of conflict (Cillessen, Jiang, West, & Laszkowski, 2005; Chow, Ruhl, & Buhrmester, 2013).

**Negative Qualities**

Friendships also involve experiences of conflict and negative interactions, including exclusion, pressure, and dominance. In late adolescence, friendship conflict is associated with lower levels of trust, autonomy, and initiative in the relationship (Jones et al., 2014). At times, conflict may even escalate to include more direct, aggressive behavior between friends (Cillessen et al., 2005). These negative interactions may originate from a significant difference in power between friendship partners, with one friend attempting to take control of the other (Berndt, 2002). However, some degree of aggression and conflict is developmentally normative and expected in adolescent friendships. As levels of conflict increase significantly in friendships, the negative interactions can begin to have a detrimental effect on positive friendship qualities, particularly for females (Demir & Urberg, 2004).
Individuals with more advanced problem solving or conflict management skills may be less likely to experience high rates of negative interactions and their potentially detrimental consequences. Late adolescents also tend to value the ability to work through conflicts in friendships (Azmitia et al., 2005). Adolescents with greater empathy tend to have better conflict management skills and competencies to work through problems in friendships, which may contribute to the lower levels of conflict (Chow et al., 2013). However, not all conflict management or problem-solving strategies are effective. At times, some strategies may result in transgressions in the friendship, such as avoiding or blaming a friend when he or she has a problem, contributing to further negative interactions. These strategies are associated with poorer friendship quality and fewer friends over time (Glick & Rose, 2011). In contrast, prosocial and engaged strategies (e.g., talking about the problems, offering advice and reassurance) tend to be associated with high-quality friendships (Glick & Rose, 2011).

**Friendships and Adjustment**

Friendship quality has been consistently associated with adolescents’ developmental outcomes and adjustment. The following section will review the influence of friendships on aspects of positive and negative outcomes, with specific attention given to friendship quality and internalizing symptoms, two variables of interest in the present study.

**Positive Influences**

High quality friendships promote positive social adjustment, with links to perceptions of global self-worth and social acceptance (Berndt, 2002; Hiatt et al., 2015). Adolescents’ self-efficacy to develop high-quality, lasting relationships with friends also promotes better outcomes (Deater-Deckard, 2001). Higher quality friendships not only provide a context for the development of self-worth and interpersonal competence, but also are associated with more
adaptive coping and fewer internalizing and externalizing behavior problems (Berndt, 2002; Collibee et al., 2016; Demir & Urberg, 2004; Hiatt et al., 2015; Swenson, Nordstrom, & Hiester, 2008). However, results are mixed in terms of the direct effects of positive friendship quality on adjustment over time, with some findings providing only partial support for its influence on self-esteem (Berndt, 2002; Thomas & Daubman, 2001). Nonetheless, research has consistently demonstrated that positive friendship functioning is associated with affective and behavioral well-being and can even offset the potential impacts of unwanted, negative experiences, such as rejection by peers, bullying, or conflict within the family (Bukowski & Sippola, 2005).

Friendships also support adolescents in their achievement of several developmental tasks, which contribute to the adolescents’ social and emotional wellbeing. One key task is establishing a balance of autonomy and relatedness with parents, peers, and romantic partners. Friendship quality in adolescence moderates the association between autonomy and relatedness and adjustment outcomes such that those with high quality friendships are buffered from poor adjustment outcomes related to lack of achievement in this task (Collibee et al., 2016). Other salient transitions, such as the adjustment to college or a career, can be substantially influenced by the presence of an existing friendship from high school to support emotional, personal, and initial institutional adjustment (Swenson et al., 2008). These established friendships can facilitate openness and communication for the adolescent to seek support and discuss current challenges. Alternatively, the quantity and quality of new friendships after substantial transitions are significant predictors of social and emotional adjustment in late-adolescence (Buote et al., 2007).

**Negative Influences**

In late adolescence, greater perceptions of alienation from peers and high levels of conflict have been associated with poor emotional adjustment and academic functioning.
(Swenson et al., 2008). Perceptions of relationship quality appear to be of particular importance compared to more objective assessments of social functioning. For example, adolescent perceptions of being liked or alone were more closely associated with adjustment compared to actual social status or peer acceptance (Deater-Deckard, 2001). Additionally, instability in adolescents’ perceptions of friendship quality may help to account for the association between quality and internalizing symptoms (Deater-Deckard, 2001). Adolescents who inaccurately report who they are and are not liked by experience more internalizing symptoms. Experiences of peer rejection through exclusion or victimization are predictive of lower friendship quality and greater internalizing and externalizing problems in adolescence (Bollmer, Milich, Harris, & Maras, 2005; see Deater-Deckard, 2001). However, rejected children most often have an inaccurate and inflated sense of social status in their peer group, suggesting that their awareness of peer rejection may be somewhat limited (Deater-Deckard, 2001).

Social Anxiety. Research has consistently identified that social anxiety is associated with low or impaired friendship quality (e.g., Rodebaugh, 2009). However, the direction of these effects is less clear. It is possible that adolescents with social anxiety are more prone to attend to negative interactions as a function of the syndrome and perceive more negative qualities. Alternatively, the impairments associated with social anxiety may result in poorer quality relationships. In a diverse sample of mid-adolescents, negative interactions in friendships and relational victimization predicted higher levels of social anxiety symptoms (La Greca & Harrison, 2005). Conversely, support in best friendships and peer crowd affiliation protected adolescents from social anxiety symptoms. Therefore, it is likely that positive engagement with friends is protective for adolescents, and experiences of conflict are associated with greater social concern.
Depression. Best friendships marked by high levels of negative qualities such as conflict, dominance, and criticism are also predictive of depression in adolescence (La Greca & Harrison, 2005). Though negative relationship experiences may contribute to the development of depressive symptoms in adolescence, it is also possible that depressed adolescents are more likely to have negative friendship experiences or perceive interactions as more negative. Friends’ behaviors may maintain depressive symptoms through reinforcement of withdrawal and sadness (Heller & Tanaka-Matsumi, 1999). Co-ruminating with friends about problems and negative emotions may strengthen feelings of intimacy in the relationship but ultimately increase risk for depression, especially for females who tend to co-ruminate more than males (Rose, Carlson, & Waller, 2007). Conversely, social support may be beneficial for the remission or reduction of symptoms. In a college sample, increases in social support mediated the association between optimism and reductions in depressive symptoms and overall stress (Brissette, Scheier, & Carver, 2002). However, these results have not been consistently supported. In a late-adolescent sample, friendship factors were not predictive of depression, perhaps due to the increasing importance of romantic relationships in this period (Pettit et al., 2011). Social status and popularity are also influential in emotional adjustment. Popularity in adolescence contributes to a pathway for depressive symptoms through its influence on friendships and loneliness, particularly among males (Nangle, Erdley, Newman, Mason, & Carpenter, 2003). Alternatively, affiliation with high-status peers can be somewhat protective against depression (La Greca & Harrison, 2005). The friends with whom adolescents affiliate and the dyadic interactions within these social connections can confer both risk and protective effects for depressive symptoms.
Summary

Friendships in late adolescence become more central, close, and complex, providing adolescents a significant source of support as well as a context with opportunities for conflict. The development and maintenance of close friendships occurs during a period of intense social, emotional, and biological development. Friends aid youth in navigating these changes and accomplishing important developmental tasks. The characteristics and types of interactions in friendships during late adolescence may help protect youth from the development of depression and social anxiety or may increase risk for symptoms. The present research seeks to examine friendship quality to understand the ways in which support and negative interactions with friends influence the link between rejection sensitivity and psychological adjustment in late adolescence both concurrently and over time.
CHAPTER V
THE PRESENT STUDY

Introduction

The RS literature has provided evidence of connections between RS and a range of negative outcomes, including emotional adjustment problems and dysfunctional relationships. However, limited research has examined these variables to understand how poor quality interpersonal relationships may contribute to the elevated rates of psychological maladjustment found among HRS individuals. Thus far, this research has considered only the role of social support, while overlooking negative relationship interactions. Furthermore, research has yet to examine the interaction between RS and relationship qualities with romantic partners in predicting internalizing symptoms. Even less attention has been directed to the friendship context during late adolescence across the broader RS literature, despite the centrality of peer relationships during this period. The following chapter integrates the available literature about the primary variables introduced in past chapters to further illuminate existing gaps in the research and introduce the aims and hypotheses of the current investigation. Broadly, the present short-term longitudinal study aims to examine positive and negative relationship qualities as moderators of the link between RS and internalizing symptoms. Specifically, the study investigates the interaction between RS and relationship qualities as predictors of internalizing symptoms at two time points and as predictors of changes in symptoms across a two-month period. These associations are examined both in romantic relationships and friendships, two of the most central relationships in late adolescence. The following section reviews the available literature examining links between RS and socioemotional outcomes, including romantic
relationships and friendship functioning, and the adjustment problems of depression and social anxiety.

**Rejection Sensitivity and Relationship Functioning**

RS appears to be associated with disrupted romantic relationship development and maintenance, likely contributing to relationship dysfunction and dissatisfaction. Though there is a dearth of research about its influence in peer relationships during late adolescence, research in earlier periods suggests that these maladaptive outcomes extend to peer relationships beyond those that are romantic in nature.

**Romantic Relationships**

As the stage of romantic relationship development begins, worries about rejection during late adolescence are likely to affect the normative process of romantic relationship initiation and disrupt relationship functioning. In fact, RS has been shown to inhibit the formation of romantic relationships into early adulthood and affect characteristics of the relationships that are formed. A six-year long longitudinal study revealed that RS during mid-adolescence had a lasting influence on romantic relationships across time (ages 16 to 22) into late-adolescence (Hafen et al., 2014). Consistent with prior research (e.g., Downey & Feldman, 1996), findings suggested that RS is associated with poorer relationship functioning in current relationships, and is also predictive of poorer future romantic relationship functioning, with relationships marked by more anxiety and avoidance (Hafen et al., 2014). RS individuals are also particularly likely to perceive their new romantic partner’s behaviors as intentionally harmful and damaging (Downey & Feldman, 1996), which is likely to undermine relationship satisfaction, as evidenced in Downey and Feldman’s (1996) study. In fact, in the original study, partner-reported behaviors (e.g., hostile, jealous, controlling) indicated from a list of possible negative behaviors accounted for
the reduced satisfaction (Downey & Feldman, 1996). More limited research examines the direct association between RS and positive and negative relationship qualities. In one exception, a study using daily diary methods found that increased conflict between partners contributes to breakup for HRS women (Downey, Freitas, et al., 1998). On the day following conflict, high rejection sensitive women’s partners experienced more relationship dissatisfaction and more thoughts of ending the relationship. Partners also tended to exhibit indications of rejection by showing less acceptance and more withdrawal. RS predicted relationship breakup one year later, suggesting that heightened conflictual behaviors from HRS women contribute to increased rejection from partners and eventual relationship dissolution. This self-fulfilling prophecy was further supported by an investigation conducted by Galliher and Bentley (2010) using a video recall procedure. Adolescent romantic partners engaged in two interactions and reviewed the recorded interactions to provide subjective ratings of their own and their partner’s behaviors. Overall, RS was associated with higher aggression and lower relationship satisfaction, which was mediated by ratings of conflict, sarcasm and “giving in” during the interpersonal interactions. In sum, the RS literature has provided substantial evidence of the detrimental effect RS has on romantic relationship functioning, though less attention has been directed to positive and negative perceptions of relationship quality.

**Friendships**

The RS literature has focused almost exclusively on romantic relationships and has only more recently begun to extend this research to friendships. However, the majority of friendship studies have used childhood or mid-adolescent samples, and therefore research in late-adolescence is particularly limited. The few available studies in early adolescence provide some initial evidence of associations between RS and friendship functioning. Croft and Zimmer-
Gembeck (2014) found distinct associations between two components of RS, anxious and angry RS. Specifically, angry RS was associated with conflict, anger and aggression, and less compromise, whereas anxious RS was associated with more obliging and compromise, less aggression, and increased friendship instability. However, not all research points to links between RS and both positive and negative aspects of friendship quality in this period. For example, Thomas and Bowker (2015) found that RS is not significantly associated with friendship support in early adolescence. Despite the lack of a direct association, self-silencing was identified as a significant mediator of RS and friendship support, suggesting that withdrawal responses may still be influential in positive friendship quality. By mid-adolescence, there is increasing evidence of small, negative associations between anxious and angry RS and social support from friends (McDonald et al., 2010). Evidence has also been found for a small association with negative qualities. A longitudinal study with a diverse sample of early to mid-adolescents found that angry expectations of rejection predicted increased conflict with peers, particularly during the transition to middle school (Downey, Lebolt, Rincon, & Freitas, 1998). However, other findings suggest that RS may not be associated with friendship conflict in mid-adolescence (Zimmer-Gembeck et al., 2014). Though limited to a single study, research in late-adolescent friendships suggests that RS is not a unique predictor of relationship quality when considering attachment factors. In a Turkish college sample, RS was not found to be a significant mediator of the association between attachment security and relationship quality. However, HRS individuals reported lower positive friendship qualities, including qualities of companionship, emotional security, and intimacy, compared to LRS students (Özen, Sümer, & Demir, 2010).
Summary

RS has consistently been linked to negative outcomes in late-adolescent romantic relationships, such as break-up, though less research has examined the links between RS and both positive and negative relationship qualities. Within friendships, evidence is considerably mixed with regard to potential associations between RS and friendship qualities. Limited research has investigated how these factors interact and contribute to poorer emotional adjustment for HRS youth. The present study aims to examine the interaction between RS and relationship qualities in both romantic relationships and friendships to understand the role of the relationship context for adjustment outcomes related to RS in late-adolescence. The interaction between RS and relationship qualities was investigated as a predictor of internalizing symptoms both concurrently and over time to better understand how these factors may maintain symptoms and potentially contribute to changes in internalizing symptoms over a brief, two-month period.

Rejection Sensitivity and Adjustment

RS been linked with both internalizing and externalizing behavior problems across development from childhood through adulthood. Anxiety, specifically social anxiety, and depression are the most commonly examined psychological adjustment outcomes and are the primary adjustment outcomes assessed in the present study.

Anxiety

RS is associated with multiple aspects of anxiety during the adolescent period. In early adolescence, positive associations between RS and three aspects of social anxiety have been identified, including fear of negative evaluation (FNE), social avoidance of new situations, and general social avoidance (Bowker, Thomas, Norman, & Spencer, 2011). Importantly, the link with FNE appears to be weaker for friended adolescents in this period, suggesting that the
presence of social connections may buffer youth from emotional maladjustment. When examining gender differences, findings unexpectedly pointed to a stronger association between RS and FNE for males compared to females in early adolescence (Bowker et al., 2011). However, these gender differences have not been replicated in mid-adolescence (McDonald et al., 2010). The present study investigated potential gender differences between RS and social anxiety in late adolescence.

Research has also indicated that the associations with social anxiety persist into late adolescence, with college sample studies finding positive correlations between RS and social anxiety as well as the specific components of social avoidance and distress (Ayduk, Downey, & Kim, 2001; Downey & Feldman, 1996; Downey et al., 2000). Longitudinal findings in early adolescence also provide evidence for this link over time. London and colleagues (2007) found that RS in middle school uniquely predicted increased social anxiety and withdrawal four months later after accounting for baseline symptoms. Interestingly, angry expectations of rejection, rather than anxious expectations of rejection, predicted decreased levels of social anxiety (London et al., 2007). This different component of RS has been identified among samples of children, but not late adolescents or adults, and may represent an alternative cognitive and interpersonal process than is typically observed in anxious RS. Additional longitudinal examinations in mid-adolescence provide evidence of a bidirectional relationship between RS and more general anxiety symptoms across two years (Marston et al., 2010). The present short-term longitudinal study investigated the associations between RS and internalizing symptoms both concurrently and over a brief period of time.
**Depression**

Depression has also been identified as a psychological adjustment correlate of RS from early to late adolescence (Harper et al., 2006). An investigation in mid-adolescence identified positive correlations with both angry and anxious RS, with unique associations found between anxious RS and depression (McDonald et al., 2010). Positive links have also been identified in college samples, with no significant differences found between males or females (Ayduk et al., 2001; Mellin, 2008). Longitudinal studies in the mid-adolescent period provide further evidence of associations over time, with RS predicting relative increases in depressive symptoms each year across a span of two years (Marston et al., 2010). Similar to social anxiety, these associations appear reciprocal, with RS predicting increasing depressive symptoms over time and depressive symptoms predicting increases in RS (Marston et al., 2010).

Interpersonal factors, such as interpersonal stressors and romantic relationship dysfunction, appear to contribute to this link. In mid-adolescence, research has found that relational stressors (i.e., emotional abuse, maternal undermining of autonomy and relatedness) predict relative increases in depressive symptoms for adolescents high, but not low, in RS (Chango et al., 2012), suggesting that interpersonal stress may be a particularly salient risk factor for depression among HRS youth. Furthermore, consistent with Hammen’s (1991) Stress Generation Hypothesis, RS individuals appear to generate different forms of interpersonal stressors that make depression more likely (Liu et al., 2014). In fact, RS predicted adolescents’ experience of greater of prospective dependent (i.e., influenced by behavioral and cognitive characteristics) but not independent (i.e., stressors out of one’s control) stressors across four months. Importantly, exposure to these dependent stressors mediated the relationship between RS and depressive symptoms, suggesting that these generated stressors contribute to the increase
in symptoms (Liu et al., 2014). Other longitudinal investigations have provided additional
evidence of a link with stressors specific to romantic relationships. HRS women experienced
greater increases in depressive symptoms over a one-year period compared to LRS women
(Ayduk et al., 2001). However, this pattern was present only for women who had experienced a
partner-initiated breakup and not a self-initiated or mutual breakup, suggesting that women may
be most at risk for depression when they experience a significant stressful event related to their
fear of rejection. The present short-term longitudinal study sought to extend previous
longitudinal research in mid-adolescence (e.g., Marston et al., 2010) by examining the link
between RS and depression in late adolescence both concurrently and over two months. The
present research also investigated potential gender differences in these associations.

Summary

Research has provided substantial evidence supporting the association between RS and
symptoms of social anxiety and depression across adolescence. RS individuals appear to be
particularly prone to experience internalizing symptoms. Adolescence may also be an especially
critical time for the development and maintenance of these symptoms for RS individuals, as this
period is marked by an increase in social stressors and changes in relationships. However,
limited research has examined the potential interpersonal factors that may contribute to the links
between RS and internalizing symptoms in late-adolescence.

Intersection of Rejection Sensitivity, Relationship Quality, and Adjustment

In an effort to better understand the link between rejection sensitivity and emotional
adjustment, research has begun to investigate the influential role of several relationship factors.
To date, few studies have examined these associations, focusing primarily on positive
relationship quality in the form of support. The available research is also restricted to friendships
in early- to mid-adolescent samples. The following section reviews the small number of studies investigating the intersection of RS, relationship factors, and adjustment in early- to mid-adolescence.

Within the early-adolescent friendship context, Bowker and colleagues (2011) found that mutual friendships appear protective for HRS youth. Specifically, adolescents with mutual friends had significantly weaker associations between RS and social anxiety in the form of FNE. However, this study did not directly evaluate any direct component of quality apart from the presence of reciprocated friendships. One such study that did evaluate relationship quality revealed similar findings regarding the buffering effects of friendship factors in adjustment. In an investigation of RS and positive relationship qualities in a mid-adolescent sample, McDonald and colleagues (2010) found that highly supportive relationships often buffer RS youth from emotional maladjustment. Specifically, anxious RS was associated with depressive symptoms, but only among adolescents in unsupportive friendships. Furthermore, angry RS was associated with depressive symptoms only among adolescents reporting low support from both parents and friends. Therefore, findings suggest that one supportive relationship may protect HRS youth from the development of depressive symptoms. With regard to social anxiety symptoms, McDonald and colleagues (2010) found that adolescents with high levels of angry RS tended to experience lower social anxiety symptoms when they reported high levels of friend support. The authors propose that high friendship security may permit someone with high unstable self-esteem to overreact to rejection fears with anger and aggression (McDonald et al., 2010). In contrast, adolescents reporting low friend support tended to report more symptoms of social anxiety if they also received high levels of support from both parents. It is possible that parental support
may exacerbate existing problems with peers, or alternatively, lack of social success with peers may give rise to excessive parental support (McDonald et al., 2010).

Research has also provided initial evidence that RS and relationship qualities are predictive of increases in internalizing symptoms over time. In a mid-adolescent sample, Chango and colleagues (2012) found that the interaction between RS and close peer interpersonal support at age 16 years predicted prospective increases in depressive symptoms across two years. Importantly, in contrast to the majority of studies using self-report measures to assess perceptions of support, close peer interpersonal support was objectively measured through an observational interaction task with adolescents’ close friend. Findings indicated that relative increases in depressive symptoms were particularly likely to occur for adolescents who were highly rejection sensitive and also had a friend who demonstrated less supportive behavior toward the adolescent during a time in which they requested support for a problem. This study provides initial evidence of the role of lower levels of support in the development of depressive symptoms for RS individuals. Research has yet to examine the moderating role of relationship qualities during late adolescence, which is a primary aim of the present study.

Summary

The small number of available studies provide initial evidence of the moderating role of relationship qualities in the associations among RS and internalizing symptoms. However, considerable gaps in the literature remain. Most notably, the research is primarily restricted to investigations of early- to mid-adolescent friendships and has not considered both positive and negative relationship qualities. The current investigation is interested in filling these gaps by examining the role of relationship qualities as moderators of the link between RS and emotional maladjustment in both romantic relationships and friendships during late adolescence.
Furthermore, as a contribution to the existing longitudinal research about RS, the present short-term longitudinal study investigated the interaction between RS and relationship qualities as predictors of depressive and social anxiety symptoms both concurrently and prospectively.

**Measurement**

*Rejection Sensitivity*

RS is exclusively measured with the Rejection Sensitivity Questionnaire (Downey & Feldman, 1996), a self-report measurement tool designed to assess RS through responses to descriptions of interpersonal situations in which rejection can occur. Participants report their anxiety about rejection and expectations of rejection for a set of hypothetical interpersonal situations. These expectations and reactions are combined into a total RS score. The RSQ is used in the present study to provide a complete assessment of the RS construct, specifically including the expectation of rejection and resulting reactions. Use of this measure allows the results of this study to inform the existing RS literature.

*Relationship Quality*

Relationship quality includes two related but distinct components of positive and negative relationship characteristics. Two self-report measures assessing both of these components have been regularly used in research with late-adolescent samples, specifically the Network of Relationships Inventory (Buhrmester & Furman, 2008; Furman & Buhrmester, 1985) and the Quality of Relationships Inventory (QRI; Pierce, Sarason, & Sarason, 1991). The NRI has multiple versions, including the Social Provisions Version (SPV) and the Relationship Quality Version (RQV). The RQV consists of two overall factors, Closeness and Discord, each comprised of five characteristics (e.g., companionship, disclosure, emotional support, approval, and satisfaction; conflict, criticism, pressure, exclusion, and dominance). In initial pilot studies
with the NRI-RQV, there were difficulties with scores of closeness and discord not correlating with adjustment in college romantic relationships as would be expected from the existing literature (e.g., La Greca & Harrison, 2005). To address possible measurement problems, a second pilot study used the QRI. The QRI is a self-report measure assessing social support, conflict, and depth. Despite changes to the measure of relationship quality in this study, the correlations with adjustment using this measure remained inconsistent with existing literature for both friendship and romantic relationship qualities. Therefore, for the present study, the most commonly used measure of quality, the NRI-SPV is used for consistency across the literature to examine the factors of Support and Negative Interactions. The NRI-SPV has ten scales with seven characteristics of support (i.e., companionship, intimate disclosure, instrumental aid, nurturance, reassurance of worth, reliable alliance, affection), two characteristics of negative interactions (i.e., conflict, antagonism), and an additional characteristic of relative power. This measure has been more extensively validated than the NRI-RQV and QRI and is widely utilized in the relationship literature, making it the best available option to replicate previous findings and evaluate new associations with RS.

**Social Anxiety**

Social anxiety symptoms have been assessed with a broad range of measures across the literature. An early measure of social anxiety, the Social Avoidance and Distress Scale (SAD; Watson & Friend, 1969), assesses two components of social anxiety with subscales of social avoidance and social distress. The SAD has been used extensively, but it does not incorporate an additional important component of social anxiety, namely fear of negative evaluation (e.g., García-López, Olivares, Hidalgo, Beidel, & Turner, 2001). One such measure that includes these three aspects of social anxiety is The Social Anxiety Scale for Adolescents (SAS-A; La Greca &
Lopez, 1998). The SAS-A is a self-report measure designed to assess adolescents’ subjective experiences of social anxiety. In addition to a total symptoms score, the SAS-A has three subscales assessing Fear of Negative Evaluation, Social Avoidance and Distress Specific to New Situations, and General Social Inhibition. Scores on the SAS-A have demonstrated good psychometric properties (García-López et al., 2001; Inderbitzen-Nolan & Walters, 2000; La Greca & Harrison, 2005; La Greca & Lopez, 1998; Storch, Masia-Warner, Dent, Roberti, & Fisher, 2004). Though other well-validated and psychometrically sound measures are available, such as the Social Phobia and Anxiety Inventory (SPAI; Turner, Beidel, Dancu, & Stanley, 1989), these measures are lengthy and more useful to distinguish between various anxiety disorders rather than a specific assessment of social anxiety symptoms. Therefore, the present study measures social anxiety symptoms with the SAS-A.

**Depression**

Several well-validated measures have been used in the literature to assess depressive symptoms. The Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977) is a self-report measure that has been widely used in epidemiological research and has shown evidence of reliability and concurrent validity (e.g., Knight, Williams, McGee & Olaman, 1997; Radloff, 1977). However, other literature has indicated that it may not be a useful screening tool for major depression (Roberts, Vernon, & Rhoades, 1989). The Patient Health Questionnaire (PHQ; Kroenke & Spitzer, 2002) is another brief measure of depressive symptoms utilized in health-care settings as a depression screening instrument. Reliability and validity have been indicated for the PHQ-9, with good internal consistency and excellent test re-test reliability (Kroenke, Spitzer, & Williams, 2001). One of the most commonly used measures for depressive symptom severity is the Beck Depression Inventory-Second Edition (BDI-II, Beck, Steer, &
Brown, 1996), a self-report measure of depressive symptoms corresponding to the basic diagnostic criteria for depression. The BDI-II has been used extensively in late-adolescent and college-age samples and has demonstrated adequate psychometric properties, including strong internal consistency and convergent validity (Beck et al., 1996; Storch, Roberti, & Roth, 2004). The BDI-II has been extensively researched and is the most commonly used measure of depressive symptoms, and therefore is used to assess depressive symptoms in the current study.

**Pilot Studies**

Pilot data from two separate studies were collected to inform the development of the present study. The first pilot study examined basic associations among RS, relationship quality, and psychological adjustment (i.e., depression, social anxiety, loneliness). Findings were consistent with the available literature, with the exception of non-significant associations between romantic relationship quality assessed with the Network of Relationships Inventory-RQV (Buhrmester & Furman, 2008) and adjustment. To address this discrepancy, a second pilot study used the Quality of Relationships Inventory (QRI; Pierce et al., 1991). Despite measurement changes, the findings were inconsistent with prior literature for both friendships and romantic relationships. This continued challenge with measures of relationship quality was considered in the present study by using the most commonly implemented measure, the NRI-SPV.

Overall, results of the pilot studies have made two major contributions to the present study. First, findings from the separate studies provide initial evidence of significant associations among the major variables of interest. The current investigation sought to extend this work through a more targeted examination of these associations and examine the interactions between the variables of RS and relationship quality as predictors of adjustment outcomes, both
concurrently and over time. Secondly, the two studies brought attention to problems with piloted measures of relationship quality. In light of these findings, the present research utilized an alternative measure of relationship quality for consistency with existing research. Of note, the pilot studies focused on undergraduate samples drawn from the Psychology Department research subject pool, which includes a predominant number of first-year students. First-year students are particularly likely to undergo significant relationship changes in the transition to college, making them a valuable population to understand the effects of rejection sensitivity.

**Overview and Aims**

Research has provided substantial evidence that individuals with RS are at particular risk of developing internalizing symptoms across the adolescent period. Depression and social anxiety appear to the most prominent negative psychological outcomes for RS individuals, yet little research has sought to understand the interpersonal factors that may contribute to these links. It is likely that perceptions of experiences within the relationship context are particularly influential for the emotional adjustment of RS individuals. Therefore, the present study aimed to examine perceptions of relationship quality with the relationship characteristics of support and negative interactions as moderators of the link between RS and psychological maladjustment with internalizing symptoms of social anxiety and depression (See Figure 2). Considering the differences between male and female social relationships and experiences, these associations may be further moderated by gender.
Additionally, perceptions of quality and experiences in relationship contexts may contribute to both the maintenance and development of greater internalizing problems over time. Therefore, the present study aimed to examine the associations both concurrently and longitudinally to assess changes in symptoms across a period of 2 months. This short-term longitudinal follow-up was selected in accordance with other longitudinal studies in the RS literature investigating associations across a brief period of several months (i.e., London et al., 2007). This two-month period allowed the investigation to focus on changes in symptoms that occur in close temporal proximity to the current relationship context (i.e., perceived relationship qualities), which is of most interest to the present study. It is possible that individuals’ perceptions of relationships may change along with other social or contextual changes occurring over time. Therefore, a short-term follow-up may better aid in increasing the understanding of how the relationship context is associated with more immediate prospective changes in internalizing symptoms. Other longitudinal studies have similarly examined predictors of changes in internalizing symptoms, such as depression, over a two-month period (e.g., Thompson, Berenbaum, & Bredemeier, 2011), providing empirical evidence that two months is an adequate length of time to examine changes in symptoms. Similar to London and colleagues
(2007), the two-month period was also selected to allow the majority of data collection to be completed within the confines of an academic semester.

The present study was designed to make several contributions to the RS literature. One of the most significant contributions is the extension of the research to late-adolescent friendships, as well as the comparison across heterosexual romantic relationships and same-gender friendships. In addition, a major strength of the current investigation is the examination of the interaction between RS and relationship quality in predicting psychological adjustment concurrently and longitudinally. The present study also investigated these variables as predictors of changes in symptoms over time by accounting for baseline symptoms. Therefore, references to symptoms over time refer to the prediction of symptoms at Time 2, whereas references to the examination of changes over time reflect the prediction of symptoms at Time 2 after accounting for Time 1 symptom levels. These associations have not been previously explored in romantic relationships, and thus far have been exclusive to investigations of relationship support. The present study examined both positive (i.e., support) and negative relationship qualities (i.e., negative interactions) as moderators of the association between RS and adjustment. Furthermore, the present study was designed to contribute to the literature by investigating two different forms of internalizing adjustment and to be the first study to explore the moderating effects of relationship qualities, as well as gender, in the link between RS and prospective increases in both social anxiety and depressive symptoms over time.

There were several overarching aims of the present study. The first of these was to replicate previous research findings regarding the association between RS and increased symptoms of social anxiety, as well as to extend previous findings (e.g., McDonald et al., 2010) by examining relationship qualities as moderators of the association between RS and adjustment.
in romantic relationships, one of central relationships of the late-adolescent period. Additionally, limited research has examined potential gender differences in the associations between RS and related outcomes of emotional adjustment and relationship quality. Furthermore, the few studies that have investigated gender differences have obtained contrasting results. Therefore, the present study also sought to explore possible gender differences in the association between RS and relationship qualities as predictors of social anxiety. This contribution has the implication of furthering our understanding of RS as a predictor of social anxiety and identifying aspects of late-adolescent romantic relationships, such as high levels of conflict or low levels of support, to target in interventions to prevent or reduce existing symptoms. This information may then directly support the adaptation or creation of treatments for RS individuals, such as in couples therapy. Additionally, information about gender differences could further support the development or adaptation of existing treatments for RS individuals by identifying potential differences needed by males or females to establish meaningful change in their relationships to improve psychological adjustment.

As a second aim, the present study sought to replicate the prediction of social anxiety symptoms with friendship qualities and gender. This would provide information about differences between these two most central relationships in late-adolescence. These distinctions may also inform whether a particular relationship may be more beneficial for intervention in social anxiety, which will allow for the adaptation or creation of an intervention for the individual specific to that relationship (e.g., adaptive communication and responding to conflict in a romantic relationship) or for an intervention with both individuals in a relationship. As a third and fourth aim, the present study sought to examine the prediction of depressive symptoms and the moderation of gender, and romantic relationship and friendship qualities respectively.
Though highly comorbid forms of internalizing symptoms, examining both social anxiety and depression provided the possibility of uncovering important information about differences between these symptoms with regard to RS and relationship functioning.

As a next set of aims, these investigations were replicated with an assessment of adjustment symptoms at a second time point two months later. The purpose of this follow-up was to examine whether the associations between RS and adjustment problems persist, and whether gender and relationship qualities may play a unique role in the maintenance of symptoms. Therefore, a fifth and sixth aim of the present study sought to examine the prediction of social anxiety symptoms at time two within romantic relationships and friendships, respectively. Furthermore, the seventh and eighth aims sought to replicate these examinations for depressive symptoms at time two.

As a final set of aims, the present study sought to replicate previous findings regarding the association between RS and increases in symptoms of depression and social anxiety over time, and examine the interactions between RS and relationship quality in predicting prospective increases in internalizing symptoms. The purpose of these analyses were to provide initial evidence supporting the role of RS, relationship qualities, and gender in the exacerbation of internalizing symptoms. A ninth and tenth aim of the current investigation was to examine changes in social anxiety symptoms over time with regard to romantic relationships and friendships, respectively. Finally, the eleventh and twelfth aims focused on the examination of changes in depressive symptoms with specific attention on romantic relationship and friendship qualities, respectively. This set of aims has the potential implication to identify treatment targets (e.g., increase perceived social support in friendships) for RS individuals that may provide the most robust benefits for psychological adjustment.
Hypotheses

Baseline. Previous studies assessing RS and adjustment have consistently identified associations between RS and increased internalizing problems in adolescents with social anxiety and depression (e.g., Marston et al., 2010; McDonald et al., 2010; Mellin, 2008). RS theory purports that individuals’ perceptions of relationship functioning have the potential to influence expectations of rejection (e.g., Downey & Feldman, 1996), which in turn may serve to either buffer or contribute to risk for internalizing symptoms. Existing research has provided initial evidence for this process with relationship support (McDonald et al., 2010). The present study hypothesizes that the association between RS and internalizing symptoms will be moderated by relationship qualities in romantic relationships and friendships, specifically with increased risk faced by individuals in relationships with poorer relationship quality.

Previous literature has also identified associations between RS and internalizing symptoms in independent samples of males and females (e.g., Ayduk et al., 2001; Downey et al., 2000). However, limited research has examined potential gender differences in these associations. In contrast to the authors’ expectations, findings from Bowker et al. (2011) suggest that RS is more strongly associated with social anxiety for males than females in early adolescence. However, the onset of social anxiety generally occurs between mid- to late-adolescence, a time when the rates of social anxiety become significantly higher for females than males (Merikangas et al., 2010; Schneier et al, 1992). Furthermore, though males have higher levels of RS than females during early adolescence, gender differences dissipate by late adolescence and young adulthood, with males and females reporting generally equivalent levels of RS (e.g., Marston et al., 2010). Therefore, gender differences in the associations between RS and social anxiety are likely to change across development as rates of internalizing symptoms

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increase and RS stabilizes. Socialization differences between males and females during adolescence are also likely to influence the link between RS and adjustment. Research suggests that females are more strongly affected by their relationship experiences than males (Rose & Rudolph, 2006). Females also tend to emphasize dyadic interpersonal relationships and derive more of their self-worth from their relationship experiences, compared to males who tend to be less interpersonally oriented and emphasize shared social activities in groups (Kuttler, La Greca, & Prinstein, 1999). Therefore, rejection sensitive females may be more likely to experience symptoms of social anxiety compared to males in late adolescence. Considering the increased risk for social and emotional challenges faced by females in late adolescence, it is hypothesized that the associations between RS and social anxiety will be stronger for females, compared to males, reporting higher levels of negative interactions with partners (Hypothesis 1a) and lower levels of partner support (Hypothesis 1b), as well as higher levels of negative interactions with friends (Hypothesis 2a), and lower levels of friendship support (Hypothesis 2b).

These same hypotheses are extended to depression, which has consistently been associated with rejection sensitivity and interpersonal experiences in close relationships (e.g., Chango et al., 2012). With regard to depression, there is less evidence of any gender differences when the association between RS and depression symptoms has been explored in mid-adolescent samples (e.g., Marston et al., 2010; McDonald et al., 2010). However, these investigations have not been extended into later adolescence. Considering the increased social and emotional risk faced by females for depression (Thapar et al., 2012), it is predicted that the positive associations between RS and symptoms of depression will be significantly stronger for females compared to males. Therefore, it is predicted that the associations between RS and depression will be stronger for females, compared to males, reporting higher levels of negative interactions with partners.
(Hypothesis 3a) and lower levels of partner support (Hypothesis 3b), as well as higher levels of negative interactions with friends (Hypothesis 4a), and lower levels of friendship support (Hypothesis 4b).

**Follow-up.** The current study predicted that associations between RS and internalizing symptoms will be maintained over time in late adolescence. Extending the work of McDonald and colleagues (2010), the present study hypothesized that the association between baseline RS and internalizing symptoms assessed two months later will be moderated by relationship qualities assessed at Time 1. Consistent with expectations for concurrent associations between RS and internalizing symptoms, it is expected that the link between RS and internalizing symptoms two months later will be significantly stronger for females compared to males with poorer relationship quality. Specifically, it is predicted that the association between RS assessed at Time 1 and social anxiety at Time 2 will be stronger for females, compared to males, reporting higher levels of negative interactions with partners (Hypothesis 5a) and lower levels of partner support (Hypothesis 5b) at Time 1. This prediction is extended to qualities in friendships, such that the association between RS assessed at Time 1 and social anxiety at Time 2 will be stronger for females, compared to males, reporting higher levels of negative interactions with friends (Hypothesis 6a), and lower levels of friendship support (Hypothesis 6b) at Time 1. Furthermore, these same patterns are proposed for depression. The present study hypothesized that RS will be more strongly associated with symptoms of depression at Time 2 for female adolescents, compared to male adolescents, reporting higher levels of negative interactions with partners (Hypothesis 7a) and lower levels of partner support (Hypothesis 7b) at Time 1, as well as higher levels of negative interactions with friends (Hypothesis 8a), and lower levels of friendship support (Hypothesis 8b) at Time 1.
Changes Over Time. The literature has also identified associations between RS and increasing levels of symptoms over the span of several months and up to multiple years (e.g., London et al., 2007; Marston et al., 2010). Marston and colleagues (2010) found evidence that RS predicted relative increases in depressive symptoms over the course of a year between ages 16 to 17 and 17 to 18 after adjusting for prior symptoms (Marston et al., 2010). This same predictive pattern was identified for general anxiety symptoms, along with relative increases in anxiety symptoms across the two-year span. Associations with increases in internalizing symptoms have also been identified across shorter periods. In a younger sample of middle school students, London and colleagues (2007) found that anxious RS predicted increased social anxiety and withdrawal four months later after controlling for baseline symptoms. Consistent with previous research, it is predicted that RS will be associated with prospective increases in internalizing symptoms across a short-term period during late-adolescence (i.e., within a college semester). The same pattern of interactions between RS and relationship qualities expected for Time 1 and 2 internalizing symptoms are proposed for the prediction of changes in symptoms over time. The current study hypothesizes that the association between baseline RS and changes in internalizing symptoms across two months will be moderated by relationship qualities assessed at Time 1. With regard to gender differences, it is expected that the association between RS and changes in internalizing symptoms will be significantly stronger for females than males with poorer relationship quality. Therefore, it is hypothesized that RS will be more strongly associated with relative increase in symptoms of social anxiety across two months for females reporting higher levels of negative interactions with partners (Hypothesis 9a) and lower levels of partner support (Hypothesis 9b), as well as higher levels of negative interactions with friends (Hypothesis 10a), and lower levels of friendship support (Hypothesis 10b). These same
predictions are extended to depression, such that RS will be more strongly associated with relative increases in symptoms of depression across two months for female adolescents reporting higher levels of negative interactions with partners (Hypothesis 11a) and lower levels of partner support (Hypothesis 11b), as well as higher levels of negative interactions with friends (Hypothesis 12a), and lower levels of friendship support (Hypothesis 12b).
Participants

Participants consisted of 416 undergraduate students between the ages of 18 and 25 years recruited from the University of Maine Department of Psychology SONA subject pool. Participants were required to have a same-gender friend, and be in a current heterosexual romantic relationship with a minimum relationship duration of three months.

Prior to recruitment, an a priori sensitivity analysis was conducted using G*Power3 (Faul, Erdfeler, Lang, & Buchner, 2007) for multiple linear regression with 13 predictors. With a sample size of 210 and an alpha of .05, there would be adequate power (.08) to identify an effect size as small as .09. Initially, it was planned that additional participants would be recruited to account for an expected attrition rate of approximately 25% by Time 2. Several challenges during recruitment and data collection resulted an attrition rate that was nearly double what had been anticipated (48.7%). These included unexpected changes to the Psychology Department subject pool (i.e., reducing the amount of research participation credits required) and disruption to academic involvement during the Covid-19 pandemic. In efforts to meet the final recruitment goal for Time 2, data collection was extended through the end of the academic year. The Time 2 sample of 207 participants nearly met the final recruitment goal.

Recruitment

Interested students responded to recruitment information posted to the University of Maine Department of Psychology SONA subject pool. Historically, samples recruited through the SONA subject pool have been predominantly female. In an effort to increase male participation and achieve a more gender-balanced sample, those who self-identified as male on
the subject pool eligibility survey were directly contacted about the study by email (Appendix P). Participants were compensated with one research credit for their involvement in the study at Time 1 and had the option to receive an additional research credit or a $5 Amazon gift card for their participation at Time 2.

**Measures**

*Demographics and Relationship Questionnaire*

Information about participant characteristics (e.g., age, gender, race/ethnicity) and relationship histories (e.g., duration of the romantic relationship and friendship) were collected at Time 1 with a self-report questionnaire designed specifically for the present study (Appendix C). At Time 2, information about the status of their previously identified romantic relationship and friendship was collected (Appendix D).

*Rejection Sensitivity Questionnaire*

Rejection sensitivity was assessed with the Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996: Appendix E). The RSQ is an 18-item self-report measure that describes interpersonal situations in which rejection can occur, including situations regarding interactions with parents, peers, teachers, and dating partners. For each situation, participants rate their level of anxiety about rejection (e.g., “How concerned or anxious would you be over whether or not your boyfriend would want to see you?”) on a 5-point scale from 1 (*not at all anxious*) to 6 (*very anxious*). Participants then report their expectations for rejection in the situation by indicating the likelihood that the other person(s) would respond in an accepting way (e.g., “I would expect that he would want to see me.”) on a 5-point scale from 1 (*very unlikely*) to 6 (*very likely*). Rejection expectation items are reverse-scored, and rejection sensitivity scores are computed by summing the product of rejection expectations and rejection anxiety for each
situation. Higher scores indicate higher levels of rejection sensitivity. The RSQ has demonstrated adequate reliability and validity in college samples, including high internal consistency ($\alpha = .83$) and good test re-test reliability ($r = .78$ to $.83$, $p < .001$; Downey & Feldman, 1996; Downey, Freitas, et al., 1998). Evidence has also been provided about the measure’s validity, with RSQ scores predicting self-reported feelings and observed reactions of rejection to ambiguously intentioned rejection experiences (Downey & Feldman, 1996). The RSQ demonstrated internal consistency in the present study (Cronbach’s $\alpha = .76$).

**The Network of Relationships Inventory - Social Provision Version**

Relationship quality was measured with the Network of Relationships Inventory - Social Provision Version (NRI-SPV; Furman & Buhrmester, 1985; Appendices F and G). The NRI-SPV is a 30-item self-report measure of positive and negative qualities in a particular relationship that was used to assess the quality of romantic relationships (Appendix F) and friendships (Appendix G). Participants respond to items (e.g., How often do you spend fun time with this person?”) about an identified person rated on a 5-point scale ranging from 1 (*little or none*) to 5 (*the most*). The measure includes 10 subscales comprised of three items each, which are summed to form three factors: Support (2 subscales, 6 items), Negative Interactions (7 subscales, 21 items), and Relative Power (1 subscale, 3 items). The Support factor is comprised of companionship, intimate disclosure, instrumental aid, nurturance, reassurance of worth, reliable alliance, and affection subscales. The Negative Interactions factor consists of the conflict and antagonism subscales, and Relative Power is an additional quality comprised of its own subscale. The present study was primarily interested in the qualities of Support and Negative Interactions in romantic relationships and friendships. Higher scores on the quality factors indicate higher levels of support and negative interactions in these relationships. The NRI-SPV
has demonstrated satisfactory internal consistency in child samples (mean Cronbach’s $\alpha = .80$; Furman & Buhrmester, 1985) as well as in adolescent samples for both positive (Cronbach’s $\alpha = .94$ to .95) and negative qualities (Cronbach’s $\alpha = .83$ to .84) in romantic relationships and friendships, respectively. The Support and Negative Interactions factors have also demonstrated adequate test re-test reliability over a one-month period ($r’s = .66$ to .70; Connolly & Konarski, 1994). Evidence has supported the validity of the NRI-SPV, with support and negative interactions factor scores showing significant associations with related friendship and peer relations variables (e.g., perceptions of peer acceptance; Furman, 1996). The NRI demonstrated strong internal consistency in the present study for both subscales of social support in romantic relationships (Cronbach’s $\alpha = .94$) and friendships (Cronbach’s $\alpha = .93$) as well as for negative interactions in romantic relationships (Cronbach’s $\alpha = .89$) and friendships (Cronbach’s $\alpha = .87$).

**Social Anxiety Scale for Adolescents**

Social anxiety was measured using the Social Anxiety Scale for Adolescents (SAS-A; La Greca & Lopez, 1998; Appendix H). The SAS-A is a 22-item self-report measure assessing social anxiety symptoms. Descriptive self-statements (18 items; e.g., “I worry about what others think of me”) and filler items (4 items) are rated on a 5-point scale from 1 *(not at all)* to 5 *(all the time)*. The items are summed to compute three factors: Fear of Negative Evaluation (FNE; 8 items), Social Avoidance and Distress Specific to New Situations (SAD-New; 6 items), and General Social Inhibition (SAD-General; 4 items), as well as a total score (18 items), which was used in the present study. Higher scores are associated with higher levels of social anxiety symptoms. The SAS-A has demonstrated good internal consistency (Cronbach’s $\alpha = .76$ to .93) and test-retest reliability ($r = .54$ to .78) in adolescent samples (Inderbitzen-Nolan & Walters, 2000; La Greca & Lopez, 1998; Storch, Masia-Warner, et al., 2004). Evidence has also
supported the validity of the SAS-A, with scores correlating with other measures of social anxiety, but not depression (Inderbitzen- Nolan & Walters, 2000). The SAS-A has been used regularly with college samples and has demonstrated adequate psychometric properties in this age range, including good internal consistency (Cronbach’s α = .93; Storch, Storch, Killiany, & Roberti, 2005). The SAS-A total score showed strong internal consistency in the present study at Time 1 (Cronbach’s α = .95) and Time 2 (Cronbach’s α = .94).

**Beck Depression Inventory – Second Edition**

Depression was assessed with the Beck Depression Inventory-Second Edition (BDI-II, Beck et al., 1996; Appendix I). The BDI-II is a 21-item self-report questionnaire designed to assess the severity of depressive symptoms. Each item is rated on a 4-point scale from 0 (no symptoms; e.g., “I do not feel sad”) to 3 (severe symptoms; e.g., “I am so sad or unhappy that I can’t stand it”). The items are summed to compute a total score, with higher scores indicating higher levels of depressive symptoms. The BDI-II has been researched extensively and has demonstrated adequate psychometric properties (Beck et al., 1996). In college student samples, the BDI-II has strong internal consistency (Cronbach’s α = .90; Storch, Roberti, et al., 2004) and high short-term (i.e., within two-weeks) test-retest reliability (r = .96, Sprinkle et al., 2002). The BDI-II has also demonstrated convergent validity with a structured clinical interview in a university counseling center setting (r = .83, p < .01; Storch, Roberti, et al., 2004). The BDI-II exhibited strong internal consistency in the present study at Time 1 (Cronbach’s α = .93) and Time 2 (Cronbach’s α = .94).

**Attention**

To identify inattentive responding, participants completed two instructed response items (IRI) as an attention check (Appendix J). IRIs are measures of local inattentiveness in a survey
grid where each item is placed. For each IRI, participants are instructed to select a specific response category (e.g., “click mostly agree”). Literature examining IRIs in web-based surveys has recommended caution when excluding participants based on improper completion of a single IRI (Gummer, Roßmann, & Silber, 2018). Therefore, more conservative methods were used for participant exclusion wherein improper completion of two attention checks resulted in the exclusion of the participant’s data.

Procedure

An overview of the study and eligibility requirements (i.e., between the ages of 18-25, in a current heterosexual romantic relationship of 3 or more months, have same-gender friendship) was published on SONA, the University of Maine Psychology Department research subject pool (Appendix A). Students interested in participating registered for the study and were contacted via email. The email provided a copy of the informed consent form (Appendix B), a random 5-digit participant ID, and a link to the online survey platform Qualtrics. After providing informed consent, participants completed the first of two time points by responding to a battery of questionnaires, which were estimated to take approximately 30 to 45 minutes to complete. Upon submitting their responses, students were thanked for their participation and were provided a resource list for counseling services should they feel distressed (Appendix K). Participants with responses indicative of significant levels of distress were also encouraged via email to contact counseling services (see risk follow-up). Each participant received one research credit for their participation in Time 1.

Two months after the completion of the Time 1 survey, the participant was contacted via email to complete the Time 2 follow-up survey. Participants received up to three additional email prompts, spaced one week apart, to participate. Each email contained a link to the Qualtrics
survey and their participant ID. Interested participants clicked on the link provided in the email and entered their participant ID. Participants then completed the same battery of questionnaires from Time 1, with the exception of a different version of the demographic and relationship questionnaire (Appendices C and D). Upon submission of the follow-up survey, participants were thanked for their participation and provided a resource list for counseling services. They were then asked to click on a link to a separate Qualtrics survey to select compensation in the form of either a second research credit or a $5 electronic gift card (Appendix O).

Risk Follow-Up

All participants were provided the telephone numbers for crisis hotlines and local mental health resources upon completion of the survey at both time points. Participants who gave responses on the BDI-II indicating the presence of moderate or severe depression (i.e., BDI-II scores ≥ 20) or recent suicidal ideation (response of 1, 2 or 3 on question 9), were provided information at the end of each survey about their responses and encouraged to utilize available resources (Appendix L). These participants were also contacted by the primary investigator via email within 24 hours (Appendix Q). The participants were sent a copy of the community resource list and were encouraged to contact the university’s Counseling Center. In total, 79 participants were contacted at Time 1 and 36 participants were contacted at Time 2, with 22 of these participants being contacted after participation at both time points.
CHAPTER VII

RESULTS

Preliminary Analyses

All analyses were conducted using IBM SPSS Statistics 27. Prior to analysis, RSQ, NRI-SPV subscales of support and negative interactions with romantic partners and friends, and Time 1 and Time 2 BDI and SAS-A scores were screened and examined for accuracy of data coding and missing values. A single missing value on RSQ total for one participant was replaced by the mean. There were not any identified patterns of missing data across participants or variables.

The presence of potential univariate outliers for all variables was investigated by examining z-scores, with outliers defined as z-scores greater than or equal to ±3.29 (Tabachnick & Fidel, 2001). All identified outliers had extremely high scores, with cases for RS on the RSQ (n=2), negative interactions in romantic relationships (n=7) and friendships (n=6) on the NRI-SPV, and depressive symptoms on the BDI at Time 1 (n=5) and at Time 2 (n=4). All identified univariate outliers were winsorized by changing the scores to the closest case in order to preserve power and retain participant variability as much as possible while reducing skew (Field, 2013).

All self-report questionnaire variables were also investigated for reliability. Internal consistency was found to range from adequate to good for all measures and subscales (α = 0.76 to 0.95). Descriptive statistics for all measures are presented in Table 1.
Table 1

Descriptive Statistics of Self-Report Questionnaires

<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Internal Consistency (α)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSQ</td>
<td>8.69</td>
<td>3.55</td>
<td>1.22</td>
<td>20.56</td>
<td>.76</td>
</tr>
<tr>
<td>NRI – Romantic Social Support</td>
<td>3.80</td>
<td>.66</td>
<td>2.00</td>
<td>5.00</td>
<td>.94</td>
</tr>
<tr>
<td>NRI – Romantic Negative Interactions</td>
<td>1.77</td>
<td>.61</td>
<td>1.00</td>
<td>3.83</td>
<td>.89</td>
</tr>
<tr>
<td>NRI – Friend Social Support</td>
<td>3.61</td>
<td>.68</td>
<td>1.90</td>
<td>5.00</td>
<td>.93</td>
</tr>
<tr>
<td>NRI – Friend Negative Interactions</td>
<td>1.57</td>
<td>.61</td>
<td>1.00</td>
<td>3.67</td>
<td>.87</td>
</tr>
<tr>
<td>BDI-II, Time 1</td>
<td>10.13</td>
<td>8.94</td>
<td>0.00</td>
<td>40.00</td>
<td>.93</td>
</tr>
<tr>
<td>BDI-II, Time 2</td>
<td>9.52</td>
<td>9.28</td>
<td>0.00</td>
<td>37.00</td>
<td>.94</td>
</tr>
<tr>
<td>SAS-A, Time 1</td>
<td>48.30</td>
<td>14.53</td>
<td>18.00</td>
<td>88.00</td>
<td>.95</td>
</tr>
<tr>
<td>SAS-A, Time 2</td>
<td>48.33</td>
<td>13.71</td>
<td>18.00</td>
<td>87.00</td>
<td>.94</td>
</tr>
</tbody>
</table>

Note. RSQ = Rejection Sensitivity Questionnaire; NRI = The Network of Relationships Inventory - Social Provision Version; BDI-II = Beck Depression Inventory – Second Edition; and SAS-A = Social Anxiety Scale for Adolescents.

Assumptions of multivariate regression were assessed for each planned regression equation prior to interpretation for hypothesis testing. Across all regressions, there was linearity and homoscedasticity as assessed by visual inspection of plots of studentized residuals versus unstandardized predicted values and partial regression plots between each independent variable and the dependent variables. There was independence of residuals, as assessed by Durbin-Watson statistics ranging from 1.69 to 2.11. Apart from an elevated correlation between repeated measures of social anxiety there was limited evidence of multicollinearity, as assessed by correlation coefficients below the .7 value indicating possible concerns as well as tolerance values below 0.1 and variance inflation factors (VIF) greater than 10 (Field, 2013). Therefore, regressions including repeated measures of social anxiety should be interpreted with caution. For
all regressions, there were no leverage values greater than 0.2, and no values for Cook's distance above 1 indicating further concerns with outliers. Finally, visual inspection of histograms and P-P plots indicated fairly normally distributed residuals for all regressions.

**Demographic Information**

A total of 416 students were recruited from the University of Maine Psychology subject pool across one academic year. During the first period of data collection the observed attrition rate was nearly double what had been anticipated (25% expected). Therefore, data collection for Time 1 participants was extended to achieve adequate power. Of the students who completed Time 1, 207 participants (49.75%) completed the follow-up survey. All participant data were screened for inclusion criteria and attention checks. For Time 1, 27 participants were excluded due to not meeting inclusion criteria for age (n=4), romantic relationship factors (i.e., dating status, relationship length, an opposite-gender partner; n=23), or historically dating the same-gender friend (n=2). Five more participants were excluded for failing both items of the Instructed Item Response (IRI) attention checks (n=5). Of the Time 2 participants, ten were excluded (age, n=1; romantic relationship factors, n=5; historically dated friend, n=1; attention, n=3). Participants who self-identified as transgender, non-binary or “other” were excluded as well as those who reported romantic relationships without an opposite-gendered partner. The final total sample included 384 participants at Time 1 and 197 participants at Time 2, with 51.30% of initial participants completing the follow-up. The follow-up survey was completed within an average of 8 ½ weeks after baseline (M = 59.08 days). All 384 participants were included in analyses testing for Hypotheses 1 through 4, and the 197 Time 2 participants were included in analyses testing Hypotheses 5 through 12.
The Time 1 and Time 2 samples were predominantly White (Time 1 \( n = 348, 90.6\% \); Time 2 \( n = 180, 91.4\% \)) and had a slightly greater proportion of females (Time 1 \( n = 217, 56.5\% \); Time 2 \( n = 130, 66.0\% \)). The age of participants ranged from 18 to 25 years, with a mean age of 18.8 years. Most participants were first-year students in college (Time 1 \( n = 280, 72.9\% \); Time 2 \( n = 141, 71.6\% \)). Participants reported an average romantic relationship length of one year and three months and an average friendship duration of over five years, with 12.2\% of the Time 1 (\( n = 47 \)) and 13.2\% of the Time 2 samples (\( n = 26 \)) indicating a friendship length of greater than 12 years. Sample demographics descriptive statistics are presented in Table 2.

**Table 2**  
**Sample Demographics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Time 1</th>
<th></th>
<th>Time 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n )</td>
<td>( % )</td>
<td>( M )</td>
<td>( SD )</td>
</tr>
<tr>
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<tr>
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<tr>
<td>Male</td>
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</tr>
<tr>
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<td></td>
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<td>Hispanic</td>
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<td>Black/African American</td>
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<td>American Indian/Alaska Native</td>
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<td>1.6</td>
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<tr>
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<tr>
<td>First Year</td>
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<td>Third Year/Junior</td>
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<tr>
<td>Fourth/Senior</td>
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<td>47.69</td>
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</table>
Descriptive Statistics and Mean-Based Gender Differences

Correlations between all primary variables were computed to assess consistency with patterns identified in previous research (see Tables 3 and 4 for correlations between study variables). Consistent with previous literature, RS had significant positive correlations with both symptoms of depression (Time 1, $r = .42$, $p < .001$, $r^2 = .18$; Time 2, $r = .36$, $p < .001$, $r^2 = .13$) and social anxiety (Time 1, $r = .52$, $p < .001$, $r^2 = .27$; Time 2, $r = .51$, $p < .001$, $r^2 = .26$). For relationship qualities, RS had a significant negative correlation only with romantic partner support ($r = -.18$, $p = .001$, $r^2 = .03$). Additionally, only negative interactions, and no support variables, were significantly correlated with a few adjustment outcomes. Negative interactions with romantic partners had a significant positive correlation with symptoms of depression at Time 1 ($r = .20$, $p < .001$, $r^2 = .04$). Negative interactions with friends had significant positive correlations with symptoms of depression at Time 1 ($r = .13$, $p = .009$, $r^2 = .02$) and social anxiety at Time 2 ($r = .14$, $p = .048$, $r^2 = .02$). The majority of correlations were similar when examined in female- and male-only samples. One notable difference included a significant negative correlation between friend support and symptoms of social anxiety both at Time 1 ($r = -.21$, $p = .008$, $r^2 = .04$) and Time 2 ($r = -.27$, $p = .026$, $r^2 = .07$) for males but not females.
Table 3
Correlations for Study Variables

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<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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</thead>
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<td></td>
<td></td>
</tr>
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<td>-</td>
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<td></td>
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<td>.14**</td>
<td>.06</td>
<td>-</td>
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<td>.19**</td>
<td>.06</td>
<td>-</td>
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<td></td>
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<td>6. Depression Time 1</td>
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<td>-.01</td>
<td>.20**</td>
<td>.07</td>
<td>.13**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Depression Time 2</td>
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<td>.07</td>
<td>.03</td>
<td>.13</td>
<td>.11</td>
<td>.71**</td>
<td>-</td>
<td></td>
<td></td>
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<td>.06</td>
<td>.01</td>
<td>.06</td>
<td>.57**</td>
<td>.43**</td>
<td>-</td>
<td></td>
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<tr>
<td>9. Social Anxiety Time 2</td>
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<td>-.04</td>
<td>.02</td>
<td>.14*</td>
<td>.47**</td>
<td>.49**</td>
<td>.80**</td>
<td>-</td>
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</tbody>
</table>

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

Table 4
Correlations for Study Variables by Gender

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<tr>
<th>Variables</th>
<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
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<tbody>
<tr>
<td>1. Rejection Sensitivity</td>
<td>-</td>
<td>-.17*</td>
<td>.09</td>
<td>-.22**</td>
<td>.07</td>
<td>.36**</td>
<td>.30**</td>
<td>.51**</td>
<td>.62**</td>
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<tr>
<td>2. Partner Support</td>
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<td>-</td>
<td>-.22**</td>
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<td>.02</td>
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<td>.12</td>
<td>.05</td>
<td>-.04</td>
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<td>3. Partner Negative Interactions</td>
<td>-.01</td>
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<td>-.01</td>
<td>.35**</td>
<td>.23**</td>
<td>-.10</td>
<td>.08</td>
<td>-.01</td>
</tr>
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<td>.01</td>
<td>-</td>
<td>.01</td>
<td>.00</td>
<td>-.06</td>
<td>-.21**</td>
<td>-.27*</td>
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<tr>
<td>5. Friend Negative Interactions</td>
<td>.10</td>
<td>-.01</td>
<td>.08</td>
<td>.11</td>
<td>-</td>
<td>.27*</td>
<td>.05</td>
<td>.14</td>
<td>.19</td>
</tr>
<tr>
<td>6. Depression Time 1</td>
<td>.42**</td>
<td>-.06</td>
<td>.19**</td>
<td>.00</td>
<td>.11</td>
<td>-</td>
<td>.60**</td>
<td>.56**</td>
<td>.67**</td>
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<tr>
<td>7. Depression Time 2</td>
<td>.37**</td>
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<td>.04</td>
<td>.12</td>
<td>.20*</td>
<td>.72**</td>
<td>-</td>
<td>.42**</td>
<td>.47**</td>
</tr>
<tr>
<td>8. Social Anxiety Time 1</td>
<td>.50**</td>
<td>.01</td>
<td>.04</td>
<td>-.03</td>
<td>.10</td>
<td>.54**</td>
<td>.41**</td>
<td>-</td>
<td>.84**</td>
</tr>
<tr>
<td>9. Social Anxiety Time 2</td>
<td>.46**</td>
<td>.18*</td>
<td>-.08</td>
<td>.04</td>
<td>.18*</td>
<td>.38**</td>
<td>.49**</td>
<td>.76**</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. Correlations for females (n = 217, Time 2 variables n = 130) displayed above the diagonal; correlations for males (n = 167, Time 2 variables n = 67) displayed below the diagonal.

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

Independent samples t-tests were also conducted to explore mean-based gender differences (see Table 5 for all means and t-tests). Females had significantly higher mean scores for rejection sensitivity and friend support, as well as symptoms of depression and social anxiety.
at both time points. Males had significantly higher mean scores for negative interactions with friends compared to females.

**Table 5**

*Descriptive Statistics and t-tests for Equality of Means by Gender*

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Female</th>
<th>Male</th>
<th>t(382)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Rejection Sensitivity</td>
<td>8.69</td>
<td>3.55</td>
<td>9.10</td>
<td>3.84</td>
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<tr>
<td>Partner Support</td>
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<td>.66</td>
<td>3.83</td>
<td>.69</td>
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<tr>
<td>Partner Negative Interactions</td>
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<td>1.79</td>
<td>.63</td>
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<tr>
<td>Friend Support</td>
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<td>3.79</td>
<td>.66</td>
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<tr>
<td>Friend Negative Interactions</td>
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<td>.61</td>
<td>1.49</td>
<td>.58</td>
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<tr>
<td>Depression Time 1</td>
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<td>11.87</td>
<td>9.74</td>
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<tr>
<td>Depression Time 2</td>
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<td>9.28</td>
<td>10.69</td>
<td>10.05</td>
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<tr>
<td>Social Anxiety Time 1</td>
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<td>52.46</td>
<td>14.52</td>
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<tr>
<td>Social Anxiety Time 2</td>
<td>48.33</td>
<td>13.71</td>
<td>50.25</td>
<td>13.27</td>
</tr>
</tbody>
</table>

*p < .05 **p < .01 *** p < .001

To examine whether the sample of Time 2 participants differed from non-returning participants, independent samples t-tests were conducted with regard to the primary study variables and relationship length. A significant difference in scores was identified between the group of participants that completed the follow-up survey and non-returning participants for partner support, t(382)=3.41, p=.001, and friendship support, t(382)=2.01, p=.045, in which returning participants reported greater levels of relationship support. No other variables had significantly different scores between the two groups.
Table 6

*Descriptive Statistics and T-tests for Time 2 Participants and Non-Returners*

<table>
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<tr>
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<th>Time 2 Participants</th>
<th>Non-Returners</th>
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<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Rejection Sensitivity</td>
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<td>3.77</td>
<td>8.84</td>
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<tr>
<td>Partner Support</td>
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<td>3.68</td>
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<td>3.54</td>
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<td>Friendship Length</td>
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<td>47.82</td>
<td>64.37</td>
</tr>
</tbody>
</table>

*Note. Relationship length measured in months.*

*p < .05  **p < .01  ***p < .001

**Primary Analyses**

Sets of four hierarchical multiple regressions were conducted for the prediction of symptom of social anxiety and depression in the two close relationships (i.e., romantic partners and friends). Three sets of hierarchical multiple regressions were conducted for Hypotheses 1 through 4 predicting symptoms at Time 1, Hypotheses 5 through 8 predicting symptoms at Time 2, and Hypotheses 9 through 12 predicting symptoms at Time 2 after accounting for baseline symptoms to consider changes in symptoms over time. Each hierarchical regression equation was conducted by first entering the primary study variables, followed by two-way interaction terms, and finally three-way interaction terms. The third set of regressions preliminarily entered Time 1 symptoms to create residual change scores for symptoms from Time 1 to Time 2. All predictor variables were centered to minimize multicollinearity when creating interaction terms (Aiken & West, 1991).
Hypothesis 1

This first set of hypotheses explored the prediction of social anxiety symptoms at Time 1 within romantic relationships. To assess the prediction that the associations between RS and symptoms of social anxiety at Time 1 would be stronger for females, compared to males reporting higher levels of negative interactions with partners and lower levels of partner support, a hierarchical multiple regression was conducted with predictors of RS, romantic relationship support, negative interactions with romantic partners, and gender, as well as interactions between these variables in Models 2 and 3. See Table 7 for full details on each regression model. The first model of RS, gender, and support and negative interactions in romantic relationships predicting social anxiety symptoms at Time 1 (Model 1) was statistically significant, $R^2 = .35, F(4, 379) = 50.87, p < .001$. The addition of two-way interaction terms to the prediction of Time 1 social anxiety symptoms (Model 2) did not result in a statistically significant increase in variance explained, $R^2\Delta = .01, \Delta F(6, 373) = .91, p = .49, ns$. The addition of three-way interaction terms to the prediction of social anxiety symptoms at Time 1 (Model 3) also did not result in a statistically significant increase in variance explained, $R^2\Delta < .001, F(3, 370) = .01, p = 1.00, ns$. Due to the lack of interaction effects and significant change in $R^2$, the primary hypotheses were not supported. The predictions that the association between RS and social anxiety symptoms at Time 1 is stronger for females, compared to males, reporting higher levels of negative interactions with partners (Hypothesis 1a) and lower levels of social support from partners (Hypothesis 1b) were not supported as the three-way interaction terms did not increase the variance explained in social anxiety symptoms at Time 1 in Model 3.

In the first model, there was a main effect of RS in predicting social anxiety symptoms ($\beta = .50, p < .001$), with higher levels of RS predicting higher levels of social anxiety symptoms.
There was also a main effect of romantic relationship support ($\beta=0.13$, $p=0.003$), with higher levels of social support with romantic partners predicting higher levels of social anxiety symptoms, and a third main effect of gender ($\beta=-0.25$, $p<0.001$) indicating that females reported higher levels of social anxiety symptoms. Given that no significant interaction effect was found between RS and gender, there was no evidence to support the expectation that the positive association between RS and symptoms of social anxiety would be significantly stronger for females compared to males. Furthermore, there was no support to indicate that RS is more strongly associated with symptoms of social anxiety for adolescents reporting lower levels of partner support, or higher levels of negative interactions with partners, as there was no significant interaction between these variables to improve the prediction of baseline social anxiety symptoms.
Table 7  
Hierarchical Regression Analysis Predicting Social Anxiety at Time 1 with Partners

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th></th>
<th></th>
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<td>β</td>
<td>B</td>
<td>SE</td>
<td>β</td>
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<td>.18</td>
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Note. All predictor variables are centered and interaction terms created with centered variables.

*p < .05. **p <.01. ***p <.001.
Hypothesis 2

The same hierarchical regression for Hypothesis 1 was repeated with friendship quality variables to explore the prediction that the associations between RS and symptoms of social anxiety at Time 1 would be stronger for females, compared to males, reporting higher levels of negative interactions and lower levels of support with friends. See Table 8 for full details on each regression model. The first model of RS, support and negative interactions in friendships, and gender predicting social anxiety symptoms at Time 1 (Model 1) was statistically significant, $R^2 = .34$, $F(4, 379) = 48.94, p < .001$. The addition of two-way interaction terms to the prediction of Time 1 social anxiety symptoms (Model 2) did not result in a statistically significant increase in variance explained, $\Delta R^2 = .01, F(6, 373) = .88, p = .51, ns$. The addition of three-way interaction terms (Model 3) also did not result in a statistically significant increase in variance explained, $\Delta R^2 = .01, \Delta F(3, 370) = 1.58, p = .19, ns$. Due to the lack of interaction effects and significant change in $R^2$, the primary hypotheses were not supported. Specifically, the predictions that the association between RS and social anxiety symptoms at Time 1 is stronger for females, compared to males, reporting higher levels of negative interactions with friends (Hypothesis 2a) and lower levels of support from friends (Hypothesis 2b) were not supported as the three-way interaction term was non-significant and did not increase the variance explained in social anxiety symptoms at Time 1 in Model 3.

In the first model, there was a main effect of RS in predicting social anxiety symptoms ($\beta=.47, p <.001$), with higher levels of RS predicting higher levels of social anxiety symptoms. There was also a main effect of gender ($\beta=-.30, p <.001$), with females reporting higher levels of social anxiety symptoms. No significant interaction effect was found between RS and gender. Therefore, there was no evidence to support the expectation that the positive association between
RS and symptoms of social anxiety is significantly stronger for females compared to males.

Additionally, the interaction terms between RS and friendship qualities were non-significant.

Therefore, there was no support to indicate that RS is more strongly associated with symptoms of social anxiety for adolescents reporting lower levels of friend support, or higher levels of negative interactions with friends. There were no other significant interactions in the models.
### Table 8

*Hierarchical Regression Analysis Predicting Social Anxiety at Time 1 with Friends*

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*Note.* All predictor variables are centered and interaction terms created with centered variables.

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

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Hypothesis 3

To examine hypotheses for symptoms of depression at Time 1, a hierarchical regression was conducted with romantic relationship quality variables to explore the prediction that the associations between RS and depressive symptoms at Time 1 would be higher for females, compared to males, reporting higher levels of negative interactions and lower levels of support with romantic partners. See Table 9 for full details on each regression model. The first model of RS, support and negative interactions in romantic relationships, and gender predicting depressive symptoms at Time 1 (Model 1) was statistically significant, $R^2 = .24, F(4, 379) = 30.43, p < .001$. The addition of two-way interaction terms to the prediction of Time 1 depressive symptoms (Model 2) did not result in a statistically significant increase in variance explained, $\Delta R^2 = .01, \Delta F(6, 373) = .56, p = .77, ns$. The addition of three-way interaction terms (Model 3) also did not result in a statistically significant increase in variance explained, $\Delta R^2 = .01, \Delta F(3, 370) = 1.81, p = .15, ns$. Due to the lack of interaction effects and significant change in $R^2$ for Models 2 and 3, the primary hypotheses were not supported. Therefore, the hypotheses that the association between RS and symptoms of depression at Time 1 is stronger for females, compared to males, reporting higher levels of negative interactions (Hypothesis 3a) and lower levels of support from friends (Hypothesis 3b) were not supported as the three-way interaction terms were non-significant and did not increase the variance explained in depressive symptoms at Time 1 in Model 3.

In the first model, there was a main effect of RS in predicting depressive symptoms ($\beta = .40, p < .001$), with higher levels of RS predicting higher levels of depressive symptoms. There was also a main effect of gender ($\beta = -.16, p = .001$), with females reporting higher levels of depressive symptoms, and a main effect of negative interactions ($\beta = .20, p < .001$), with higher
levels of negative interactions with partners predicting higher depressive symptoms. No significant interaction effects were found between RS and gender or between RS and relationship qualities. Therefore, there was no support to indicate that the positive association between RS and symptoms of depression is significantly stronger for females compared to males. Furthermore, there was no evidence that RS is more strongly associated with symptoms of depression for adolescents reporting lower levels of partner support, or higher levels of negative interactions with partners, as these interaction terms were not significant predictors of baseline depressive symptoms.
Table 9

Hierarchical Regression Analysis Predicting Depression at Time 1 with Partners

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$R^2$ | .24 |  .25 |  .26 |
$F$   |  30.43*** |  12.42*** | 10.03*** |
$\Delta R^2$ | .01 |  .01 |
$\Delta F$ | .56 |  1.81 |

*Note. All predictor variables are centered and interaction terms created with centered variables.

*p < .05. **p <.01. *** p <.001.
Hypothesis 4

Another hierarchical regression was repeated with friendship quality variables to explore
the prediction that the associations between RS and symptoms of depression at Time 1 would be
stronger for females, compared to males, reporting higher levels of negative interactions with
friends and lower levels of support with friends. See Table 10 for full details on each regression
model. The first model of RS, support and negative interactions in friendships, and gender
predicting depressive symptoms at Time 1 (Model 1) was statistically significant, \( R^2 = .22, F(4, \ 379) = 26.67, p < .001 \). The addition of two-way interaction terms to the prediction of Time 1
depressive symptoms (Model 2) did not result in a statistically significant increase in variance
explained, \( \Delta R^2 = .01, \Delta F(6, 373) = .80, p = .57, ns \). The addition of three-way interaction terms
(Model 3) also did not result in a statistically significant increase in variance explained, \( \Delta R^2 =
.003, \Delta F(3, 370) = .46, p = .71, ns \). Due to the lack of interaction effects and significant change
in \( R^2 \), both of the primary hypotheses were not supported. Specifically, the predictions that the
association between RS and symptoms of depression at Time 1 is stronger for females, compared
to males, reporting higher levels of negative interactions with friends (Hypothesis 4a) and lower
levels of support (Hypothesis 4b) were not supported as the three-way interaction terms were
non-significant and did not increase the variance explained in Time 1 depressive symptoms in
Model 3.

As expected, in the first model there was a main effect of RS in predicting depressive
symptoms (\( \beta = .38, p < .001 \)), with higher levels of RS predicting higher levels of depressive
symptoms. There was also a main effect of gender (\( \beta = -.18, p < .001 \)), indicating that female
gender predicted higher levels of depressive symptoms, and a main effect of negative
interactions (\( \beta = .13, p = .004 \)), with greater negative interactions in friendships predicting higher
levels of baseline depressive symptoms. No significant interaction effect was found between RS and gender. Therefore, there was no evidence indicating that the positive association between RS and symptoms of depression is significantly stronger for females compared to males.

Furthermore, there was no significant interaction between RS and romantic relationship qualities to provide evidence that RS is more strongly associated with symptoms of depression for adolescents reporting higher levels of negative interactions with partners and lower levels of partner support.
Table 10
Hierarchical Regression Analysis Predicting Depression at Time 1 with Friends

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$R^2$ | .22    | .23    | .23
$F$   | 26.67***| 11.11***| 8.62***
$\Delta R^2$ | .01 | .003 |
$\Delta F$ | .80 | .46 |

Note. All predictor variables are centered and interaction terms created with centered variables.

*p < .05. **p < .01. *** p < .001.
Hypothesis 5

The next set of four regressions (Hypotheses 5 through 8) was conducted to examine the prediction of adjustment at Time 2. The current regression explored the prediction of social anxiety symptoms at Time 2 within romantic relationships. To assess the prediction that the associations between RS and symptoms of social anxiety at Time 2 would be stronger for females, compared to males reporting higher levels of negative interactions with partners and lower levels of partner support, a hierarchical multiple regression was conducted with predictors of RS, romantic relationship support, negative interactions with romantic partners, and gender, as well as interactions between these variables in Models 2 and 3. See Table 11 for full details on each regression model. The first model of RS, support and negative interactions in romantic relationships, and gender predicting social anxiety symptoms at Time 2 (Model 1) was statistically significant, $R^2 = .32, F(4, 192) = 22.95, p < .001$. The addition of two-way interaction terms (Model 2) did not result in a statistically significant increase in variance explained, $\Delta R^2 = .03, \Delta F(6, 186) = .154, p = .167, ns$. The addition of three-way interaction terms (Model 3) also did not result in a statistically significant increase in variance explained, $\Delta R^2 = .005, \Delta F(3, 183) = .48, p = .69, ns$.

Due to the lack of significant change in $R^2$ for Model 3 and no significant interaction effects, both primary hypotheses were not supported. Specifically, the predictions that the association between RS and Time 2 social anxiety symptoms is stronger for females, compared to males, reporting higher levels of negative interactions with partners (Hypothesis 5a) and lower levels of partner support (Hypothesis 5b) were not supported as the three-way interaction terms were non-significant and did not increase the variance explained in social anxiety symptoms at Time 2 in Model 3.
As anticipated, there was a main effect of RS in the first model predicting Time 2 social anxiety symptoms ($\beta = .53, p < .001$), with higher levels of RS predicting higher levels of social anxiety symptoms. There was also a main effect of romantic relationship support ($\beta = .20, p = .001$), with higher levels of social support with romantic partners predicting higher levels of social anxiety symptoms, and a third main effect of gender ($\beta = -.15, p = .01$) indicating that females reported higher levels of social anxiety symptoms at Time 2. Given that there was not a significant interaction between RS and gender, there was no evidence to suggest that the positive association between RS and symptoms of Time 2 social anxiety is significantly stronger for females compared to males. Furthermore, interaction terms between RS and romantic relationship qualities were non-significant and did not significantly improve the prediction of Time 2 social anxiety symptoms. Therefore, there was no evidence that RS is more strongly associated with Time 2 symptoms of social anxiety for adolescents reporting lower levels of partner support or higher levels of negative interactions with partners.
### Table 11

**Hierarchical Regression Analysis Predicting Social Anxiety at Time 2 with Partners**

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</table>

$R^2$  | .32  |          | .36  |          | 7.94*** |
$F$    | 22.95*** |          | 10.26*** |          | |
$\Delta R^2$ | .03  |          | .01  |          | |
$\Delta F$  | .17  |          | .69  |          | |

*Note. All predictor variables are centered and interaction terms created with centered variables.*

*p < .05. **p < .01. *** p < .001.*
Hypothesis 6

The same hierarchical regression for Hypothesis 5 was repeated with friendship quality variables to explore the prediction that the associations between RS and social anxiety symptoms at Time 2 would be stronger for females, compared to males, reporting higher levels of negative interactions with friends and lower levels of support with friends. See Table 12 for full details on each regression model. The first model of RS, support and negative interactions in friendships, and gender predicting social anxiety symptoms at Time 2 (Model 1) was statistically significant, $R^2 = .55$, $F(4, 192) = 20.64$, $p < .001$. The addition of two-way interaction terms (Model 2) did not result in a statistically significant increase in variance explained, $\Delta R^2 = .04$, $\Delta F(6, 186) = 1.95$, $p = .08$, ns, though this was trending. The addition of three-way interaction terms (Model 3) also did not result in a statistically significant increase in variance explained, $\Delta R^2 = .002$, $\Delta F(6, 183) = .15$, $p = .93$, ns. Due to the lack of significant change in $R^2$ and non-significant 3-way interactions, the primary hypotheses were not supported. The predictions that the association between RS and symptoms of social anxiety at Time 2 are stronger for females, compared to males, reporting higher levels of negative interactions with friends (Hypothesis 6a) and lower levels of support (Hypothesis 6b) were not supported as the three-way interaction terms were non-significant and did not increase the variance explained in Time 2 social anxiety symptoms in Model 3.

In Model 1, there was a main effect of RS predicting social anxiety symptoms ($\beta=.48$, $p<.001$), with higher levels of RS predicting higher levels of social anxiety symptoms, as anticipated. There was also a main effect of gender ($\beta=-.19$, $p=.005$), with females reporting higher levels of social anxiety symptoms, and a main effect of negative interactions with friends ($\beta=.13$, $p=.03$), with higher conflict predicting higher social anxiety symptoms. However, there
was also a significant interaction between RS and gender in Model 2 ($\beta=.22, \ p=.01, \ sr^2=.02$). Likewise, the interaction terms between RS and friendship qualities indicated that RS has a significant interaction with negative interactions ($\beta=-.14, \ p=.03$), but not with lower levels of social support ($\beta=.09, \ p=.23, \ sr^2=.02$) with friends. However, both of the significant interaction terms did not significantly improve the prediction of Time 2 social anxiety, as evidenced by lack of a significant increase in $R^2$.

For exploratory purposes, the interactions were investigated with simple slopes analyses (Aiken & West, 1991; see Figure 3). For the interaction between RS and negative interactions, when conditioned at low negative interactions 1 standard deviation below the mean on negative interactions with friends, RS had a significant positive linear relationship with Time 2 social anxiety symptoms, $\beta=.48, \ t (185) = 5.02, \ p < .01., \ sr^2=.09$, whereas when conditioned at high negative interactions 1 standard deviation above the mean, RS was not significantly related to Time 2 social anxiety symptoms, $\beta=.20, \ t (185) = 1.74, \ p = .08$. 
Further exploration of the interaction between RS and gender with simple slopes analyses (see Figure 4.) revealed that there was a statistically significant positive linear relationship between RS and social anxiety symptoms at Time 2 for males, ($\beta = .34$, $t (186) = 4.17$, $p < .01$, $sr^2 = .12$ and females, ($\beta = .78$, $t (186) = 5.78$, $p < .01$ $sr^2 = .06$). The slopes of these lines are significantly different, $t (193) = 2.27$, $p < .05$, with males experiencing greater increases in Time 2 social anxiety symptoms at increasing levels of RS compared to females.

Note. High and low variables were defined as +1 and -1 standard deviations from the mean respectively.
**Figure 4**  
*RS and Gender Predicting Time 2 Social Anxiety*

![Graph showing the relationship between Rejection Sensitivity and Social Anxiety Time 2 for males and females. The graph indicates a positive correlation between Rejection Sensitivity and Social Anxiety for both genders.]

*Note.* High and low variables were defined as +1 and -1 standard deviations from the mean respectively.
Table 12
Hierarchical Regression Analysis Predicting Social Anxiety at Time 2 with Friends

<table>
<thead>
<tr>
<th></th>
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\(R^2\)          | .30     | .34     | .34     |         |         |         |         |         |         |
\(F\)            | 20.64***| 9.67*** | 7.37*** |         |         |         |         |         |         |
\(\Delta R^2\)    | .04     | .002    | .00     |         |         |         |         |         |         |
\(\Delta F\)      | 1.95    | .15     |         |         |         |         |         |         |         |

Note. All predictor variables are centered and interaction terms created with centered variables.

*p < .05. **p < .01. ***p < .001.
Hypothesis 7

To examine hypotheses for depressive symptoms at Time 2, a hierarchical regression was conducted with romantic relationship quality variables to explore the prediction that the association between RS and Time 2 depressive symptoms would be stronger for females, compared to males, reporting higher levels of negative interactions and lower levels of support with romantic partners. See Table 13 for full details on each regression model. The first model of RS, support and negative interactions in romantic relationships, and gender predicting depressive symptoms at Time 2 (Model 1) was statistically significant, $R^2 = .17, F(4, 192) = 9.86, p < .001$. The addition of two-way interaction terms (Model 2) did not result in a statistically significant increase in variance explained, $\Delta R^2 = .02, \Delta F(6, 186) = .71, p = .64, ns$. The addition of three-way interaction terms (Model 3) also did not result in a statistically significant increase in variance explained, $\Delta R^2 = .02, \Delta F(3, 183) = 1.58, p = .20, ns$. Due to the lack of significant change in $R^2$, the two primary hypotheses were not supported. Therefore, the hypotheses that the association between RS and symptoms of depression at Time 2 is stronger for females, compared to males, reporting higher levels of negative interactions with romantic partners (Hypothesis 7a) and lower levels of partner support (Hypothesis 7b) were not supported as the three-way interaction terms were non-significant and did not increase the variance explained in depressive symptoms at Time 2 in Model 3.

Consistent with expectations, in the first model, there was a main effect of RS in predicting Time 2 depressive symptoms ($\beta = .37, p < .001$), with higher levels of RS predicting higher levels of depressive symptoms. There was also a main effect of gender ($\beta = -.14, p = .03$), with females reporting higher levels of depressive symptoms, and a main effect of support ($\beta = .14, p = .04$), with higher levels of partner support predicting higher depressive symptoms.
No significant interaction effect was found between RS and gender. Therefore, there was no support to suggest that the positive association between RS and symptoms of depression is significantly stronger for females compared to males, as was anticipated. With regard to relationship quality variables, in Model 3, there was a significant interaction between support and negative interactions with romantic partners as well as a three-way interaction between RS and both relationship qualities. However, it should be noted that the three-way interaction did not significantly increase the prediction of Time 2 depressive symptoms. For exploratory purposes the 3-way interaction was further examined with simple slopes (see Figure 5). When conditioned at high levels of relationship qualities 1 standard deviation above the mean for both variables, there was a non-significant association between RS and depressive symptoms at Time 2 ($p=.21$). All other lines had significant positive linear relationships between RS and Time 2 depressive symptoms, including conditions of low levels of support and negative interactions ($p=.04$), and combinations of high and low qualities ($ps <.01$). None of the slopes between each condition were significantly different from one another, with an overall trend that individuals with low qualities or combinations of high and low qualities experience greater depressive symptoms at increasing levels of RS.
Figure 5
RS and Romantic Relationship Qualities Predicting Time 2 Depression

Note. High and low variables were defined as +1 and -1 standard deviations from the mean respectively.
### Table 13

*Hierarchical Regression Analysis Predicting Depression at Time 2 with Partners*

<table>
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| $R^2$               | .17     |          |          | .19     |          |          | .21     |          |          |
| $F$                 | 9.86*** |          |          | 4.34*** |          |          | 3.73*** |          |          |
| $\Delta R^2$        |         |          |          | .02     |          |          | .02     |          |          |
| $\Delta F$          | .71     |          |          | 1.58    |          |          |        |          |          |

*Note. All predictor variables are centered and interaction terms created with centered variables.*

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

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Hypothesis 8

Another hierarchical regression was repeated with friendship quality variables to explore the prediction that the associations between RS and depressive symptoms at Time 2 would be stronger for females, compared to males, reporting higher levels of negative interactions and lower levels of support with friends. See Table 14 for full details of each regression model. The first model of RS, support and negative interactions in friendships, and gender predicting depressive symptoms at Time 2 (Model 1) was statistically significant, $R^2 = .17$, $F(4, 192) = 9.78$, $p < .001$. The addition of two-way interaction terms to the prediction of Time 2 depressive symptoms (Model 2) did not result in a statistically significant increase in variance explained, $\Delta R^2 = .05$, $\Delta F(6, 186) = 1.96$, $p = .07$, ns, though this was trending. The addition of three-way interaction terms (Model 3) also did not result in a statistically significant increase in variance explained, $\Delta R^2 = .02$, $\Delta F(3, 183) = .160$, $p = .19$, ns. Though the three-way interaction term between RS, negative interaction, and gender was significant in Model 3, the addition of this predictor did not result in a statistically significant increase in variance explained in depressive symptoms. Therefore, the predictions that the association between RS and depressive symptoms at Time 2 is stronger for females, compared to males, reporting higher levels of negative interactions with friends (Hypothesis 8a) and lower levels of friendship support (Hypothesis 8b) were not supported as the three-way interaction terms did not increase the variance explained in depressive symptoms at Time 2 in Model 3.

For exploratory purposes the significant three-way interaction between RS, negative interactions with friends, and gender was further examined with simple slopes (see Figure 6). When evaluating the association between RS and Time 2 depressive symptoms, females conditioned at 1 standard deviation above the mean for negative interactions with friends had
significantly different slopes compared to all other conditions, including males high in negative interactions \( t (185) = -2.24, p = .03 \) as well as females \( t (185) = 2.70, p = .01 \) and males \( t (185) = 2.43, p = .02 \) with low negative interactions with friends conditioned at 1 standard deviation below the mean. No other slopes were significantly different from each other. The exploratory findings suggest that females high in negative interactions with friends had greater Time 2 depressive symptoms when these individuals were high versus low in RS. Therefore, females with high RS may experience greater depressive symptoms with higher levels of negative interactions with friends, but not at lower levels of negative interactions. For males, there does not appear to be a significant difference in the association between RS and levels of depressive symptoms when comparing high versus low negative interactions with friends.

Figure 6

*RS, Negative Interactions with Friends, and Gender Predicting Time 2 Depression*

*Note.* High and low variables were defined as +1 and -1 standard deviations from the mean respectively.
In the first model, there was a main effect of RS in predicting depressive symptoms ($\beta=.34, p<.001$), as anticipated, with higher levels of RS predicting higher levels of depressive symptoms. No significant interaction effect was found between RS and gender in Model 2. Therefore, there was no evidence suggesting that the positive association between RS and symptoms of depression is significantly stronger for females compared to males. With regard to relationship quality, there were significant interactions between RS and negative interactions, gender and negative interactions, and the significant three-way interaction between RS, negative interactions and gender in Model 3, as discussed above.

In Model 3, there was also a significant interaction between support and negative interactions. However, like the other significant interaction terms, this two-way interaction did not significantly increase the amount of variance explained in the prediction of Time 2 depressive symptoms. Therefore, there was no support indicating that RS is more strongly associated with symptoms of depression for adolescents reporting higher levels of negative interactions with friends or lower levels of friendship support. For exploratory purposes the interaction was examined with simple slopes analyses (Aiken & West, 1991; see Figure 7). When conditioned at low support with 1 standard deviation below the mean on support with friends, negative interactions with friends had a positive linear association with Time 2 depressive symptoms, $\beta=.37, t (185) = 2.40, p < .02., sr^2=.02$, whereas when conditioned at high support with 1 standard deviation above the mean on support with friends, negative interactions was not significantly related to Time 2 depressive symptoms, $\beta=.14, t (185) = 1.50, p = .13$. Therefore, results suggest that individuals with high levels of negative interactions and low support from friends may experience the greatest level of depressive symptoms.
Figure 7

Friends Qualities Predicting Time 2 Depression

Note. High and low variables were defined as +1 and -1 standard deviations from the mean respectively.
Table 14
Hierarchical Regression Analysis Predicting Depression at Time 2 with Friends

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|                  |            |          |          |            |          |          |            |          |
| R²                | .17        |          |          | .22        |          |          | .24        |          |
| F                 | 9.78***    |          |          | 5.20***    |          |          | 4.41***    |          |
| ΔR²               | .05        |          |          | .02        |          |          |            |          |
| ΔF                | 1.96       |          |          | 1.60       |          |          |            |          |

*Note. All predictor variables are centered and interaction terms created with centered variables.

*p < .05. **p < .01. *** p < .001.
Hypothesis 9

The next set of four regressions for Hypotheses 9 through 12 explored the prediction of Time 2 symptoms after accounting for baseline symptoms by entering Time 1 symptoms first to create a residual change score. It should be noted that social anxiety symptoms at Time 1 and Time 2 are highly correlated and therefore results for Hypotheses 9 and 10 should be interpreted with caution due to possible multicollinearity. The current regression examined changes in social anxiety symptoms with romantic relationship qualities. To assess the prediction that the associations between RS and relative changes in social anxiety symptoms would be stronger for females, compared to males reporting higher levels of negative interactions with partners and lower levels of partner support, a hierarchical multiple regression was run with predictors of RS, support and negative interactions with romantic partners, and gender, as well as interactions between these variables in Models 3 and 4. See Table 15 for full details on each regression model. The model with the predictors of RS, support and negative interactions in romantic relationships, and gender predicting social anxiety symptoms at Time 2 after accounting for Time 1 symptoms (Model 2) was statistically significant, $R^2 = .66$, $F(4, 191) = 73.57$, $p < .001$. This model accounted for 2.4% increase in Time 2 social anxiety symptoms, $\Delta R^2 = .024$, $\Delta F(4, 191) = 3.42$, $p = .01$, after entering Time 1 symptoms as a predictor (Model 1; $\beta = .80$, $p < .001$).

Due to the lack of significant change in $R^2$ for the subsequent models and non-significant interaction terms, the two primary hypotheses were not supported. Specifically, the addition of two-way interaction terms to the prediction of Time 2 social anxiety symptoms (Model 3) did not result in a statistically significant increase in variance explained, $\Delta R^2 = .01$, $\Delta F(6, 185) = .51$, $p = .81$, ns. The addition of three-way interaction terms (Model 4) also did not result in a statistically significant increase in variance explained, $\Delta R^2 = .01$, $\Delta F(3, 182) = .40$, $p = .75$, ns.
Therefore, the prediction that the associations between RS and increases in social anxiety symptoms is stronger for females, compared to males, reporting higher levels of negative interactions with partners (Hypothesis 9a) and lower levels of partner support (Hypothesis 9b) was not supported as the three-way interaction terms were non-significant and did not significantly increase the amount of variance explained in predicting social anxiety symptoms at Time 2 after accounting for baseline symptoms in Model 4.

In the primary model (Model 2), there was a main effect of RS in predicting changes in social anxiety symptoms ($\beta=.13, p=.02$), with higher levels of RS predicting greater increases in social anxiety symptoms, as anticipated. There was also a main effect of romantic relationship support ($\beta=.12, p=.008$), with higher levels of social support with romantic partners predicting greater increases in social anxiety symptoms.

In Model 2, given that there was not a significant interaction effect of RS and gender, there was no support suggesting that the positive association between RS and changes in symptoms of social anxiety is significantly stronger for females compared to males. Furthermore, there was no evidence to suggest that RS is more strongly associated with increases in social anxiety symptoms for adolescents reporting higher levels of negative interactions with partners and lower levels of partner support, as these interaction terms were non-significant and did not significantly improve the prediction Time 2 social anxiety symptoms after accounting for baseline symptoms.
Table 15
Hierarchical Regression Analysis Predicting Changes in Social Anxiety with Partners

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\[
R^2 \quad .63 \quad .66 \quad .66 \quad .67
\]

\[
F \quad 337.46*** \quad 73.57*** \quad 33.20*** \quad 25.92***
\]

\[
\Delta R^2 \quad .02 \quad .01 \quad <.01
\]

\[
\Delta F \quad 3.42* \quad .51 \quad .40
\]

*Note. All predictor variables are centered and interaction terms created with centered variables.

*p < .05. **p < .01. *** p < .001.
Hypothesis 10

The same hierarchical regression for Hypothesis 9 was repeated with friendship quality variables to explore the prediction that the associations between RS and social anxiety at Time 2 after accounting for baseline symptoms would be stronger for females, compared to males, reporting higher levels of negative interactions and lower levels of support with friends. See Table 16 for full details on each regression model. The first complete model with the predictors of RS, support and negative interactions in romantic relationships, and gender predicting social anxiety symptoms at Time 2 after accounting for Time 1 symptoms (Model 2) was statistically significant, $R^2 = .65$, $F(4, 191) = 69.48$, $p < .001$. However, this model did not significantly increase the prediction of variance in Time 2 social anxiety symptoms beyond baseline symptoms, $\Delta R^2 = .01$, $\Delta F(4, 191) = 1.54$, $p = .91$, after entering Time 1 symptoms as a predictor (Model 1; $\beta = .80$, $p < .001$). The addition of two-way and three-way interaction terms also did not result in a statistically significant increase in variance explained, for Model 3, $\Delta R^2 = .01$, $\Delta F(6, 185) = 1.09$, $p = .37$, ns, and Model 4, $\Delta R^2 = <.01$, $\Delta F(3, 182) = .48$, $p = .70$, ns.

Due to the lack of significant change in $R^2$ for models with the primary predictor variables in Models 2, 3, and 4, no hypotheses were supported. RS and the other principal study variables did not improve the prediction of Time 2 symptoms beyond the initial predictor of social anxiety symptoms at Time 1. Therefore, the prediction that the associations between RS and increases in social anxiety symptoms is stronger for females, compared to males, reporting higher levels of negative interactions with friends (Hypothesis 10a) and lower levels of support (Hypothesis 10b) was not supported as the three-way interaction terms were non-significant and did not increase the variance explained in Model 4.
Additionally, there was no main effect of RS, indicating that there was no evidence that higher levels of RS predicted increases in social anxiety symptoms over time. Likewise, there was no support for the expectation that the positive association between RS and increases in symptoms of social anxiety is significantly stronger for females compared to males because there was no significant interaction effect between RS and gender. However, there was a significant interaction effect between RS and negative interactions in friendships in Model 3. Nevertheless, this interaction term did not significantly improve the prediction of Time 2 social anxiety symptoms after accounting for baseline symptoms. Therefore, there was no evidence to indicate that RS is more strongly associated with increases in symptoms of social anxiety for adolescents reporting lower levels of friend support or higher levels of negative interactions with friends.

For exploratory purposes the interaction between RS and negative interactions with friends was further examined with simple slopes analyses (Aiken & West, 1991; see Figure 8). When conditioned at low negative interactions with 1 standard deviation below the mean on negative interactions with friends, RS had a significant positive linear relationship with changes in social anxiety symptoms, $\beta=.17$, $t (185) = 2.32$, $p = .02$, $r^2=.01$, whereas when conditioned at high negative interactions with 1 standard deviation above the mean on negative interactions with friends, RS was not significantly related to changes in social anxiety symptoms over time, $\beta=-.03$, $t (185) = -.34$, $p = .74$. Thus, higher levels of RS may be more strongly associated with increases in social anxiety over time for adolescents reporting lower levels of negative interactions with friends.
Figure 8
RS and Negative Interaction with Friends Predicting Changes in Social Anxiety

Note. High and low variables were defined as +1 and -1 standard deviations from the mean respectively.
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*Note. All predictor variables are centered and interaction terms created with centered variables.

*p < .05. **p < .01. *** p < .001.
**Hypothesis 11**

To examine hypotheses for changes in symptoms of depression over time, a similar pair of hierarchical regressions from Hypothesis 9 and 10 was conducted. First, a hierarchical regression was conducted with romantic relationship quality variables to explore the prediction that the associations between RS and depression at Time 2 after accounting for baseline symptoms would be stronger for females, compared to males, reporting higher levels of negative interactions and lower levels of support with partners. See Table 17 for full details on each regression model.

The first complete model with the predictors of RS, support and negative interactions in romantic relationships, and gender predicting depressive symptoms at Time 2 after accounting for Time 1 symptoms (Model 2) was statistically significant, $R^2 = .52$, $F(4, 191) = 41.33$, $p<.001$. However, this model did not significantly increase the prediction of Time 2 depressive symptoms beyond baseline symptoms at Time 1, $\Delta R^2 = .02$, $\Delta F(4, 191) = 1.95$, $p = .11$, after entering Time 1 symptoms as a predictor (Model 1; $\beta$=.71, $p<.001$). Likewise, the addition of two-way and three-way interaction terms did not result in a statistically significant increase in variance explained, for Model 3, $\Delta R^2 = .013$, $\Delta F(6, 185) = .86$, $p = .53$, ns, and Model 4, $\Delta R^2 = <.01$, $\Delta F(3, 182) = .13$, $p = .94$, ns. Due to the lack of significant interaction effects and no significant change in $R^2$, Hypotheses 11a and 11b were not supported. Specifically, the prediction that the association between RS and symptoms of depression at Time 2 beyond baseline symptoms is stronger for females, compared to males, reporting higher levels of negative interactions with partners (Hypothesis 11a) and lower levels of support (Hypothesis 11b) was not supported as there was no significant three-way interaction, and these terms did not increase the variance explained in depressive symptoms at Time 2 in Model 4.
Furthermore, there were no main effects. Thus, there was no evidence to indicate that RS predicted relative increases in depressive symptoms over time. Additionally, no significant interaction effect was found between RS and gender. Therefore, there was no support indicating that the positive association between RS and changes in symptoms of depression is significantly stronger for females compared to males. Moreover, there was no significant interaction effect between RS and relationship qualities to support the expectation that RS is more strongly associated with increased symptoms of depression for adolescents reporting higher levels of negative interactions with partners or lower levels of partner support.
Table 17
Hierarchical Regression Analysis Predicting Changes in Depression with Partners

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$R^2$ .50 .52 .53 .53
$F$ 195.08*** 41.33*** 19.17*** 14.88***
$\Delta R^2$ .02 .01 <.01 <.01
$\Delta F$ 1.94 .86 .13

Note. All predictor variables are centered and interaction terms created with centered variables.

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

143
Hypothesis 12

A final hierarchical regression was conducted with friendship quality variables to explore the prediction that the associations between RS and depression at Time 2 after accounting for baseline symptoms, would be stronger for females, compared to males, reporting higher levels of negative interactions and lower levels of support with friends. See Table 18 for full details on each regression model.

The first complete model with the predictors of RS, support and negative interactions in friendships, and gender (Model 2) was statistically significant, $R^2 = .51$, $F(4, 191) = 39.23$, $p<.001$, but did not result in a statistically significant increase in variance explained beyond the initial predictor of baseline depressive symptoms (Model 1: $\beta = .71$, $p<.001$), $\Delta R^2 = .01$, $\Delta F(4, 191) = .63$, $p = .64$. Notably, the addition of two-way interaction terms (Model 3) resulted in a statistically significant increase in $4\%$ of variance explained $\Delta R^2 = .03$, $\Delta F(6, 185) = 2.27$, $p = .04$. Finally, the addition of three-way interaction terms (Model 4) did not result in a statistically significant increase in variance explained in Model 4, $\Delta R^2 = .01$, $\Delta F(3, 182) = 1.11$, $p = .35$, ns. Additionally, there were no significant interaction effects between RS, friendship qualities, and gender. Therefore, the primary hypotheses were not supported. Specifically, the prediction that the associations between RS and symptoms of depression at Time 2 beyond baseline symptoms are stronger for females, compared to males, reporting higher levels of negative interactions with friends (Hypothesis 12a) and lower levels of support (Hypothesis 12b) was not supported as the three-way interaction terms were non-significant and did not significantly increase the amount of variance explained in Model 4.

In Model 3, significant interaction effects were identified between RS and negative interactions with friends ($\beta = .11$, $p = .04$, $sr^2 = .01$) and between negative interactions with friends
and gender ($\beta=-.20$, $p=.01$, $sr^2=.02$), which resulted in a significant increase in the variance explained in residual changes in depressive symptoms over time. Overall, there was no significant interaction found between RS and gender, indicating that there is no support for the expectation that the positive association between RS and changes in symptoms of depression is significantly stronger for females compared to males. The interaction between RS and negative interactions with friends was explored with simple slopes analyses (Aiken & West, 1991; see Figure 9). When conditioned at high negative interactions with 1 standard deviation above the mean on negative interactions with friends, RS had a significant positive linear relationship with increases in depressive symptoms over time, $\beta=.23$, $t (185) = 2.33$, $p = .02.$, $sr^2=.01$, whereas when conditioned at low negative interactions with 1 standard deviation below the mean on negative interactions, level of RS was not significantly related to changes in depressive symptoms over time, $\beta<.01$, $t (185) = .07$, $p = .94$. Thus, there is evidence that RS is more strongly associated with increases in depression for adolescents reporting higher levels of negative interactions with friends. This interaction effect with friendship qualities was specific to negative relationship quality as there was no significant interaction between RS and support with friends. Therefore, there was no evidence indicating that RS is more strongly associated with increases in depression for adolescents reporting lower levels of partner support.
RS and Negative Interactions with Friends Predicting Changes in Depression

Note. High and low variables were defined as +1 and -1 standard deviations from the mean respectively.

Simple slopes analyses exploring the interaction between negative interactions with friends and gender revealed that there was a significant linear relationship between negative interactions with friends and changes in depressive symptoms for females, \((\beta=.19, t (186) = 2.42, p < .05., sr^2=.01)\), but not males \((\beta=.04, t (186) = -1.36, p = .18)\). See Figure 10. Females in friendships with higher levels of negative interactions had greater increases in depression symptoms over time whereas negative interactions in friendships did not have a significant influence in changes in depressive symptoms for males.
Furthermore, in Model 4 there was an additional significant interaction between both relationship quality variables (\(sr^2 = .01\)). However, this interaction did not significantly improve the prediction of Time 2 depressive symptoms beyond baseline symptoms and other preliminary predictors in Model 3. For exploratory purposes, the interaction between the friendship quality variables was explored with simple slopes analyses (Aiken & West, 1991; see Figure 11). When conditioned at low support with 1 standard deviation below the mean on support with friends, there was a significant positive linear relationship between negative interactions and increase in depressive symptoms, \(\beta = .30, t (185) = 2.46, p < .02, sr^2 = .02\), whereas when conditioned at high support with 1 standard deviation above the mean on support with friends, negative interactions was not significantly related to changes in depressive symptoms, \(\beta = .09, t (185) = 1.29, p = .20\).
Figure 11
Friendship Qualities Predicting Changes in Depression

Note. High and low variables were defined as +1 and -1 standard deviations from the mean respectively.
Table 18

Hierarchical Regression Analysis Predicting Changes in Depression with Friends

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
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*Note. All predictor variables are centered and interaction terms created with centered variables.

*\( p < .05 \). **\( p < .01 \). ***\( p < .001 \).
CHAPTER VIII
DISCUSSION

Rejection sensitive (RS) individuals are particularly prone to experience negative psychological adjustment with elevated symptoms of depression and social anxiety. However, little is known about interpersonal factors that may contribute to this association, particularly for late adolescents. The present study examined relationship qualities of support and negative interactions with romantic partners and friends as moderators of the link between RS and internalizing symptoms. Given the differences between male and female social relationships and experiences, these associations were expected to be further moderated by gender with RS females being at particular risk for poor adjustment outcomes. This short-term longitudinal investigation evaluated these associations concurrently and longitudinally to assess for changes in symptoms over time with close temporal proximity to the current relationship context.

In this chapter, first, the ways in which the results of the current study replicate findings of previous investigations are presented and discussed. Then, the results of the primary hypotheses examining the proposed model are presented with consideration of limitations that might have contributed to the general lack of significant findings. Next, the results of significant moderation with negative friendship quality and the preliminary findings about other probable moderators are discussed. Finally, limitations of the current study are described, directions for future research are suggested, and implications for intervention are considered.

Replication of Links between RS and Internalizing Symptoms

Substantial research has found consistent links across the lifespan between RS and poor adjustment, including anxiety, social anxiety, depression, and loneliness (e.g., London et al., 2007; McDonald et al., 2010). One goal of the present study was to replicate previous research
findings regarding the associations between RS and increases in two of the most prominent internalizing symptoms, social anxiety and depression. The current investigation also aimed to extend previous findings by examining positive and negative relationship qualities and gender as moderators of the associations between RS and adjustment outcomes. Consistent with the extant literature, findings partially fulfilled these aims by providing further evidence of the link between RS and symptom of depression and social anxiety. In fact, RS was positively correlated with symptoms of both social anxiety and depression at baseline and 2-month follow-up, and RS emerged as a significant predictor of symptoms in all of the assessed models with the exception of some regression models measuring changes in symptoms over time. The challenges with such models assessing changes in symptoms are discussed in a later section regarding the limitations of this study. Overall, these results provide valuable information extending the RS literature as the first investigation concurrently examining links with symptoms of social anxiety and depression in the late-adolescent period.

Several factors are likely to contribute to this link between RS and internalizing symptoms, particularly in late adolescence. During this period, youth are developing closer and more intimate connections with peers, including the initiation of dating experiences for the first time (Bukowski & Sippola, 2005; Carver et al., 2003; Collins, 2003). Friendships and dating relationships in this period may involve more autonomy and voluntary selection in relationship initiation compared to earlier relationships in childhood, where factors such as proximity (e.g., shared classrooms) and parental influence may contribute more to friendship selection and maintenance. As the quality of peer relationships expands to include greater closeness, personal disclosure, and intimacy, adolescents are also developing more advanced beliefs or schemas regarding expectations of others and deriving meaning about the self and identity from these
relationships (Bukowski & Sippola, 2005). For RS youth, the development of healthy and adaptive relationship schemas and expectations is likely disrupted. The Cognitive-Affective Processing System (CAPS) framework suggests that RS individuals are particularly prone to anticipate rejection, thereby making them more apt to perceive and respond to cues as rejecting (Mischel & Shoda, 1995; Romero-Canyas et al., 2010). Therefore, RS youth are likely more prone to experience symptoms of depression and develop symptoms over time in response to repeated perceptions of rejection experiences with close others. Likewise, RS individuals may approach social encounters and relationships hesitantly as these relationships are perceived to be potentially threatening with high anticipation for rejection, making RS individuals prone to experience higher symptoms of social anxiety. As expected, RS consistently predicted internalizing symptoms concurrently as well as two months later. RS adolescents experiencing current symptoms of social anxiety or depression are likely to have sustained or increased internalizing symptoms across time as they accumulate more perceptions of or actual negative relationship experiences. Overall, these results indicate that RS is an important factor to consider in the development and maintenance of internalizing symptoms and may provide a valuable target for prevention efforts and therapeutic intervention to reduce risk and promote resiliency in adolescence.

Additionally, findings further supported expected patterns with gender differences, in which females experienced greater symptoms of social anxiety and depression at both baseline and follow-up two months later. However, gender did not emerge as a consistent predictor either in isolation or in combination with other variables when assessing changes in symptoms over time. This is relatively unsurprising in the context of overall limited findings related to increases in symptoms over time. It is likely that symptoms of social anxiety and depression demonstrated
minimal change across the two-month period, leaving little variance available for gender
difference to account for.

Furthermore, with regard to relationship qualities with romantic partners and friends,
general patterns emerged across the assessed models in which higher negative qualities in both
relationships predicted higher levels of depressive symptoms at Time 1. Inconsistent with
expectations, for social anxiety findings indicated that higher levels of social support with
romantic partners, rather than lower levels, predicted greater social anxiety symptoms at both
time points. It is likely that individuals with a high degree of social anxiety require a substantial
amount of support from partners and may be more likely to solicit excessive support within these
relationships. Committed romantic relationships may be a particularly secure context for socially
anxious individuals to receive support to compensate for social fears elicited in other
relationships that are perceived as more tenuous. Additionally, other studies in the literature have
uncovered surprising information about the behavior and perceptions of socially anxious
individuals in romantic relationships. For example, in an observational study, socially anxious
women demonstrated more negative behavior with their romantic partners than less anxious
women, but only in relationships with high satisfaction (Beck et al., 2006). Thus, socially
anxious women appear to feel more comfortable behaving negatively when they are in secure
relationships. Similarly, the present results may suggest that within an established romantic
relationship (i.e., mean length one year), socially anxious individuals become more dependent on
romantic partners for social support. Likewise, one study found that socially anxious individuals
tend to have enhanced perceptions of their romantic partners’ value when immediate threats of
rejection are not present (Afram & Kashdan, 2015). Therefore, it is possible that socially anxious
individuals may seek to maximize their feelings of connectedness by either eliciting or perceiving higher degrees of partner support in romantic relationships. However, basic patterns of associations between internalizing symptoms and both gender and relationship qualities are not indicative of important links related to the context of RS. Overall, these associations did not consistently carry forward with evidence of significant moderation in the association between RS and internalizing symptoms. Findings about these variables as moderators are presented and discussed in the following sections with consideration of reasons for the limited evidence of significant moderation.

Proposed Model

Despite a valuable contribution to the literature regarding further evidence of associations between RS and both social anxiety and depressive symptoms in late adolescence, the primary hypotheses of the present study evaluating the proposed moderated moderation model with relationship qualities and gender were largely not supported due to the lack of statistically significant findings. Across all examined models, only a singular regression model (i.e., Model for Hypothesis 12) assessing significant changes in depression symptoms over time was found to significantly improve the prediction of symptoms and show evidence of significant moderation with a two-way interaction. Specifically, RS had a positive association with increases in depressive symptoms over time in the context of friendships marked by high, but not low, negative interactions. This finding will be further discussed in the following section. All of the other examined regression models did not significantly improve the prediction of symptoms with the addition of interaction terms to indicate significant moderation. Despite the lack of significant improvements to the model, patterns emerged across models with significant interactions between variables that were consistent with the hypothesized moderated moderation
model. Collectively, these interactions provide initial support to suggest that the association between RS and maladjustment may be strongest for females with poorer relationship quality.

Specifically, despite lack of overall statistical significance, the model predicting Time 2 depressive symptoms within friendships (i.e., Hypothesis 8) found a significant 3-way interaction between RS, negative interactions, and gender, which provides preliminary evidence of the proposed moderated moderation model. These preliminary findings are consistent with predictions that highly rejection sensitive (HRS) females are particularly at risk for increased depressive symptoms, especially under circumstances in which they have more negative interactions with close friends. Additionally, when assessing the model solely with single moderators (i.e., two-way interactions), there was evidence of trending statistical significance for the overall model, providing further support for the importance of future replication efforts.

As was hypothesized, investigation of these preliminary results suggest that the link between RS and Time 2 depressive symptoms was strongest for females with high negative interactions with friends, as compared to females with low levels of negative interactions with friends or to males regardless of negative friendship qualities. For males, it appears that negative interactions with friends may not influence the association between RS and depressive symptoms. Relationship experiences differ for males and females during adolescence and have discrepant influences on emotional adjustment, with females being more affected (Rose & Rudolph, 2006). Females tend to derive more of their self-worth from their relationship experiences, compared to males who tend to be less interpersonally-oriented and engage in more group-based social activities (Kuttler, La Greca, & Prinstein, 1999). Therefore, the present findings are consistent with the literature indicating that females are more prone to negative adjustment as a result of negative friendship experiences than males.
Furthermore, negative friendship qualities appear more influential than positive qualities, such as support, in the prediction of Time 2 depressive symptoms. These findings are consistent with a recent meta-analysis identifying this same pattern with childhood and mid-adolescent friendships qualities and depressive symptoms (Schwartz-Mette, Shankman, Dueweke, Borowski, & Rose, 2020). Though both positive and negative friendship qualities demonstrated consistent associations with depressive symptoms concurrently and longitudinally, negative friendship quality was more strongly associated with depressive symptoms than positive friendship quality. Extending these meta-analytic findings, the present study suggests further interactions with RS, in which HRS females with more negative friendship experiences may be particularly prone to depression.

Overall, these findings provide meaningful preliminary support for the model indicating that future research is warranted to replicate this interaction across larger samples. The results of significant interactions between RS and the moderating variables coupled with a lack of significant improvement to the model suggest problems related to lack of power to detect a significant effect. Combined with the possibility of a smaller than anticipated effect size, lack of adequate power may be particularly likely due to the numerous predictors in the model. Consequently, at present, the current results should be interpreted with caution. An additional notable limitation urging such caution is the lack of consistency in findings across the prediction of symptoms at baseline, follow-up, and for changes over time.

The lack of significant findings is especially surprising when assessing the proposed model concurrently at Time 1 or longitudinally at Time 2 as symptom levels were within expected ranges for maladjustment in college samples. However, the limited changes in symptoms over the 2-month period likely explain the lack of findings in models assessing
changes across time. Consistent with expectations for a student sample, participants reported subthreshold symptoms of social anxiety and depression on average. The average BDI-II scores at both time points fell in the minimal range, indicating symptoms beneath clinical or diagnostic elevations. Likewise, average social anxiety symptoms were beneath levels considered to be clinically significant (50 or higher) and were just slightly higher than what has been observed in similar college samples (Storch et al., 2005). This indicates that symptom levels were consistent with college-age samples suggesting that results are likely comparable with the existing literature.

**Negative Friendship Interactions as a Significant Moderator for RS and Depression**

Most notably, the primary significant result of the present study with Hypothesis 12 indicated that negative interactions with friends emerged as a significant moderator of the association between RS and changes in depressive symptoms over time. Consistent with a similar pattern of trending results from Hypothesis 8 assessing Time 2 depressive symptoms, the positive association between RS and depressive symptoms was significant only among adolescents experiencing high negative interactions with friends. When close friendships were characterized by lower levels of negative interactions, the association between RS and changes in depressive symptoms was no longer present. Therefore, high negative interactions with close same-gender friends appear to be associated with significant increases in depressive symptoms over time, suggesting that friendship conditions are related to the development or emergence of new symptoms across a short time period. Consistent with the literature (e.g., La Greca & Harrison, 2005; Schwartz-Mette et al., 2020), findings indicate that negative friendship interactions are especially impactful on psychological adjustment compared to positive interactions such as support.
In contrast to previous longitudinal findings regarding peer support in earlier adolescence, the present study obtained evidence of moderating effects for only negative interactions and not support. Chango and colleagues (2012) found that the interaction between RS and close interpersonal peer support at age 16 predicted prospective increases in depressive symptoms across two years. However, this study assessed only support rather than considering both positive and negative friendship qualities and used observational methods, which differ from the self-report methods in the present study that are likely to involve more subjective perceptions of the relationship. In contrast to these previous findings with positive friendship quality, negative interactions emerged as the significant moderator. The present findings may indicate that when assessing both positive and negative friendship qualities, peer conflict has more influence in adjustment symptoms over time. While Chango et al. (2012) predicted changes across a long timeframe of two years, the present study demonstrated predictive associations with changes in symptoms of depression in a short-term period in closer proximity to the current relationship functioning. Overall, these results contribute to the RS literature by indicating that RS individuals in highly conflictual friendships are at greater risk of developing depressive symptoms over a short timeframe and that support may ultimately be less influential in adjustment during this stage of development.

Additionally, a second significant interaction between negative friendship interactions and gender was identified in the prediction of changes in depressive symptoms suggesting significant moderation with gender. The positive link between negative friendship quality and increases in depressive symptoms was present only for females, and not males. This secondary moderation is consistent with expected patterns in the literature, in which females are most at risk for the development of internalizing symptoms of both depression and social anxiety.
(Merikangas et al., 2010; Schneier et al., 1992; Thapar et al., 2012). In addition to overall greater risk for emotional maladjustment, females are more strongly affected by their relationship experiences than males (Rose & Rudolph, 2006). Males may have less personal disclosure and emotional intimacy or closeness with best friends and instead may share time in mutual activities or social experiences in larger groups. The combination of these two factors likely makes female adolescents particularly prone to internalizing symptoms when faced with negative interpersonal experiences with close friends, whereas males are less likely to develop adjustment problems overall and be less influenced by negative peer interactions.

These results regarding friendships and the prediction of changes in depression over time were not identified or replicated across relationship types with adolescent romantic partners (i.e., Hypothesis 11). While negative interactions with friends was a significant mediator of the link between RS and changes in depressive symptoms, negative relationship quality with romantic partners was neither a mediator nor a significant predictor of changes in depressive symptoms over time. It is possible that romantic relationships’ composition and quality may be inherently different compared to friendships, which may account for this null result. Of note, relationships with romantic partners were significantly briefer than with friends, though the overall length of romantic relationships was generally within the expected length for this developmental period (Carver et al., 2003; Collins, 2003). Considering that the sample was predominantly comprised of first-year students, it is possible that many participants initiated their dating relationship within college, whereas a notable portion of participants reported best friendships dating back to earlier childhood. These differences in duration are likely to contribute to varied levels of relationship quality, including negative interactions or conflict. The literature has demonstrated that longer adolescent romantic relationships are more supportive than shorter relationships, but
that with increasing length, these relationships also become more turbulent with higher levels of conflict (Lantagne & Furman, 2017). It is possible that other factors (e.g., expectations of physical intimacy or affection) may contribute to differences between these relationship types. Ultimately, the present study is the first to examine these associations across relationship types in late adolescence, requiring further research to adequately understand the complexities of relationship differences in the associations between RS and internalizing symptoms.

**Exploratory Moderators for RS and Internalizing Symptoms**

Despite limited evidence of significant moderation, additional interactions were found across the assessed models, which provide important preliminary indication of moderation and valuable evidence urging future replication. In addition to significant moderation identified for changes in depressive symptoms over time, similar patterns regarding negative friendship interactions were found for social anxiety. Consistent with significant and trending findings related to negative friendship interactions moderating the link between RS and depressive symptoms (i.e., findings for Hypotheses 8 and 12 discussed above), significant interactions were identified between RS and negative interactions with friends in the prediction of social anxiety symptoms at follow-up (i.e., Models for Hypothesis 6) and for changes in symptoms over time (i.e., Models for Hypothesis 10). Though these interactions did not significantly improve the models, possibly due to lack of adequate power to identify such effects, these preliminary results suggest possible moderation and provide valuable evidence indicating that replication in future research is warranted. Findings specifically suggest that HRS individuals who experience fewer negative interactions with best friends may experience higher levels of social anxiety symptoms or greater increases in symptoms over time compared to low RS peers. These preliminary results suggest that highly conflictual friendships may be associated with relatively high levels of social
anxiety symptoms regardless of RS, whereas when friendships have more limited negative interactions, HRS individuals are nevertheless still more prone to experience symptoms of social anxiety. Despite having friendships with limited negative interactions, HRS individuals’ tendency to perceive others’ behavior as rejecting may make them especially susceptible to social fears compared to LRS individuals with similarly low-conflict friendships. These results may also be reflective of behaviors identified by Hafen and colleagues (2014) in romantic relationships in which rejection sensitive females adopt a submissive pattern of behavior by engaging in “self-silencing” as a strategy to prevent discord in response to increasing concern about rejection. Though this pattern has only yet been identified in romantic relationships, it is likely that HRS individuals may adopt this pattern of behavior across relationships. In fact, in a younger sample of middle school students, London and colleagues (2007) found that RS predicted increased withdrawal from peers, as well as social anxiety. Such a persistent pattern of self-silencing may be indicative of increased social anxiety symptoms and contribute to greater development of symptoms over time.

Additional significant interactions were identified between both positive and negative relationship qualities. Despite lack of overall improvement in the prediction of symptoms, exploration of these results provides preliminary evidence that support may buffer the negative impacts of high levels of conflict, which may be the most likely contributor to risk for internalizing symptoms among RS individuals. For example, a significant interaction between RS, support, and negative interactions with partners was identified in the prediction of Time 2 depressive symptoms in romantic relationships (i.e., Models for Hypothesis 7). Exploration of this interaction suggested that romantic relationships marked by high levels of both positive and negative qualities did not demonstrate an association between RS and depressive symptoms at
Time 2. Alternatively, romantic relationships characterized by all of the other combinations of qualities (i.e., low support with low conflict, low support with high conflict, and high support with low conflict) were associated with a significant positive link between RS and symptoms of depression at follow-up. Therefore, it is possible that RS individuals in highly supportive romantic relationships may be protected from a high degree of negative interactions that may otherwise be associated with poor emotional adjustment such as depression. With more support from romantic partners, HRS individuals may experience levels of depressive symptoms more consistent with levels experienced by low RS individuals. Similar to previous RS literature that has identified friendship support as a protective factor for RS youth in the development of social anxiety and depression (i.e., McDonald et al., 2010), these results provide initial support to further explore the possibility that social support with romantic partners may buffer the effects of high negative interactions. However, other preliminary findings may not support such an interpretation. For example, romantic relationships marked by high degrees of support and low negative interactions demonstrated a positive association between RS and depressive symptoms at follow-up. This suggests that high support may not protect RS youth from depressive symptoms when there are low negative interactions with partners. Ultimately, current preliminary evidence appears mixed regarding the possible protective effects of support for RS individuals. It should also be noted, like all results of the present study, that these patterns were not replicated when predicting Time 1 symptoms.

Similar patterns of interactions between positive and negative qualities were identified within friendships. These interactions were found in the prediction of depressive symptoms at Time 2 (i.e., Models for Hypothesis 8) and increases in symptoms of depression over time (i.e., Models for Hypothesis 12), despite lack of improvement to the overall models. In contrast to the
previously discussed interaction between both romantic relationship qualities, this interaction did not include RS. Exploratory probing of these interactions suggested that individuals with friendships marked by lower levels of support experience increasing depressive symptoms as negative interactions increase. However, for individuals with friendships marked by higher levels of support, there was no link between negative friendship interactions and depressive symptoms. Therefore, preliminary results suggest that support from friends may serve to protect adolescents from the effects of negative interactions resulting in increased depressive symptoms. This is consistent with the literature, which has long established friend support as a protective factor from internalizing symptoms (e.g., La Greca & Harrison, 2005). It should be noted that these exploratory findings are not related specifically to rejection sensitivity. However, exploratory findings collectively suggest that negative interactions both with friends and romantic partners appear to increase risk for internalizing symptoms and that risk may be especially high for RS individuals. Further research is needed to confirm these preliminary findings and better understand the role of support, which may possibly buffer this effect.

**Measurement Considerations**

Past studies have provided consistent evidence of associations between relationship qualities and social anxiety and depression in both romantic relationship and friendships. For example, negative relationship quality while dating during mid- and late-adolescence has been associated with increased depressive symptoms (La Greca & Harrison, 2005; Marchand-Reilly, 2012). Additionally, lower social support with friends in mid-adolescence and lower support from college-aged romantic partners has been associated with increased social anxiety symptoms overall (La Greca & Lopez, 1998; Porter & Chambless, 2014). Ultimately, though associations were in the expected direction consistent with previous research, the present study found few
significant associations between relationship qualities and the other primary study variables (see Table 4). Specifically, the positive and negative subscales of the Network of Relationships Inventory – Social Provisions Version (NRI-SPV; Furman & Buhrmester, 1985) had few associations with adjustment in romantic relationships and an isolated association within friendships. Notably, the identified associations were limited to negative qualities. Specifically, negative interactions with romantic partners and friends had small positive associations with depressive symptoms at Time 1, but not Time 2. For social anxiety, only negative interactions with friends had a significant positive association with social anxiety symptoms at Time 2, but not Time 1. It is possible that the more limited main effects and interactions of RS with relationship qualities may be measurement-related, as expectations consistent with the literature were only partially replicated.

Though the literature has found consistent evidence of associations between relationship variables and adjustment, studies have used varied measurement methods, such as friendship nominations in peer relationships rather than self-report questionnaires. For romantic relationships, the RS literature has often assessed quality though other methodologies, such as observational methods and daily diary monitoring (e.g., Downey, Frietas, et al., 1998; Hafen et al., 2014). For example, Downey, Frietas, and colleagues (1998) assessed quality using the Marital Interaction Coding System – IV (MICS – IV; Weiss & Summers, 1983), an observational coding system, as well as daily diary reports of conflict rather than retrospective, subjective reporting with self-report. A similar observational coding system in the Hafen et al. (2014) study, adapted from an original system designed by Grotevant and Cooper (1985), was unique in comparison to the NRI as it had greater consideration for negative displays of autonomy, such as demonstrating hostile withdrawal in relationships. It is possible that observable behavioral
responses are more informative and influential factors predicting adjustment. Perceptions of quality assessed through self-report may be more prone to biased perceptions in a similar process to the CAPS framework in RS.

**Gender**

One of the primary aims of the present investigation was to further elucidate possible differences related to gender, particularly regarding RS and internalizing symptoms. However, across all models there was limited evidence of any moderating effects of gender. In addition to the two previously discussed interactions with gender for symptoms of depression, only one other preliminary interaction was found for symptoms of social anxiety. Previously discussed evidence of moderation with gender includes the preliminary result consistent with the hypothesized model (i.e., Model for Hypothesis 8; see Proposed Model section) in which HRS females with highly conflictual friendship appeared particularly at risk for symptoms of depression at follow-up, and the primary significant finding in which females, but not males, had a significant positive association between negative friendship interactions and increases in symptoms of depression across time (i.e., Model for Hypothesis 12; see Negative Friendship Interactions as a Significant Moderator for RS and Depression). For symptoms of social anxiety, despite a lack of overall improvement in the prediction of social anxiety symptoms at follow-up (i.e., Models for Hypothesis 6), the interaction between RS and gender suggested different patterns with gender than in depression. Inconsistent with expectations, compared to females, males reported greater increases in Time 2 social anxiety symptoms with increasing levels of RS. Though males and females both demonstrated positive associations with RS and symptoms of social anxiety at follow-up, this relationship was particularly strong for males. This is consistent with findings from an investigation by Bowker and colleagues (2011), in which RS was more
strongly associated with symptoms of social anxiety for males than females in early-adolescence.

It is possible that females may experience higher levels of social anxiety overall regardless of RS, and that HRS males exhibit relatively greater elevations in social anxiety symptoms compared to their low RS counterparts. Other factors such as females having higher rates of social anxiety overall and being more affected by their relationship experiences may contribute more to social anxiety symptoms than RS, which may be more influential for males.

**Summary**

Overall, the present study suggests that negative, rather than positive, relationship qualities appear to be most influential, and that HRS individuals with more negative friendship experiences are at greater risk for depressive symptoms and increases in symptoms over time. This same pattern was found in a meta-analysis with relationship qualities in childhood and mid-adolescent friendships, in which negative friendship quality was more strongly associated with depressive symptoms than positive friendship quality (Schwartz-Mette et al., 2020). The present study suggests further interactions with RS, in which HRS individuals with more negative friendship experiences may be particularly prone to depression. Furthermore, some results suggest the possibility that social support may play a protective role for these individuals in which perceptions of high support may buffer RS individuals from developing internalizing symptoms over time. Though preliminary, results for symptoms of social anxiety suggest that HRS individuals are at greater risk of developing social anxiety symptoms in friendships with lower negative interactions. It appears that adolescents with friendships characterized by high levels of negative interactions are likely to experience symptoms of social anxiety regardless of RS. Furthermore, for gender, it appears the HRS females are at greatest risk for depressive
symptoms when their friendships are highly conflictual and that, consistent with Bowker and colleagues (2011), HRS males may be at greatest risk for social anxiety.

**Limitations**

Although the results of this study replicated some key findings regarding the link between RS and internalizing symptoms and indicated that negative relationship qualities are an especially important contextual variable contributing to this association, there were a variety of factors that limited this investigation. Several primary limitations are related to the demographics and responsiveness of the sample. The large sample of over 400 college students consisted predominantly of White students in their first year, highlighting a homogeneous sample with limited diversity. Despite an initial large sample at baseline assessment, just under half of the sample completed the follow-up survey, resulting in nearly double the anticipated attrition rate. Therefore, data collection was extended to a second semester to reach the minimum number of participants to examine Time 2 hypotheses. The returning sample of participants reported slightly higher levels of support in their romantic relationships and friendships compared to students who did not return to participate in the follow-up survey. The two groups did not differ significantly in terms of adjustment, RS, or relationship length. Future research may consider that adolescents with higher relationship support are more likely to return. Due to strong recruitment efforts for male students, the sample was fairly well-balanced between males and females at Time 1. However, a slightly higher proportion of females responded to the Time 2 survey prompts. Several contextual factors are likely to have contributed to poor follow-up response rates, including unexpected reductions to the Psychology Department research requirements in the first semester and academic adjustments necessitated by the Covid-19 pandemic to online learning with alterations in course requirements during the second semester.
It is unknown how the unique challenges of the Covid-19 pandemic may have influenced the results of the current study. Although nearly all Time 1 data were collected prior to the pandemic, approximately 30% of the sample participated in the Time 2 follow-up after the onset of the pandemic. While stressors of this time are likely to have increased adjustment symptoms, few studies have examined the consequences of the pandemic for young people, particularly college students, in the first few months. The available research has demonstrated some conflicting findings. While one study with young adults in Switzerland found increases in perceived stress and anger, there was no evidence for increases in internalizing symptoms (Shanahan et al., 2020). However, a longitudinal study with a college sample in the United States found a substantial 60% increase in depressive symptoms during the onset of the pandemic compared to other cohorts (Giuntella, Hyde, Saccardo, & Sadoff, 2021). Additional evidence of increased internalizing symptoms has been found among younger adolescents (i.e., mean age 14) who experienced significant increases in depressive and general anxiety symptoms, particularly when they had online learning difficulties, increased conflict with parents, and worry related to Covid-19 (Magson et al., 2021). Though internalizing symptoms appear to have generally increased for youth in the United States during the onset of the pandemic, a relatively small portion of the current sample completed the follow-up assessment during this time period, reducing the likelihood that the contextual variable of the pandemic may have substantially influenced findings. Furthermore, there appeared to be limited changes in symptoms across the two-month period, suggesting a minimal, if at all present, negative influence in adjustment outcomes from the Covid-19 pandemic.

Despite the sample being first-year college students, the identified close friendships and romantic relationships appeared to quite established, with an average friendship duration of over
five years and average dating relationships of 15 months. Compared to some studies with elementary and high school samples, which suggest that friendships are maintained for an average of three years, the present sample was involved in established friendships consistent with studies of college commuters with friendships lasting 6.5 years (Johnson, 2012; McDougall & Hymel, 2007). Therefore, a significant portion of the sample had same-gender best friends originating from childhood or early adolescence. In fact, over one in ten participants reported friendships beginning in the period of early elementary school, around first grade. Interactions in these long-term established friendships may be less likely to provoke RS individuals’ tendency to anticipate or perceive rejection as there may be a greater sense of loyalty and an established history of commitment in the relationship that reduces the threat of rejection. Therefore, RS individuals may be less reactive to varied levels of support or high degrees of conflict in these relationships and therefore less likely to develop internalizing symptoms in the context of these relationship experiences.

Additionally, the length of romantic relationships is consistent with the literature that suggests that more than half of late adolescents have had a romantic relationship lasting 11 months or more with an average duration of approximately 14- to 20-months (Carver et al., 2003; Collins, 2003). Though these relationships are established, the definition and qualities of romantic relationships may be different compared to previous cohorts of adolescents examined in the majority of the relationship research. Notably, college-aged students are likely greatly influenced by modern social communication dating norms, such as increased use of electronic media for communication via texting and various apps. Along with this shift, there may also be social changes in expectations of romantic engagement, with less defined relationships and more ambiguity regarding the beginning of a romantic relationship with a more prolonged period of
relationship initiation. This change in less defined relationships poses a challenge in defining the length of relationships. Similarly, it is possible that other changes may be occurring with regard to the quality of modern dating relationships in the late-adolescent period.

Likewise, changes in social interactions with modern technology now comprise a substantial aspect of late-adolescent relationship communication, which has not been captured by the traditional measures used in the current research. The Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996), the Network of Relationships Inventory - Social Provision Version (NRI-SPV; Furman & Buhrmester, 1985), and the Social Anxiety Scale for Adolescents (SAS-A; La Greca & Lopez, 1998) were all established over two decades ago and therefore do not consider modern aspects of communication with technology. A critical facet of adolescent interaction with peers and romantic partners is routine social media communication and texting. These interactions are also likely to include more ambiguity (e.g., uncertainty about when messages have been read and responded to; information limited to written text or graphics only), which may interact with RS and social anxiety. The measures used in the current study therefore do not capture this key feature of modern adolescent social relationships, suggesting that future research revise measures to assess more modern communication and technology as it affects RS, relationship quality and social anxiety.

Additional challenges with the current study include the restricted range of participants in the sample. One such limitation is the qualifying criteria requiring that all included participants have both a close romantic partner and same-gender best friend. Previous literature has shown that HRS individuals are less likely to be in a romantic relationship and maintain these relationships. Due to the nature of the sample, all of the RS individuals in the current study have close relationships and both types of relationships, which may make the relationships more likely
to be of higher quality (i.e., higher support and less conflict). Without the constraints of a controlled sample, it is possible that the relationship qualities of RS individuals without both forms of close relationships may be qualitatively different. An additional limitation of the sample is the exclusion of participants who identified their gender as transgender, non-binary, or “other” due to the design of the study restricting gender to a dichotomous variable. Therefore, the present study did not permit exploration of gender as a spectrum but rather considered gender as a binary construct. Future studies may seek to consider alternative methods to identify gender as a spectrum and include a more diverse and representative sample.

Another notable limitation is related to the longitudinal component of the present study. The final set of aims examining prediction of changes in symptoms over time was tenuous likely due to limited increases in symptoms across the two-month period. Despite other longitudinal studies examining predictors of changes in internalizing symptoms, such as depression, across a two-month period (e.g., Thompson, Berenbaum, & Bredemeier, 2011), the current study suggests that this period may be too brief to adequately identify and examine changes in symptoms. Respondents completed the follow-up survey just over 8 weeks (59 days) after baseline on average. Examining the changes in mean scores for symptoms of social anxiety and depression does not indicate any collective increases, as mean levels of symptoms at Time 1 and Time 2 remained approximately the same. Findings of the regression analyses in fact indicate that Time 1 symptoms accounted for over half of the variance in Time 2 symptoms. RS, quality variables, and gender significantly improved the prediction of Time 2 symptoms in only one model after accounting for baseline symptoms (See results for Hypothesis 12). Other short-term longitudinal studies in the RS literature have documented significant increases in symptoms. Specifically, in a childhood sample of sixth grade students, London and colleagues (2007) found that anxious RS
predicted increases in social anxiety symptoms. However, the timeframe of this longitudinal study was double that of the present study, with a 4-month follow-up period between academic semesters. Therefore, even for short-term longitudinal designs, a more extended gap between assessments may be necessary for changes in adjustment to be adequately identified and consistently predicted by RS variables. Overall, the majority of longitudinal studies in the RS literature have been conducted across the span of one or more years, rather than several months (e.g., Hafen et al., 2014). Likewise, a recent meta-analysis indicates that the average timeframe for similar longitudinal studies is 10.5 months between both assessments, which is approximately the length of an academic year (Schwartz-Mette et al., 2020). Therefore, it would be beneficial for the longitudinal examinations of the present study to be replicated in future research using a longer time-frame consistent with the literature, such as the length of an academic year or with a one-year follow-up. This would also allow further examination of elevations of or reductions to symptoms as a function of changes in relationship qualities over time, including break-up or friendship disintegration.

**Future Directions**

In general, there were limited significant findings across the assessed models. Considering the numerous significant interactions, it is likely that the overall lack of significant improvements to the models may be attributable to a lack of power. Therefore, future research is needed to replicate and confirm these results with larger samples. Future studies examining these associations may benefit from several changes, including increasing the longitudinal timeframe between baseline and follow-up, as well as using varied methods of assessing relationship qualities. As previously discussed, the majority of the longitudinal RS studies and broader literature evaluating relationship qualities and adjustment use time periods greater than 10
months to one year. The present longitudinal study was limited in timeframe to permit completion within the academic year, as the required sample size necessitated two sets of data collection across both semesters of the academic year. Future research may seek to use a follow-up period from the beginning to the end of the academic year to allow adequate time to evaluate changes in symptoms. Furthermore, longer time periods may be more reflective of symptomology changes related to relationship experiences.

Additionally, measurement of relationship quality through self-report has been a consistent challenge with the present study and preceding pilot studies (e.g., Andrews, Nangle & Holbrook, 2018), in which findings are only partially reflective of patterns reliably identified in the literature. Unlike studies (e.g., La Greca & Harrison, 2005) that have found associations with adjustment and both positive and negative relationship qualities in adolescents’ friendships and romantic relationships, in the present investigation support was not significantly associated with internalizing symptoms in either relationship. Furthermore, the RS literature with younger adolescent samples has identified associations and interactions with positive friendship quality (e.g., Chango et al., 2012; McDonald et al., 2010), which was limited in the current findings for both friendships and romantic relationships. Use of multiple methods and more robust measures assessing quality may provide clearer evidence of the role of relationship qualities as a moderator. For example, use of observational, self-report, and partner- or friend-report methods may allow for replication of results to clarify currently tenuous findings in this area given the limited associations replicated from the literature. Furthermore, observational methods used alongside perceptions of quality assessed through questionnaire measures may be a valuable asset to evaluate possible differences in objective versus subjective perceptions of relationship qualities. Additionally, given that the majority of late-adolescent samples are drawn from first-
year college students, many friendships within the first semester are likely to be brief and in the primary stages of initiation. Therefore, qualities of these relationships may be fundamentally different from friendships maintained from high school or even elementary school. Future studies may seek to evaluate whether the origin of friendships and their length affect their quality and link with RS and adjustment.

Moreover, this present study was limited to same-gender and heterosexual romantic relationships to identify patterns reflective of the majority of late adolescents. However, these relationships may not be representative of late adolescents who self-identify with other sexual or gender identities (e.g., lesbian, gay, transgender). Unfortunately, this limitation is not restricted to the present study as the relationship literature is greatly lacking in research in this area. It is unknown how RS and adjustment may differ within these populations, and furthermore, how relationship experiences and qualities may affect these associations. Research in the area of RS with other minority identities related to race, status, and social class have identified important factors associated with adjustment, college functioning, and relationship qualities. For example, one study found that relationships between individuals with different racial identities served as a protective factor for anxious mood and also increased social behavior among individuals higher in racially-based RS (Page-Gould, Mendoza-Denton, & Tropp, 2008). Similar studies are needed in the area of relationships and RS to elucidate possible differences in RS and adjustment for individuals with minority identities, such as lesbian, gay, bisexual, or transgender youth. These adolescents may have different experiences with romantic partners and same- or other-gendered friendships that affect adjustment outcomes (i.e., Vincke & Van Heeringen, 2002), but this remains unknown because these groups are not well represented in the current literature.
Conclusions and Intervention Implications

Overall, patterns of significant and exploratory results suggest that negative interactions, particularly with friends, may be the most robust moderator of RS and internalizing symptoms. Findings provide direct evidence that negative interactions with friends serve as a significant moderator of the association between RS and changes in depressive symptoms over time, with individuals in friendships marked by higher levels of conflict being at particular risk for future development of depressive symptoms. Further exploration of significant interactions in models lacking overall statistically meaningful changes provides further suggestions of moderation with relationship qualities. Consistent with the proposed model, there is preliminary support to suggest that HRS females with high negative interactions with friends are at greatest risk for depressive symptoms. Despite being isolated to preliminary exploratory findings, interactions between both positive and negative relationship qualities with romantic partners also provide data to suggest that further exploration is warranted to further elucidate how relationship experiences influence depressive symptoms for RS individuals.

For social anxiety, similar preliminary patterns provide support for replication in future studies to confirm that HRS individuals are at risk of developing increased social anxiety symptoms over time in friendships with lower negative interactions compared to low RS individuals. It appears that adolescents with friendships characterized by high levels of negative interactions are likely to experience symptoms of social anxiety regardless of RS. Considering gender differences, results suggest that HRS females may be at greatest risk for depressive symptoms when their friendships are highly conflictual, while HRS males may be at greatest risk for symptoms of social anxiety. Given lack of consistency with prediction of symptoms at baseline, follow-up, and over time, these findings are rather tenuous in nature. Further research is
needed to replicate and confirm these findings about the moderating role of friendship and romantic relationship qualities in the link between RS and internalizing symptoms for late adolescents.

A major goal of this research is to inform clinical intervention or prevention efforts for RS individuals by identifying a particular relationship type, relationship quality, or population of youth that should especially be targeted. The results of this research provide critical information that can inform the adaptation of treatments or inform intervention for RS individuals. First, implications for targeting friendships versus romantic relationships will be discussed, followed by components of relationship quality, and then differences related to findings with gender for social anxiety and depression. Overall, results confirm that late adolescence is an important period for intervention, particularly with regard to risk for development of internalizing symptoms for RS youth. Clinical intervention may effectively interrupt the maintenance of or further development of symptoms for RS youth by disrupting dysfunctional perceptions and relationship functioning that exacerbates adjustment problems.

The present study sought to understand differences between the two most central relationships in late adolescence to identify important aspects of interpersonal functioning as a target for intervention or prevention efforts. Overall, results more consistently identified implications related to relationship quality and functioning with friends and only minimal preliminary findings for romantic relationships. The present study provides the first evidence of this distinction between friendships and romantic relationships and suggests that close friendships may be the most critical target for interpersonal functioning in therapeutic interventions. Furthermore, negative interactions, rather than support, appear to be the most influential on the adjustment of RS individuals. Therefore, therapy may seek to address negative
friendship interactions as the most robust intervention target to reduce current symptoms or prevent further risk for increases in symptoms.

Intervention with RS individuals may seek to establish the development of more accurate perceptions of interactions with friends as RS individuals may tend to perceive behavior as more rejecting or negative (e.g., Norona et al., 2014). Alternatively, intervention may instead target the development of more adaptive behavioral responses to reduce conflict with friends and improve overall relationship quality. For example, use of self-monitoring may be beneficial for the individual to develop awareness of tendencies to react with patterns of aggression or withdrawal. Additionally, skills training for conflict resolution and effective communication may support more adaptive relationship functioning. Further research may seek to examine which intervention targets are most effective to reduce internalizing symptoms for RS youth. The limited results with romantic relationships preclude potential implications for specific intervention, such as with couples therapy, despite a wealth of literature indicating presence of high levels of conflict, hostile withdrawal, and aggressive behavior that are likely problematic for both relationship functioning and adjustment (e.g., Downey, Frietas, et al., 1998). Further replication will be informative to identify possible interventions, as previous research (e.g., Hafen et al., 2014) has consistently documented romantic relationship dysfunction for HRS individuals.

The present study also sought to understand differences between two of the most common forms of adjustment problems for RS youth and potential implications for gender differences. Overall, the most robust findings were related to depressive symptoms, though links were identified between RS and both forms of internalizing symptoms. For depression, current results suggest that intervention may be most critical for females, particularly targeting reduction in negative interactions with close peers. In contrast, preliminary results suggest that males may
especially benefit from intervention for RS and related dysfunction to mitigate further risk for social anxiety symptoms. Regardless, females are likely to benefit from similar intervention, given the significant link between RS and symptoms of social anxiety, as well as overall greater risk for this adjustment problem in this developmental stage. The present investigation confirms that RS is an important factor influencing risk for adjustment in late adolescence and that relationship functioning with friends is a particularly critical context that may prove fruitful as a target of intervention efforts.
REFERENCES


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APPENDIX A
SONA RECRUITMENT SUMMARY

(1 to 2 Credits) This online study will ask you questions about your relationships and mood at two time points, 2 months apart. You must be 18-25, be in a heterosexual romantic relationship (3+ months long), and have a same-gender best friend to participate. (Bisexual, transgender, and non-gender binary individuals are eligible.) Time commitment is 1 hour each time. After completing the first survey you will receive one credit. Then you will be contacted in two-months to complete the second survey and can earn your choice of an additional research credit or a $5 Amazon gift card. You will receive an email with the survey link after signing up for the study.
APPENDIX B

INFORMED CONSENT

Dear Student,

You are invited to participate in a University of Maine research project conducted by Laura Andrews, M.A., a graduate student, and Dr. Cynthia Erdley, a Professor in the Department of Psychology. The purpose of this research is to learn about college students’ emotional wellbeing and relationships. You must be between 18 and 25 years of age, have a romantic partner (relationship of 3 or more months), and a same-gender friend to participate in this study.

What will you be asked to do during this study?
You will be asked to answer survey questions online. After your participation in the first survey, you will be contacted two months later to complete the follow-up survey with up to three reminders. In the surveys you will be asked for demographic information about yourself (e.g., age, gender) and information about your relationships with your romantic partner and friend (e.g., “How long have you been in the relationship?”). You will also be asked to answer questions or select statements about your emotions (e.g., How often do you feel worried?, “I do not feel sad.”) and relationships (e.g., “How often do you spend time together?”). Both surveys are expected to take approximately 30 to 45 minutes to complete. After the completion of the first survey you will be awarded one research credit. After completion of the follow-up survey you will be awarded your choice of either one additional research credit or a $5 Amazon gift card.

What are the Risks?
Some questions in the survey may make you feel uncomfortable or distressed because they ask about difficult emotions and relationship challenges. You may skip any question that you do not wish to answer and can stop participating in the study at any time. If you would like to speak with a professional about your experiences in this study you are encouraged to contact the University of Maine Counseling Center (207-581-1392), which provides free services to UMaine students. Information about the Counseling Center, including their hours of operation, can be found at http://umaine.edu/counseling/contact-us/ At the end of the survey, all participants will also receive a list of community resources to contact for further support. If your responses to questions suggest that you are experiencing a significant degree of distress or suggest that you are at risk of harming yourself, you will be encouraged to contact the Counseling Center and will be contacted by the primary investigator about additional resources via email.

What are the Benefits?
There are no direct benefits for participating in this study. However, your participation in this research will inform our understanding of college students’ emotional and social well-being. This knowledge may help psychologists design more effective interventions for individuals experiencing emotional or relationship problems.
Is there Compensation?
You will receive one research credit for your participation in the first half of this study. If you complete the follow-up survey, you will be awarded your choice of either one additional research credit or a $5 Amazon gift card. You must proceed to the end of the follow-up survey to select your compensation.

Will my Answers be Private?
Your name will not be directly attached to the responses collected in the survey and the data will only be used for research purposes. A code number (e.g., 49283) will be linked with the information that you provide in this study to protect your identity. A key connecting your name and email to your ID number will be kept in a password-protected electronic file so that you can be contacted to participate in the follow-up survey two months after completing the first survey. If your responses suggest that you are experiencing significant distress or are having thoughts of suicide, you will also be contacted by email about available resources by the primary investigator. The key will be made inaccessible to anyone other than the primary investigators and a small number of research assistants trained to work on this study, in order to protect your privacy. This file will then be destroyed by December 31, 2020. The survey data with participant responses, identified only by a code number, will be downloaded to a locked computer that is only accessible to the principal investigators and research assistant and will be kept indefinitely. If the data are used for a research publication or conference presentation, they will be presented in a summary format only.

Is this Voluntary?
Your participation in this study is voluntary. You may choose to stop your participation at any point, or to skip any questions that you do not want to answer and still receive compensation.

Questions or Concerns?
If you have questions about this study, please email me at laura.andrews@maine.edu. You may also email the faculty advisor on this study, Dr. Cynthia Erdley at erdley@maine.edu. If you have any questions about your rights as a research participant, please contact the Office of Research Compliance, University of Maine, 207/581-2657 (or email umric@maine.edu).

Sincerely,

Laura A. Andrews, M.A.
Ph.D. Candidate in Clinical Psychology
Department of Psychology
University of Maine

I have read and understood the above information and I understand that moving forward with this survey indicates my consent to participate in the study. I understand that I have the right to skip any questions and to stop my participation at any time.
APPENDIX C

DEMOGRAPHICS AND RELATIONSHIP QUESTIONNAIRE: TIME 1

Please provide the following information about yourself:

1. What is your age?
   ____18   ____25
   ____19   ____26
   ____20   ____27
   ____21   ____28
   ____22   ____29
   ____23   ____30
   ____24   ____Other (please specify)

2. What is your current gender identity (select all that apply)?
   ____ Female
   ____ Male-to-Female (MTF)/Transgender Female/Trans Woman
   ____ Male
   ____ Female-to-Male (FTM)/Transgender Male/Trans Man
   ____ Genderqueer or gender nonconforming, neither exclusively male nor female
   ____ Additional Gender Category/(or Other), please specify:_____________

3. Please select the racial group(s) you identify with (select all that apply):
   ____ White
   ____ Black or African American
   ____ Asian
   ____ American Indian or Alaska Native
   ____ Native Hawaiian or Other Pacific Islander
   ____ Other (please specify):_____________

4. What year are you in college?
   ____ First-Year/Freshman
   ____ Second-Year/Sophomore
   ____ Third-Year/Junior
   ____ Fourth-Year/Senior
   ____ Other/ Non-Degree (please describe) __________

5. How would you describe your sexual orientation?
   ____ Straight or heterosexual
   ____ Lesbian, gay or homosexual
   ____ Bisexual
   ____ Queer
6. What is your romantic relationship status?

_____ Single
_____ In a relationship

6a. Please indicate if you are:
_____ In a casual dating relationship
_____ In a committed dating relationship
_____ Married or in a domestic partnership
_____ Divorced or separated
_____ Widowed
_____ Other (please specify): __________

6b. What is the first name of your significant other? (please capitalize) ________

6c. Approximately how long have you been in the relationship? (e.g., 3 years, 2 months)
_____ years _____ months

6d. What is your romantic partner’s gender identity (select all that apply)?
_____ Female
_____ Male-to-Female (MTF)/Transgender Female/Trans Woman
_____ Male
_____ Female-to-Male (FTM)/Transgender Male/Trans Man
_____ Genderqueer or gender nonconforming, neither exclusively male nor female
_____ Additional Gender Category/(or Other), please specify: ________________

6e. What is your romantic partner’s sexual orientation?
_____ Straight or heterosexual
_____ Lesbian, gay or homosexual
_____ Bisexual
_____ Queer
_____ Questioning/Unsure
_____ Something else, please describe: ________________________________
_____ Don’t know
6f. Where did you first begin a relationship with your romantic partner?
   ____ High School or earlier schooling
   ____ College
   ____ Other (please specify) (For example: online relationship)

6g. Is your romantic partner a student at the University of Maine?
   ____ Yes
   ____ No

7. What is the first name of your same-gender best friend? (please capitalize) ________

7a. Approximately how long have you been friends? (e.g., 3 years, 2 months)
   ____ years ____ months

7b. Where did you first become friends?
   ____ High School or earlier schooling
   ____ College
   ____ Other (please specify) (For example: online friends)

7c. Is your friend a student at the University of Maine?
   ____ Yes
   ____ No

7d. Have you ever had a romantic relationship with your friend?
   ____ Yes
   ____ No
1. Are you still in the same romantic relationship from two months ago?
   _____ Yes, in a romantic relationship
   _____ No, broken-up
   _____ Other (please specify) __________

   1a. What is the first name of this significant other? (please capitalize) __________

2. Are you still friends with your same-gender best friend from two months ago?
   _____ Yes, friends
   _____ No, no longer friends
   _____ Other (please specify) __________

   2a. What is the first name of this same-gender best friend? (please capitalize)

   __________
APPENDIX E

REJECTION SENSITIVITY QUESTIONNAIRE

Each of the items below describes things college students sometimes ask of other people. Please imagine that you are in each situation. You will be asked to answer the following questions:

1) How concerned or anxious would you be about how the other person would respond?
   - very unconcerned
   - very concerned
   
   1  2  3  4  5  6

2) How do you think the other person would be likely to respond?
   - very unlikely
   - very likely

   1  2  3  4  5  6

1. You ask someone in class if you can borrow his/her notes.
   How concerned or anxious would you be over whether or not the person would want to lend you his/her notes?
   I would expect that the person would willingly give me his/her notes.

2. You ask your boyfriend/girlfriend to move in with you.
   How concerned or anxious would you be over whether or not the person would want to move in with you?
   I would expect that he/she would want to move in with me.

3. You ask your parents for help in deciding what programs to apply to.
   How concerned or anxious would you be over whether or not your parents would want to help you?
   I would expect that they would want to help me.

4. You ask someone you don’t know well out on a date.
   How concerned or anxious would you be over whether or not the person would want to go out with you?
   I would expect that the person would want to go out with me.

5. Your boyfriend/girlfriend has plans to go out with friends tonight, but you really want to spend the evening with him/her, and you tell him/her so.
   How concerned or anxious would you be over whether or not your boyfriend/girlfriend would decide to stay in?
   I would expect that the person would willingly choose to stay in.

6. You ask your parents for extra money to cover living expenses.
   How concerned or anxious would you be over whether or not your parents would help you out?
   I would expect that my parents would not mind helping me out.
7. After class, you tell your professor that you have been having some trouble with a section of the course and ask if he/she can give you some extra help.
   How concerned or anxious would you be over whether or not your professor would want to help you out?
   I would expect that my professor would want to help me out.

8. You approach a close friend to talk after doing or saying something that seriously upset him/her.
   How concerned or anxious would you be over whether or not your friend would want to talk with you?
   I would expect that he/she would want to talk with me to try to work things out.

9. You ask someone in one of your classes to coffee.
   How concerned or anxious would you be over whether or not the person would want to go?
   I would expect that the person would want to go with me.

10. After graduation, you can’t find a job and ask your parents if you can live at home for a while.
    How concerned or anxious would you be over whether or not your parents would want you to come home?
    I would expect I would be welcome at home.

11. You ask your friend to go on a vacation with you over Spring Break.
    How concerned or anxious would you be over whether or not your friend would want to go with you?
    I would expect that he/she would want to go with me.

12. You call your boyfriend/girlfriend after a bitter argument and tell him/her you want to see him/her.
    How concerned or anxious would you be over whether or not your boyfriend/girlfriend would want to see you?
    I would expect that he/she would want to see me.

13. You ask a friend if you can borrow something of his/hers.
    How concerned or anxious would you be over whether or not your friend would want to loan it to you?
    I would expect that he/she would willingly loan me it.

14. You ask your parents to come to an occasion important to you.
    How concerned or anxious would you be over whether or not your parents would want to come?
    I would expect that my parents would want to come.
15. You ask a friend to do you a big favor. 
   How concerned or anxious would you be over whether or not your friend would do this favor?
   I would expect that he/she would willingly do this favor for me.

16. You ask your boyfriend/girlfriend if he/she really loves you.
   How concerned or anxious would you be over whether or not your boyfriend/girlfriend would say yes?
   I would expect that he/she would answer yes sincerely.

17. You go to a party and notice someone on the other side of the room and then you ask them to dance.
   How concerned or anxious would you be over whether or not the person would want to dance with you?
   I would expect that he/she would want to dance with me.

18. You ask your boyfriend/girlfriend to come home to meet your parents.
   How concerned or anxious would you be over whether or not your boyfriend/girlfriend would want to meet your parents?
   I would expect that he/she would want to meet my parents.
Everyone has a number of people who are important in his or her life. These questions ask about your relationships with your significant other

1. How much free time do you spend with your significant other?

1 Little or none  2 Somewhat  3 Very Much  4 Extremely Much  5 The most

2. How much do you and your significant other get upset with or mad at each other?

1 Little or none  2 Somewhat  3 Very Much  4 Extremely Much  5 The most

3. How much does your significant other teach you how to do things that you don’t know?

1 Little or none  2 Somewhat  3 Very Much  4 Extremely Much  5 The most

4. How much do you and your significant other get on each other’s nerves?

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5. How much do you talk about everything with your significant other?

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6. How much do you help your significant other with things she/he can’t do by her/himself?

1 Little or none  2 Somewhat  3 Very Much  4 Extremely Much  5 The most

7. How much does your significant other like or love you?
8. How much does your significant other treat you like you’re admired and respected?

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9. Who tells the other person what to do more often, you or your significant other?

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12. How much do you and your significant other disagree and quarrel?

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15. How much do you share your secrets and private feelings with your significant other?

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17. How much does your significant other really care about you?

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18. How much does your significant other treat you like you’re good at many things?

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19. Between you and your significant other, who tends to be the BOSS in this relationship?

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S/he always does    S/he often does  About the same    I often do   I always do

20. How sure are you that your relationship will last in spite of fights?

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21. How much do you go places and do enjoyable things with your significant other?

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22. How much do you and your significant other argue with each other?

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23. How much does your significant other help you when you need to get something done?

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27. How much does your significant other have a strong feeling of affection (loving or liking) toward you?

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28. How much does your significant other like or approve of the things you do?

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29. In your relationship with your significant other, who tends to take charge and decide what should be done?

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30. How sure are you that your relationship will continue in the years to come?

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26. How much do you take care of your friend?

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30. How sure are you that your relationship will continue in the years to come?

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Little or none  Somewhat  Very Much  Extremely Much  The most
APPENDIX H

SOCIAL ANXIETY SCALE FOR ADOLESCENTS

This is not a test, there are no right or wrong answers. Please answer each item as honestly as you can.

Use these numbers to show HOW MUCH YOU FEEL something is true for you:

1 = Not at all
2 = Hardly ever
3 = Sometimes
4 = Most of the time
5 = All the time

Now let’s try these sentences first. How much does each describe how you feel?

a. I like summer vacation….
b. I like to eat spinach….

1. I worry about doing something new in front of others
2. I like to do things with my friends
3. I worry about being teased
4. I feel shy around people I don’t know
5. I only talk to people I know really well
6. I feel that peers talk about me behind my back
7. I like to read
8. I worry about what others think of me
9. I’m afraid that others will not like me
10. I get nervous when I talk to peers I don’t know very well
11. I like to play sports
12. I worry about what others say about me
13. I get nervous when I meet new people
14. I worry that others don’t like me
15. I’m quiet when I’m with a group of people
16. I like to do things by myself
17. I feel that others make fun of me
18. If I get into an argument I worry that the other person will not like me
19. I’m afraid to invite others to do things with me because they might say no
20. I feel nervous when I’m around certain people
21. I feel shy even with peers I know well
22. It’s hard for me to ask others to do things with me
APPENDIX I

BECK DEPRESSION INVENTORY – SECOND EDITION

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APPENDIX J

ATTENTION CHECKS

**Attention Check 1**
Select “Hardly Ever.” Inserted into the SAS-A (see Appendix H) between items 15 and 16.

**Attention Check 2**
Select “Somewhat.” Inserted into The Network of Relationships Inventory - Social Provision Version (Friend Version; see Appendix G) between items 17 and 18.
APPENDIX K

THANK-YOU AND RESOURCE LIST

Thank you for participating in this research study! Your responses will help us to better understand mood and experiences in social relationships.

If you would like to speak with a professional about your experiences, you are encouraged to contact the University of Maine Counseling Center (207-581-1392), which provides free services to UMaine students. Information about the Counseling Center, including their hours of operation, can be found at http://umaine.edu/counseling/contact-us/. A list of additional resources is provided below.

### Campus Resources

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<tr>
<th>Campus Resource</th>
<th>Address/Location</th>
<th>Phone</th>
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<tbody>
<tr>
<td>The Counseling Center</td>
<td>5721 Cutler Health Center</td>
<td>207-581-1392</td>
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<tr>
<td>Psychological Services Center</td>
<td>330 Corbett Hall</td>
<td>207-581-2034</td>
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### Community Resources

<table>
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<tr>
<th>Community Resource</th>
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<tbody>
<tr>
<td>Community Health &amp; Counseling Services</td>
<td>42 Cedar Street</td>
<td>207-947-0366</td>
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<tr>
<td>Penobscot Community Health Care</td>
<td>Locations in Old Town, Bangor, and Brewer</td>
<td>207-404-8000</td>
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<tr>
<td>Acadia Hospital</td>
<td>268 Stillwater Ave</td>
<td>207-973-6100</td>
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**Maine Mental Health Services Locator:** http://www.mymainetherapist.com/

### Contact your Primary Care Provider (PCP)

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<tr>
<th>Hotline and Crisis Resources</th>
<th>Phone</th>
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<tbody>
<tr>
<td>Local: Community Health and Counseling Services Crisis Service</td>
<td>1-888-568-1112</td>
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<tr>
<td>State: Maine Statewide Crisis Hotline (24-hour Hotline)</td>
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<tr>
<td>National: National Suicide Prevention Lifeline (24-hour Hotline)</td>
<td>1-800-273-8255</td>
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(Note: Any fees charged for clinical services are your responsibility).
APPENDIX L

RISK FOLLOW-UP

Your responses to the questions suggest that you seem to be feeling quite down or may be at risk of harming yourself. You are encouraged to contact the community resources provided below, such as the University of Maine Counseling Center (207-581-1392), which provides free services to UMaine students. Information about the Counseling Center, including their hours of operation, can be found at http://umaine.edu/counseling/contact-us/ You may also contact your primary care provider as a resource for additional support.
APPENDIX M

PARTICIPANT RECRUITMENT EMAIL: TIME 1

Dear student,

Thank you for your interest in the “Close Relationships and Wellbeing” study. Please review the attached consent form. Moving forward with this survey using the link below indicates your consent to participate in the study.

You will receive one SONA research credit for your participation. If you participate in the two-month follow-up survey you can choose to receive an additional credit or a $5 Amazon gift card.

Link: [Provided here]

Participant ID: [Provided here]

Best,
Laura Andrews
Dear participant,

Thank you for participating in the “Close Relationships and Wellbeing” study.

You are being contacted for the 2-month follow-up survey. You can earn your choice of either one SONA research credit or a $5 Amazon gift card for your participation. Your name and email will not be directly attached to your responses.

Link: [Provided here]

Participant ID: [Provided here]

Thank you!

Laura Andrews
APPENDIX O

TIME 2 COMPENSATION INFORMATION

Please select your choice of either one SONA research credit or a $5 Amazon gift card (sent through e-mail).

Select your form of compensation (select one):

SONA Research Credit       $5 Gift Card
Dear student,

You are being contacted about an online University of Maine study because you indicated that you are male on the Psychology Department Eligibility Survey.

We are recruiting males (ages 18-25) who are in a heterosexual romantic relationship (3+ months long), and have a same-gender best friend to participate in an online study. If you are eligible, you can earn class research credit and a $5 Amazon gift card for your participation.

For more information about the “Close Relationships and Wellbeing” study: [Link inserted here]

Thanks,

Laura Andrews
APPENDIX Q

RISK FOLLOW-UP EMAIL

Dear Participant,

I am the investigator of the online research study that you recently participated in called Close Relationships and Wellbeing. From your answers to the questionnaires, I am concerned that you are feeling depressed or may be at risk of harming yourself. You were provided with some information about counseling services, but I wanted to follow-up and encourage you to contact those services or your primary care provider. You can contact the University of Maine Counseling Center, which provides free services to UMaine students, at 207-581-1392, or see their website at http://umaine.edu/counseling/contact-us/ for more information. I have attached information about additional community resources below.

Best,
Laura Andrews
BIOGRAPHY OF THE AUTHOR

Laura A. Foster was born in New Jersey on August 15th, 1993. She was raised in Nutley, New Jersey and graduated from Nutley High School in 2011. She completed her undergraduate education in Psychology at Loyola University Maryland and received her Bachelor’s degree in 2015. Laura began her doctoral studies in Clinical Psychology at the University of Maine in Fall 2015 as a student in the dual Developmental-Clinical track. During her training, she was advised by Dr. Douglas Nangle and Dr. Cynthia Erdley. At the University of Maine, Laura conducted independent research projects investigating rejection sensitivity in close relationships and adjustment, culminating in her dissertation study. She was the first author of one peer-reviewed publication, co-author of a book, and first and co-author of two book chapters. Laura was first or co-author on 22 research presentations at local and national conferences.

Laura completed her predoctoral internship at WellSpan Philhaven CBT in York, PA in June 2021. After receiving her degree, Laura will return to Maine to begin her post-doctoral training at Health Psych Maine in Waterville, ME. She is a candidate for the Doctor of Philosophy degree in Psychology with a concentration in Developmental-Clinical Psychology from the University of Maine in August 2021.