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A Theory-Guided Investigation of Proposed Factors that Influence the Relationship between Cybervictimization and Psychological Adjustment in Late Adolescents

Melissa K. Hord
University of Maine - Main, melissa_hord@umit.maine.edu

A THEORY-GUIDED INVESTIGATION OF PROPOSED FACTORS THAT INFLUENCE THE RELATIONSHIP BETWEEN CYBERVICTIMIZATION AND PSYCHOLOGICAL ADJUSTMENT IN LATE ADOLESCENTS

By

Melissa K. Hord

B.S. University of Missouri, 2008

M.A. University of Maine, 2012

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Advisory Committee:

Cynthia A. Erdley, Professor of Psychology, Chair, Advisor
Douglas W. Nangle, Professor of Psychology
Shannon McCoy, Associate Professor of Psychology
Jordan LaBouff, CLAS-Honors Preceptor of Psychology
Elizabeth Allan, Professor of Higher Education

DISSERTATION ACCEPTANCE STATEMENT

On behalf of the Graduate Committee for Melissa Hord I affirm that this manuscript is the final and accepted dissertation. Signatures of all committee members are on file with the Graduate School at the University of Maine, 42 Stodder Hall, Orono, Maine.

_____

Cynthia A. Erdley, Professor of Psychology Date

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By Melissa K. Hord

Dissertation Advisor: Dr. Cynthia A. Erdley

An Abstract of the Thesis Presented
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Cybervictimization is related to negative psychological adjustment (e.g., Tokunaga, 2010); however, not all cybervictims report negative outcomes, and it is not clear what factors may influence vulnerability. One possibility is that cybervictims' attributions regarding technology-based communication impact their emotional adjustment. Those who make hostile intent attributions in ambiguous situations are more likely to experience negative outcomes (e.g., Crick & Dodge, 1994), and the inherent ambiguity of electronic communication may be particularly susceptible to misinterpretation. In addition, how individuals respond to cyber experiences may serve to either protect or damage their emotional well-being. Furthermore, those who are high in rejection sensitivity (Feldman & Downey, 1994) may be especially likely to perceive ambiguous electronic communications negatively. Also, friendship quality may buffer negative outcomes for those that are cybervictimized (Parker & Asher, 1993). This study examined whether college students' level of rejection sensitivity and friendship quality,

as well as attributions and behavioral responses, help explain the relation between cybervictimization experiences and emotional adjustment.

Participants included 454 undergraduates (235 females) ages 18-24 years (M = 18.79) who completed an online survey assessing cybervictimization, cognitive attributions and responses to ambiguous cyber situations, depression, rejection sensitivity, friendship quality, social anxiety, loneliness, self-perception, and peer victimization.

Results indicated that cybervictimization was associated with increased social anxiety and loneliness and decreased self-worth, but not with depressive symptoms. Moderated mediation results indicated that rejection sensitive college students who experience low levels of cybervictimization and blame ambiguous peer provocation on their own inability to be socially effective are at increased risk for experiencing depressive symptoms, especially if they are female. It was hypothesized that rumination would further explain increased depressive symptoms but this assertion was not supported. It was also believed that friendship quality would mitigate poor adjustment for those who are cybervictimized. Interestingly, this was true only for those who experienced greater cybervictimization and who blamed the ambiguous peer provocation on something they could not change about themselves. Findings highlight the importance of investigating the role of cognitive attributions in the development of negative adjustment outcomes for those who experience cybervictimization.

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Chapter 1: INTRODUCTION

Overview

Peer victimization has become a serious problem for many children and adolescents. Prevalence estimates of being a victim range from 10.6% (Nansel et al., 2001) to 46.2% (Zwierzynska, Wolke, & Lereya, 2013). Several subtypes of peer victimization have been identified in the literature since the beginning of study in this area. Generally, victimization can be divided into direct and indirect victimization. Direct victimization includes such overt behaviors as physical aggression (e.g., pushing, shoving), verbal aggression (e.g., name-calling, teasing), and obscene gestures (Olweus, 1991; Prinstein, Boergers, & Vernberg, 2001). In contrast, indirect victimization refers to exerting control over others by manipulating relationships to cause damage to friendships or feelings of peer inclusion (Crick & Grotpeter, 1995). Being a recipient of these various methods of victimization is associated with a wide variety of negative outcomes, including internalizing and externalizing problems, as well as increased academic and social difficulties (Hawker & Boulton, 2000; Prinstein et al., 2001; Reijntjes, Kamphuis, Prinzie, & Telch, 2010). Over the past three decades, research has resulted in extensive knowledge and theories regarding face-to-face or "traditional victimization" experiences; however, advances in technology have given rise to new ways of staying connected with others, and unfortunately this technology has also provided a new platform from which to victimize others.

Indeed, in recent years, cybervictimization, including behaviors such as name-calling or derogatory messages sent within social networking sites (SNS), over Instant Messaging, or over text has emerged as another form of peer victimization (Katzer,

Fetchenhauer, & Belschak, 2009). Although cybervictimization has not been studied as extensively as victimization through more traditional means, recent research has demonstrated that cybervictimization is related to negative psychological adjustment, including increased depression and social anxiety and decreased self-esteem (Tokunaga, 2010). However, not all cybervictims report negative adjustment outcomes, and at present it is not clear what factors may influence the level of vulnerability of those who experience cybervictimization. The purpose of the present study is to examine *the relation between cybervictimization experiences and psychological adjustment* in a sample of college-aged students. Of particular interest is to investigate *factors that may influence these relationships*.

One such factor involves the attributions individuals make regarding online communications. The Social Information Processing (SIP) model is a theoretical model that has been used to investigate attributions and how those attributions relate to a variety of adjustment outcomes. Briefly, the SIP model describes several stages of cognitive processing that occur when an individual is faced with a social situation. Research has demonstrated that distortions in SIP are related to a variety of negative outcomes such as biased aggressive responding, loneliness, social anxiety, and social avoidance (Amir, Beard, & Bower, 2005; Crick & Dodge, 1994; Crick & Ladd, 1993; Lansford, Rabiner, Miller-Johnson, Golonka, & Hendren, 2003). To date, research has not applied the SIP model to online communications. Communications that take place via electronic devices may be especially prone to misinterpretation due to the inherent ambiguity of electronic communication and the lack of nonverbal cues that typically accompany face-to-face communications. As such, the SIP model was used in the current study to investigate the

attributions that college students make during cyber communications in an effort to gain knowledge regarding how this aspect of cognitive processing is related to psychological adjustment (e.g., social anxiety, depressive symptoms).

Another factor investigated using the SIP model is how an individual chooses to respond to ambiguous social interactions. Well-adjusted individuals tend to adopt prosocial response patterns that serve to protect or maintain their relationships whereas less well adjusted individuals are more apt to respond with behaviors that negatively influence their relationships (Dodge, 2006). The SIP model has been used to investigate response patterns for traditional victimization but these theories have not been applied to cybervictimization research. Victimization that occurs online may be particularly problematic as it may be easier to respond with a less adaptive strategy. For example, one could quickly respond with a negative message using only a few strokes of the keyboard or one could repetitively re-read a derogatory message. For this reason, the SIP model was used in the present study to investigate the behavioral response styles of college students in order to develop knowledge regarding how response decisions influence the relation between cybervictimization and psychological adjustment.

The SIP model also proposes that individuals interpret their interactions based on a culmination of knowledge learned in previous interactions. Experiencing repeated negative interactions might lead to the development of high rejection sensitivity (i.e., the propensity to defensively expect, perceive, and overreact to rejection). Rejection sensitivity has not been included in research investigating cybervictimization, but it is possible that individuals with high rejection sensitivity may be more likely to perceive electronic communications in a negatively biased way. Therefore, rejection sensitivity is

included in the current study to identify whether it plays a role in the relationship between cybervictimization and psychological adjustment.

Social support is another factor that has been implicated to have influence on the relationship between traditional victimization and adjustment. Having at least one close, supportive friendship is a protective factor against negative psychological adjustment for individuals who are traditionally victimized (Bukowski & Adams, 2005) but research has not investigated if having a supportive friendship is protective against maladjustment for individuals who are cybervictimized. Accordingly, the present study will examine the influence of friendship quality on the relation between cybervictimization and psychological adjustment.

In addition to exploring the influence of specific factors on the relation between cybervictimization and psychological adjustment, this study will investigate whether there are gender differences in these relations. Previous research has established that adjustment outcomes for males and females are not always the same, with females being more negatively impacted (Grills & Ollendick, 2002). Psychological adjustment seems to vary depending on the interaction of gender, victimization experience, and individual factors (e.g., peer status, social skills; Kochenderfer-Ladd, Ladd, & Kochel, 2009). Because the factors that may potentially influence the relation between victimization and psychological adjustment have not been previously researched in the context of cybervictimization, it will be important to examine whether there are gender differences in these factors. Hence, gender differences will be explored.

The current study aims to fill important gaps in the literature on cybervictimization. By taking approaches that have received extensive support within

traditional victimization research and applying those to cybervictimization, this study uses a strong theoretical and empirical basis to investigate an area that is relatively new within the research domain. The study's primary purpose is to identify the factors that influence the relationship between cybervictimization and psychological adjustment for college students. A newly developed and piloted measure of attributions and response styles in ambiguous cyber situations (Hord & Erdley, 2015) was used to reach this goal. This study will also investigate the influence of rejection sensitivity and friendship quality within varying combinations of attributions and behavioral responses. Importantly, analyses will seek to identify gender differences in styles of coping and psychological adjustment as they relate to cybervictimization. In addition, research on cybervictimization has been mostly atheoretical thus far and utilizing a well-supported theoretical model such as the SIP model will aid future researchers by building a solid foundation of replicable research. Through increasing knowledge of the factors that influence psychological outcomes, this avenue of research holds promise for developing more effective prevention and intervention efforts.

As research into cybervictimization is a relatively new endeavor, this document begins by exploring why late adolescence is the developmental time period selected for the current study. Traditional bullying is then examined as a starting point from which concepts that have been developed and refined over decades of research can be utilized to guide investigations into cyber communications. Following this, a critical review of more recent cybervictimization research is offered in order to highlight the current gaps within the cyberbullying literature. The next section details the SIP model and variables related to specific steps within the SIP model that may function differently during

communications that occur electronically. The final section describes the program of research that has been conducted by the primary investigator that has contributed to the development of the current study, and then the hypotheses for this investigation are presented. By extending the work that has previously been conducted regarding traditional bullying into the newer domain of cyberbullying research, it is believed that the nuances of communications that take place via an electronic device will be better understood.

Adolescence

The combination of developmental changes that occur across the adolescent years has the potential to disrupt adjustment for teens when they enter college. As there is little research on the ways in which cybervictimization influences traditionally-aged (i.e., 18-24 years old) college students' adjustment, one must gain an understanding of development during adolescence and then extrapolate research from younger ages to the college age range in order to fill gaps and formulate empirically based ideas. Consequently, the following section describes the development that happens across adolescence and then delves into college age youth.

The adolescent years include developmental tasks such as planning for educational and career achievement and avoiding snares such as alcohol, drugs, and pregnancy. Adolescence marks a time of significant biological, cognitive, and social changes. Physical changes include increases in height and weight, the onset of puberty, increases in stamina, and vocal changes. Simultaneously, cognitive changes include the development of a greater knowledge base, more sophisticated information processing skills, and improved perspective taking abilities. Advanced cognitive abilities enable

individuals to more independently make decisions about their future and interact with the world around them. Coinciding with physical and cognitive maturation, adolescent youth experience many changes in their social development. During adolescence, youth become less influenced by parental relationships and become increasingly more impacted by social relationships from outside the home, in particular friendships (Furman & Buhrmester, 1992). The developmental changes in friendship facilitate increasing independence from parents while also allowing the adolescent to gain a heightened sense of self-awareness and eventual individuation (i.e., the sense of being both separate from and close with others; Bagwell, Schmidt, & Newcomb, 2001).

As youth separate from parents, the duration of time spent with friends and level of intimacy in nonfamily relationships increase. This shift allows an opportunity for identity exploration, the development of autonomy, and the socialization of appropriate sexual behaviors (Steinberg & Silk, 2002). During this time, adolescents report increases in the intimacy of their peer relationships, with females typically describing their relationships as more intimate than males (Berndt, 1992). Moreover, research suggests that, compared to males, females place higher value on intimate relationships with friends (Buhrmester & Furman, 1987). Simultaneously during this period, there is an increase in the amount of time spent with opposite-sex peers.

Romantic relationships play a fundamental role in healthy social and emotional development (Furman & Shaffer, 2003). Indeed, in later adolescence having a positive experience in a romantic relationship with an other-sex peer is correlated with experiencing positive relationships with same-sex friends (Seiffge-Krenke, 2003). This is potentially the result of healthy social adjustment, which enables individuals to

participate in all of their relationships using prosocial behaviors. In fact, participation in romantic relationships is highly correlated with same-sex peer acceptance (Bukowski, Sippola, & Hoza, 1999) and higher quality friendships are correlated with higher quality romantic relationships (Connolly, Furman, & Konarski, 2000).

Another developmental consideration within the social domain concerns how peers perceive aggression. During childhood, peers generally dislike those who engage in aggressive behaviors but the aggressors tend to have high perceived popularity (i.e., high impact and visibility within the peer group, Cillessen & Mayeux, 2004). Between the ages of 10 to 15 years this perception changes. As youth progress through adolescence, physical aggression is viewed as less offensive than in earlier years of development and is decreasingly predictive of social prominence (Cillessen & Mayeux, 2004). Conversely, indirect aggression is associated with high perceived popularity but low social preference. It seems that older children value tough behavior as it is seen as adult-like or "cool" but also prefer to spend time with peers who display more prosocial behaviors.

Similar to perceptions of aggression, attitudes about cross-gender bullying have been identified in the literature and may play a role in how bullies select victims. Same-sex bullying is correlated with same-sex rejection and cross-sex bullying is associated with cross-sex rejection (Veenstra, Lindenberg, Munniksma, & Dijkstra, 2010). This is suggestive of a cross-sex threat potential. For example, females accept males who bully other males but feel threatened by a male who bullies females and, therefore, socially reject him. Importantly, an age effect was also identified for males. During the transition from middle school to high school, males' perception of cross-sex bullying seems to evolve. Males change from accepting males who bully females to not accepting males

who bully females and, conversely, change from not accepting females who bully males to accepting this behavior. During this transition, males become increasingly interested in relationships with the opposite sex and, thus, may perceive bullying as another avenue for attention. Therefore, they accept females bullying them because of the desire for attention and begin to believe that it is "not cool" to bully females because this may result in decreased attention as well as increased peer rejection (Veenstra et al., 2010).

Bullying behaviors appear to reach a peak during middle school (Nansel et al., 2001). It is likely that during this developmental stage, youth are beginning to assert more independence and control over their social relationships and may be working to establish a social pecking order. Though bullying peaks during early adolescence, it does not disappear as youth age. However, little research has focused on understanding how bullying impacts later adolescent victims.

During late adolescence, the majority of youth will graduate from high school and begin college. Those students who attend college soon after graduating high school represent the target group that has become a focus of this document. The target age range is 18-24 years old and this group be referred to as "traditionally-aged" here. Attending college represents the first time most late adolescents leave home to live on their own, are introduced to a new school environment, and begin forming a new network of friendships. Some will find all of the changes exciting while others may be overwhelmed and feel intimidated in this new setting. Additionally, embarking on a career path for the future, making decisions about their future, forging relationships with professors and others in their desired career, and establishing new patterns of connectedness with the community each increase the level of responsibility and stress experienced by college

students. Due to these and other stressors, 50% of students leave college without obtaining a degree and the majority does so in the first two years (ACT, 2002; Parker, Summerfeldt, Hogan, & Majeski, 2004). Moreover, many of those students will leave because of a lack of adjustment to their new environment (Kerr, Johnson, Gans, & Krumrine, 2004). For traditionally aged college students, adjustment to college is associated with the process of psychological separation from parents (Lapsley, Rice, & Shadid, 1989). Psychological separation-individuation is the process by which an individual gradually takes control over his or her self-esteem regulation and identity formation in order to develop a sense of autonomy while still maintaining a sense of connectedness with family members (Blos, 1979, Grotevant & Cooper, 1985). Specifically, freshmen report more psychological dependencies on parents than upperclassmen, and improvements in college adjustment have been identified as students gain psychological independence from their parents (Lapsley et al., 1989). The discrepancy between parental expectations and college students' own expectations is also associated with adjustment to college. When higher expectation discrepancies are present, youth report experiencing lower levels of self-worth and college adjustment (Agliata & Renk, 2007). Thus, while college students are actively moving toward self-individuation, they are also feeling stressed about meeting their parents' expectations.

Additional factors have been related to college adjustment. A study by Pittman and Richmond (2007) found that college students' sense of school belonging at a university is strongly predictive of their college adjustment (e.g., grades, scholastic competence, self-worth, externalizing problems), and quality of friendships is predictive of internalizing symptoms. Social support has been found to be one of the most

influential variables in successful adjustment to college because it may provide a buffer against experiencing depression, anxiety, and loneliness (Compas, Wagner, Slavin & Vannatta, 1986).

It is widely accepted that having quality friendships is important for adolescent adjustment (Hartup & Stevens, 1999) and that students who have supportive peers experience better adjustment to college (Toews & Yazedjian, 2007). Friendships can be a buffer against maladjustment issues by providing support, helping with self-esteem, and connecting an individual with a network of friends that provides a sense of belonging. At the start of the freshman year, having a close friendship with someone from high school seems to help with social and emotional adjustment, but as the year progresses, having close relationships with new college friends allows the college student to adjust socially to his or her new environment (Swenson, Nordstrom, & Hiester, 2008).

In a study investigating how relationship networks evolve across development, Furman and Buhrmester (1992) found that during childhood parents are rated as the strongest source of support, by early adolescence same-sex friendships are seen as the most supportive, and by college romantic partner support rises in importance. Notably, male and female college students differed. Male college students reported their romantic partner as the most supportive and female college students reported their relationships with their mothers, friends, siblings, and romantic partners as the most supportive. In general, it seems that romantic partner support rises in importance by college age but that females rely on a cross-section of different types of relationships for support while males rely more heavily on their romantic partner. It is theorized that romantic partner relationships grow in importance during this time due to the drive for sexual intimacy

(Sullivan, 1953) and the cultural expectation of finding a partner with whom one can enjoy a long-term relationship (Furman & Buhrmester, 1992).

Looking at the evolution of social networks of college students through a different lens, college freshmen start the year with less intimate social networks that grow in depth and breadth over the first semester of college (Hays & Oxley, 1986). During this time, there are increases in the frequency of self-disclosure, the number of social interactions, and self-identifying as sharing characteristics with newly established relationship partners. This new network seems to also encourage new connections across a broader system such that relationship networks grow in size, which aids in successful adaptation to the college environment (Hays & Oxley, 1986). However, research also shows that freshmen report more personal-emotional problems during the first year of college than do the more senior college students (Lapsley, Rice, & Shadid, 1989). These personal-emotional problems could be related to the changes experienced in students' social networks.

As such, victimization is another important factor to consider when investigating adjustment to college. A recent study by Landoll, LaGreca, and Lai (2013) found cybervictimization was endorsed by over 82% of a sample of 216 college students ages 18-24 years. This study also revealed that cybervictimization was predictive of social anxiety, depression, and lower friendship quality. Recent research has started to investigate the link between victimization and academic achievement as well; however, this has focused more on younger adolescents. A study of adolescent youth ages 12-15 years old by Beran (2009) indicated that adolescents who are victimized are more likely

to experience poor school achievement. Together, these findings suggest that those who are victimized by peers are at greater risk for poor adjustment to college.

Risks for victimization and maladjustment in the college environment are likely influenced by the expansion of students' social networks. Most youth will attempt to remain connected with friends from their hometown while also developing new relationships within their college environment. This evolution in the social domain will increase the dynamics from which a student may experience victimization. Individuals who were previously traditionally victimized in their hometown may experience a reduction in face-to-face victimization by hometown peers but may experience an increase or continued cybervictimization by these peers who are still able to access this social connection via electronic media. This seems to leave college students more vulnerable to cybervictimization. Likewise, with continued exposure to online communication, new victimization experiences may occur by apparent strangers with whom they come into contact while accessing cyber social environments. Notably, the college environment greatly expands social opportunities in both the in person and online contexts. Youth will have new opportunities to connect with a great number of social networks associated with their new school and community and the increase in social connections may lead to higher risk for victimization. Thus, through all of these changes in the adolescent social environment, it seems probable that youth will have an increased vulnerability for cybervictimization overall.

In general, there is limited research on the variety of college students' victimization experiences (e.g., there is more research on sexual victimization but less on other forms), and how they relate to multiple domains of adjustment. Moreover, until

very recently, peer victimization research has not included victimization experiences that occur over electronic devices such as computers and cell phones, and considering the advances in current technology, it is reasonable to assume cybervictimization may play a significant role in students' adjustment to college.

Traditional Victimization

Definition and subtypes

Bullying has traditionally been defined as a form of aggression displayed through physical and verbal behaviors directed at a specific individual on a repetitive basis (Salmivalli, 2009). Bullying is characterized by three features: intent to harm, repetition over time, and a power differential. Intent to harm assumes that there is negative intentionality. Repetition over time simply means that there are multiple acts of aggression. A power differential could be identified through emotional, social, or physical differences that give the bully some form of dominance over the victim. Several subtypes of bullying have emerged in the literature since the beginning of research in this area. These subtypes can be classified into two major categories: direct and relational aggression. Direct aggression includes overt behaviors such as physical aggression (e.g., pushing), verbal aggression (e.g., name calling), and obscene gestures (Olweus, 1991). Relational aggression (also called indirect aggression) involves engaging in acts that damage relationships, harm one's reputation, or threaten one's sense of belonging (Crick, 1995).

Developmental and gender considerations

In early childhood, aggression is typically expressed physically but in middle childhood verbal and relational aggression become more prevalent and physical aggression declines (Rubin, Bukowski, & Parker, 2006). These changes occur as children gain in language and self-control skills and are increasingly socialized to not behave in overtly aggressive ways. A study by Alink and colleagues (2006) suggested that the expression of physically aggressive behaviors begins around 12 months of age, reaches a peak around age 3 years, and then declines. It is theorized that these early aggressive behaviors occur when the toddler is developing feelings of anger and frustration, and these behaviors dwindle as the child learns new methods of communicating these emotions. Beginning at the age of two years, gender differences in the use of physical aggression emerge, with males engaging in more physically aggressive behavior than females (Alink et al., 2006). Gender differences likely occur because females develop more advanced language skills earlier than males and females are more actively socialized to not engage in physical aggression. As children continue to develop, both males and females transition from using primarily physical aggression against all peers, to using either physical or relational aggression toward specific peers. Around age 4 or 5 years, forms of aggression become more targeted such that victim roles can be identified as consistently either relational or physical victimization (i.e., targets begin to assume a specific victim role; Crick, Casas, & Ku, 1999). Notably, victim roles are highly influenced by victim gender with males more frequently physically victimized and females more often relationally victimized.

Though gender differences in the perpetration of relational aggression have been recognized as early as preschool, overall prevalence of relational aggression continues to evolve throughout development as social and cognitive skills become increasingly more advanced. During middle childhood, females report increasing prevalence of relational aggression (Galen, 1997). Despite the fact that most research is unable to identify causation for gender differences, several hypotheses appear to be widely accepted and credit is generally directed toward social standards about normative development. For instance, males tend to play in larger groups and females tend to interact in smaller, more intimate groups (Rose, 2004). As such, learning how to become part of a group and be competitive among larger groups of peers may be more important for boys. In contrast, learning conversational skills to sustain a dyadic interaction may be more critical for girls. Consequently, it seems that relationally aggressive acts may be more accessible or salient for females not only because of the type of interactions they engage in with their peers but also because females tend to have better language skills than their male counterparts. In addition, males appear to be more concerned with social dominance rather than emotional relationships and females seem to be socially discouraged from the use of physical aggression (i.e., the old adage, "girls are made of sugar and spice, and everything nice" versus "boys are made of slugs and snails, and puppy-dogs' tails"). However, some studies have reported that males do in fact use indirect aggression as often as females (Peets, 2006).

Prinstein et al. (2001) conducted a study examining adolescent aggression and victimization. Results indicated that males were more apt than females to engage in overt aggression and be victims of overt aggression. No gender differences were found for

relational aggression; however, for females, relational victimization explained internalizing symptoms and relational aggression explained externalizing behaviors. Further, results indicated that for both genders relational victimization is associated with internalizing problems. Notably, youth who are the victims of both relational and overt aggression are especially likely to experience increased depression, loneliness, and externalizing problems. Another interesting finding from this study was that youth who use cross gender standards of aggression (e.g., females who engage in overt aggression) fare worse.

A meta-analysis of 148 studies (Card, Stucky, Sawalani, & Little, 2008) compared forms and use of direct and indirect aggression during childhood and adolescence. The results suggest that boys are more likely than girls to use direct aggression, but there are "trivial" gender differences for indirect aggression across age groups. Interestingly, the authors found that gender differences for indirect aggression varied by the type of reporter utilized. More specifically, parent and teacher reports indicated that females used significantly more indirect aggression than males but self-reports suggested that males used more indirect aggression than females. In contrast, peer and observation reports did not reveal statistically significant gender differences. Results further suggested that males use both direct and indirect aggression in combination while females tend to use one or the other. In a nutshell, it seems that when males aggress they use all forms of aggression and that when females aggress they will more frequently use relational aggression only (Card et al., 2008). It could be argued that males view both direct and indirect aggression as equally acceptable and feasible but females tend to selectively use one or the other. It may also be that perceived strengths or weaknesses,

influence of social norms, or actual development of skills may impact the form of aggression that females adopt. For instance, a female who is more physically dominant (i.e., stronger or taller) or who views herself as having greater physical capabilities, may be more inclined to choose directly aggressive tactics. Conversely, some females may be more influenced by social learning regarding gender stereotypical aggression (i.e., "girls don't hit") or may have more social connection (i.e., popularity), which may increase the likelihood that they will enact social manipulation tactics (i.e., indirect aggression). This could be why some research shows females are more likely than males to use relational aggression but other studies do not. Card and colleagues (2008) argued that the difference then is a relative within-group difference and that similarities across genders in the use of indirect aggression call for further research that includes both genders and different age groups.

In research involving older samples, one study of college students found that males are more likely than females to use relational aggression (Loudin, Loukas, & Robinson, 2003), while a study of young adults age 18-25 years indicated that men and women were equally likely to engage in relationally aggressive behavior toward peers (Goldstein, 2011). Furthermore, research has indicated that college students who have greater fears of negative evaluation or poorer perspective taking skills are more likely to enact relational aggression than their better-adjusted peers (Loudin et al., 2003). Another explanation to consider is that the decrease in the discrepancy between male and female use of relational aggression may be due to the decline of overtly aggressive behaviors that occurs as individuals get older (Alink et al., 2006 ;Galen, 1997).

Given the increased importance of romantic relationships during young adulthood, research has begun to examine the incidence of relational aggression among dating partners. An investigation of individuals ages 18-25 years indicated that relational aggression is more prevalent in dating relationships than in peer relationships (Goldstein, 2011). Notably, relational aggression in romantic relationships appears to be equally perpetrated by male and female college students (Linder, Crick, & Collins, 2002). Interestingly, in the same study, males reported higher levels of romantic victimization than females (Linder et al., 2002) and in another study females reported enacting higher levels of romantic relational aggression than males (Goldstein, 2011). In younger years, females are more likely to experience relational victimization, and it is unclear whether or not the increase in male-reported romantic relational victimization occurs because males have become more romantically involved or if there is a developmental shift that occurs.

Factors increasing vulnerability to peer victimization

Although responsibility for victimization lies with the bully and the victim certainly should not be blamed, it has been found that there are factors that increase individuals' vulnerability to victimization. Bullies routinely identify a characteristic in a peer that they deem is unusual or "different" and begin referencing the characteristic in a negative or demeaning way. These characteristics can be described using four categories of vulnerability: personal characteristics, behavioral vulnerability, emotional vulnerability, and social vulnerability.

Personal characteristics. In adolescent peer culture, youth who are perceived negatively by the group are more likely to be victimized (Kochenderfer-Ladd et al., 2009). Some characteristics that may be perceived negatively include class, race, religion,

physical attributes (e.g, overweight, large nose), or having a perceived non-normative sexual orientation. In fact, victims may be targeted for almost anything that is perceived as "different" – being too tall, too short, having acne, big ears, curly hair, clumsiness, or physical weakness, to name a few (Olweus, 1978). When bullies target a certain feature, it may come as a surprise to the victim. Research suggests that the anticipated outcome may "pull" the behavior when there is aggression without immediate provocation (Dodge & Coie, 1987). For example, a youth may never be picked on for having red hair and then one year suddenly this feature is targeted. The perceived randomness may enhance the vulnerability felt by youth once a particular characteristic becomes the focus. The bully may observe the feeling of shock and horror felt during these random encounters, which may serve as reinforcement for continued bullying behavior.

Behavioral vulnerability. Research also suggests that bullies may target a victim because of the behavior that the individual exhibits in social situations. Specifically, youth who display withdrawn or aggressive behavior are at increased risk for victimization (Kochenderfer-Ladd et al., 2009). Withdrawn children are often neglected by their peers (i.e., they are neither highly liked nor disliked) and display behaviors that are shy or passive. When attempting to enter a peer group they will hover around the outside of the group, hesitant to act (Kochenderfer-Ladd et al., 2009). These behaviorally withdrawn children are at higher risk of becoming passive victims. Passive victims tend to do little to provoke their aggressors but will often display anxious or fearful behavior that may be perceived by the bully in such a way that they are seen as an easy mark (Olweus, 1978). Research suggests that females are more apt to display social withdrawal than males, but overall males are more likely to be victimized (Boivin, Petitclerc, Feng,

& Barker, 2010). It may be especially problematic when males exhibit passive social behavior that conflicts with stereotypical gender norms, which place importance on males being strong or athletic. In addition, some investigations report higher prevalence of passive victims compared to aggressive victims, with estimates of passive victimization ranging from 9.5% (Hanish & Guerra, 2004) to 40% (Schwartz, Proctor, & Chien, 2001) and aggressive victimization ranging from 0.5% to 29% (see Schwartz et al., 2001, for review); however, at least one study has indicated that aggressive victims are more prevalent (Perry, Kusel, & Perry, 1988). Hanish and Guerra (2004) suggest that this difference may be due to less stringent inclusion criteria for the passive victim group. Interestingly, a study of mid- to late-childhood (Boivin et al., 2010) revealed that across development, victimization is increasingly associated with social withdrawal and less related to aggression. This may occur as a result of how peers view social withdrawal and aggression. Rubin and Mills (1988) suggested that peers perceive social withdrawal as more deviant during adolescence than childhood. As discussed earlier, during adolescence, youth place importance on behavior that is more "adult-like," and it is possible that older youth view peers who are more reserved and passive when faced with victimization as less capable or submissive. Thus, not only are passive victims likely to exhibit behavior that perpetuates their victimization but also they may simultaneously experience a reduction in social status as a result of their behavior. In contrast, across adolescence, antisocial behavior is increasingly viewed as "cool" and is more admired (Kiesner, & Pastore, 2005). Consequently those who are aggressive tend to be decreasingly targeted by bullies.

Especially during childhood, however, bullies are apt to target youth who exhibit aggressive behavior because the behavior is perceived as disruptive or provocative. These aggressive youth tend to have fewer prosocial behaviors and frustrate their peers through displaying behavior that is viewed as attention seeking or ill mannered (Schwartz et al., 2001). When attempting to enter a peer group, these children will barge in and display behaviors that are less socially savvy (Kochenderfer-Ladd et al., 2009). Aggressive victims have been found to attribute hostile intent in ambiguous social situations (Schwartz et al., 1998). More specifically, they are likely to cognitively attribute the actions of others as being purposefully malicious when the circumstances are unclear. For example, if a peer invites several of the target's friends to a gathering but does not include the target, that person might attribute the cause as intentional and assume the peer does not like him or her and, in response, may lash out at the peer. This kind of emotional responsiveness is related to victimization (Kochenderfer-Ladd et al., 2009). Emotional reactivity refers to how quickly and intensely an individual feels emotions, whereas emotion regulation is the individual's ability to monitor and control the expression of these emotional states in order to adapt socially. These two components interact such that children who experience intense negative emotionality may have difficulty regulating these emotions and, thus, display heightened emotional reactivity that results in socially maladaptive behaviors.

Aggressive victims tend to display greater difficulties with emotion dysregulation, hyperactivity, and impulse control (Toblin, Schwartz, Gorman, & Abou-ezzeddine, 2005). While these youth respond with aggression, the tactics they use are typically ineffective and not goal oriented (Schwartz et al., 1997). Thus, it appears as though

aggressive victims lash out in response to social situations but do so in a way that brings further negative attention, increasing the likelihood of continued victimization. A study of mid- to late-childhood (Boivin et al., 2010) indicated that males were more likely than females to be the victims and perpetrators of overt aggression. Additionally, aggressive victims experience worse outcomes than passive victims and their normative peers. When compared to their peers, aggressive victims have more extreme issues with anxiety and depression (Schwartz, 2000), are the most disliked by peers (Perry et al., 1988), and have the worst academic achievement (Toblin et al., 2005). In essence, the very avenue with which these youth are attempting to inhibit bullying behavior (via the use of aggression) serves to maintain the bullying behavior by the peer, and the emotion dysregulation the victim displays may further perpetuate maladjustment.

Psychological vulnerability. An additional factor related to victimization is psychological vulnerability, which may both precede and be an outcome of victimization (Kochenderfer-Ladd et al., 2009). For instance, a youth with depressive affect may exhibit behaviors that are perceived by peers as disinterest or annoying, thus thwarting social bonding. Bullies tend to choose victims whom they perceive as weaker than themselves in order to minimize retaliatory actions. Thus, individuals displaying depressive vulnerability may be perceived as a suitable target. These victims also likely become even more depressed following peer victimization.

A recent meta-analysis of 18 longitudinal studies of children and early adolescents established support for depression as both an antecedent and a consequence of victimization (Reijntjes et al., 2010). Individuals who are depressed often display symptoms of irritability and rumination, and they tend to seek higher levels of support

from others; all of which appear to be harmful to relationships (Rudolph, Ladd, & Dinella, 2007). It has been suggested that peers find their depressed friends to be annoying because of their frequent complaints and need for reassurance (Coyne, 1976). Likewise, depressed youth often report experiencing problems with low self-esteem (Weiss, Weisz, Politano, Carey, Nelson, & Finch, 1992), which also predicts victimization (Egan & Perry, 1998). It seems that individuals with low self-esteem may lack the motivation or be hesitant to defend themselves when they are victimized. Ghoul, Niwa, and Boxer (2013) found that youths' self-esteem during adolescence might be especially susceptible to peer influence because of the focus on identity formation that occurs during the teen years. Interestingly, cognitions may exacerbate the influence of victimization on self-esteem and depression. When individuals are victimized and they attribute the cause of the victimization as being something about them that they cannot change, then they are more likely to have worse symptoms of depression (Graham & Juvoven, 1998). For example, if the victim attributes the cause to be "I'm not skilled enough to come up with a good social response," this represents a characterological self-blaming attribution that is associated with believing the victimization will occur again and the victim does not have control to stop it (Graham & Juvoven, 1998). Similarly, Prinstein, Cheah, and Guyer (2005) conducted two studies of adolescents that suggest critical self-referent attributions are associated with depressive symptoms when there are high levels of peer victimization. Thus, adolescents who are depressed prior to victimization may be more likely to blame themselves for their own victimization experiences, which will lead to greater depressive symptoms and also increase the likelihood of future victimization.

Similarly, investigations have focused on determining whether anxiety is an antecedent to victimization. When individuals have anxiety they are likely to appear anxious and fearful to their peers, which may signal a bully that they are less able to defend themselves (Crawford & Manassis, 2011). Bullies might also target anxious youth because they are prone to crying and displays of sadness that may be reinforcing to the bully (Hodges & Perry, 1999). Further, it is unlikely that youth who have anxiety will retaliate or fight back when they are victimized (Olweus, 1995). Several studies have found that anxiety predicts to later peer victimization (Crawford & Manassis, 2011; Hodges & Perry, 1999; Reijntjes et al., 2010) and that victimization experiences further exacerbate symptoms of anxiety (Hawker & Boulton, 2000; Storch, Masia-Warner, Crisp, & Klein, 2005).

Social vulnerability. It seems that the social environment interacts with the individual to create characteristics that may serve to encourage or maintain bullying behaviors (Kochenderfer-Ladd et al., 2009). Some of these characteristics include having low peer status, no friendships, or low quality friendships. Being rejected (i.e., highly disliked by peers) has been distinguished as a separate construct from victimization in that victims are not always disliked by their peers and rejected youth are not always victimized (Lopez & DuBois, 2005). Though the two constructs are unique, they do overlap. For example, being disliked by peers (e.g., having a low status in the peer group) appears to increase the likelihood that a youth will be victimized (Hodges & Perry, 1999). Rejected youth may be viewed as an acceptable target because of the general shared dislike by peers and the awareness that other peers would not likely defend them (Hodges, Malone, & Perry, 1997). Furthermore, rejected youth tend to have fewer

prosocial behaviors and display behavior that is seen as aggressive or socially withdrawn. Interestingly, rejected children engage in these maladaptive behaviors only a small percentage of the time, but these behaviors are salient to their peers and, therefore, noticed and interpreted negatively by peers (Kochenderfer-Ladd et al., 2009). Consequently, it seems that rejected youth do not get much leeway with their peers and are unlikely to have a friend to back them up when they are victimized.

Having at least one mutual friendship has been shown to decrease the risk for peer victimization (Prinstein et al., 2001), and because this theory has been supported frequently in research, it is now dubbed "the friendship protection hypothesis." Some youth do not have a close friend and some report friendships that do not seem to buffer negative outcomes. In a longitudinal study, Hodges, Boivin, Vitaro and Bukowski (1999) found that victimized children who did not have a reciprocated best friendship exhibited an increase in internalizing and/or externalizing problems one year later, whereas youth who did have a best friend did not display an increase. Results further suggested that children with internalizing and externalizing behaviors at time one were more likely to be victimized at the one-year follow-up, but only for those who did not have a best friend. Thus, those who do not have a best friend experience worse psychological adjustment and also are more apt to experience additional victimization.

In an investigation of how friendships buffer negative outcomes, Adams, Santo, and Bukowski (2011) asked 5th and 6th graders to respond to questions about experiences that happened 20 minutes prior to data collection. Collection intervals occurred multiple times each day across four consecutive days. In addition to responding to questions, children provided salivary cortisol (i.e., a hormone that increases during times of stress)

samples. Interestingly, when a best friend was not present during a negative peer interaction, there was a significant increase in cortisol and a significant decrease in global self-worth, but when a best friend was present, there was less change in both cortisol and self-worth ratings. These findings provide evidence that youth who do not have friends are less able to cope with negative peer experiences. Though this study did not measure victimization per se, the results suggest that because peer victimization is a negative experience, that youth who are friendless and peer victimized are more likely to experience elevated levels of cortisol and decreases in feelings of self-worth following victimization.

In a study that investigated the role of close friendships in the adjustment of adolescents who experience peer victimization, Prinstein and colleagues (2001) found that for the teens that reported low levels of close friendship support, relational victimization was positively correlated with externalizing behavior, but this relationship was not significant for those with close friend support. In other words, relationally victimized adolescents who do not have a close friend are more likely to display problematic behavior than teens that have a close supportive friendship.

Although it does seem that having at least one friend can be protective, youth who have internalizing problems (a predictor of victimization) are likely to have friends who are also submissive and, consequently, these friends might offer little in the way of protection from victimization (Hodges, Malone, & Perry, 1997). Further, this study found that problematic outcomes were more strongly related to victimization for the children with friends who could not protect them. Thus, it seems that having friends who are unable to help retaliate against bullying behavior does little to decrease victimization. In

sum, having no close friendships, or having friends who cannot fulfill a protective function, increases the likelihood youth will experience worse outcomes when they are victimized and also that they will continue to be victimized.

Outcomes. Victimization is associated with a host of negative outcomes including internalizing and externalizing problems, as well as increased academic and social problems (Hawker & Boulton, 2000; Prinstein et al., 2001; Reijntjes et al., 2010). It also seems that these psychological difficulties are apt to be further exacerbated by continuing experiences with bullying, leaving these youth at increased risk for developing psychopathology (Prinstein et al. 2001). Importantly, youth who are victimized and who have few social supports may have less adaptive coping methods, putting them at greater risk for suicide and non-suicidal self-injury (Adrian, Zeman, Erdley, Lisa, & Sim, 2011; Rigby & Slee, 1999).

A large-scale cross-national study coordinated by the World Health Organization investigated outcomes for US youth in grades 6 through 10 (Nansel et al., 2001). Results revealed that 29.9% of the sample was involved in moderate or frequent bullying (combined overt and relational) with 10.6% reporting being the victim. Victims of bullying reported greater feelings of loneliness, had worse relationships with classmates, and reported more problems making friends. Hence, victimization appears to have direct consequences for the psychosocial domain. Other research has found that victims of relational bullying report a heightened fear of negative evaluation and increased social avoidance compared to their peers (Vernberg, Abwender, Ewell, & Berry, 1992). Moreover, a longitudinal investigation of early adolescents suggested that relational victimization predicts social phobia (Storch et al., 2005). It seems that relational victims

begin avoiding social situations in an effort to decrease the opportunity for further victimization, but this pattern of avoidance can contribute to poor psychosocial adjustment.

In other work, a meta-analysis of cross-sectional studies published between 1978 and 1997 suggested that victims of peer aggression experience greater depression, loneliness, general and social anxiety, and lower self-worth, with victimization most strongly associated with depression (Hawker & Boulton, 2000). Similarly, an investigation of peer victimization in grades 10 to 12 indicated that social anxiety was both a predictor and a consequence of peer victimization and that relational victimization was uniquely and strongly associated with social anxiety symptoms (Siegel, LaGreca, & Harrison, 2009). Likewise, Prinstein et al. (2001) found that adolescents who were victims of relational or overt aggression experienced elevated symptoms of depression, loneliness, and decreased self-worth. They also suggested that these internalizing symptoms might increase vulnerability for future victimization that would, in turn, exacerbate internalizing symptoms, which may represent a spiraling cycle. This cycle may be partially explained by considering cognitive developmental aspects of adolescence. During this stage, youth are more egocentric and their social encounters are becoming increasingly more important to them. As such, they may be prone to more introspection about their day-to-day lives and are likely to get "stuck" pondering challenging social interactions. In fact, Barchia and Bussey (2010) reported that victimized early adolescents reported greater rumination, which mediated the relationship between victimization and increased depression. Further, this study suggested that

victimized adolescents were less likely to believe that others could aid in stopping the aggression so they seek support less, leading to greater depression.

Heightened symptoms of depression may be especially problematic during adolescence as teenage youth are at greater risk for suicidal ideation (Cicchetti & Toth, 1998). Roland (2002) found that victims experienced increased depression and suicidal ideation and that females had higher mean scores on depression and suicidal ideation than males. It is possible that conflict in interpersonal relationships is more troublesome to females than to males because females tend to place more importance on relationships and intimacy (Rose, 2004); however, there may be other factors involved such as having fewer social supports. Adolescents who report experiencing more frequent victimization and also have fewer social supports are more apt to express elevated levels of suicidal ideation (Rigby & Slee, 1999). During adolescence, youth may especially rely on friends to help manage their emotions, and youth who have fewer social supports could lack necessary coping mechanisms that place them at increased risk for suicidal ideation and non-suicidal self-injury (Adrian et al., 2011; Rigby & Slee, 1999).

Relational aggression has been linked to other forms of maladaptive interaction, including intimate partner violence (IPV). Notably, IPV is more common among college students than the general population (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Relational aggression in romantic relationships is associated with acceptability of dating violence (Prather, Dahlen, Nicholson, & Bullock-Yowell, 2012). Given the correlational design on this study, directionality cannot be determined. However, it appears that individuals who engage in romantic relational aggression may be at greater risk for also being involved in IPV. As there is evidence that aggression in young adults'

romantic relationships is stable across time (Capaldi, Shortt, & Crosby, 2003), involvement in romantic relational aggression during college might contribute to maladaptive relationship experiences throughout adulthood.

Summary and Implications. In general, bullies tend to choose victims whom they perceive as socially or emotionally weaker than themselves and, thus, an easy conquest. Simultaneously, victims may be experiencing internalizing problems or interpersonal distress that contribute to their perceived weakness by the bully. Consequently, the act of bullying will further exacerbate the power differential by reinforcing the status of both the victim and the bully. After the bullying incident, victims may experience heightened anxiety or emotional distress that increases the likelihood of repeated victimization and/or the development of psychopathology. Thus, the interactive components of this cycle of bullying may represent a spiraling process that is difficult for individuals to exit.

Cybervictimization

Although traditional bullying strategies have been employed by youth for many years, the recent explosion in the use of electronics has opened up a whole new arena in which bullying behaviors can occur. Technology offers a way for youth to stay connected with their friends and to facilitate making new friends, but it also provides another avenue for rejection, harassment, and exclusion. As such, there is reason to assume that victimization that occurs through electronic devices is related to maladaptive outcomes. To investigate this most recent method of victimization, a new area of research has recently begun to focus on understanding the mechanisms, risk factors, and outcomes associated with cyberbullying and cybervictimization.

Definition and subtypes

Cyberbullying includes bullying via electronically transmitted text messages, email, phone calls, instant messaging (IM), videos and photos, chat rooms, and social networking sites (SNS; Smith et al., 2008). These communications may be sent to a targeted individual, to another person about the individual, or shared in an electronic public forum. As stated previously, traditional bullying has been described as including three main characteristics: intent to harm, a power differential, and repetition over time. The ways in which these characteristics have been described for traditional bullying include descriptors that require the presence of the individual and possibly also an in-person peer audience; however, electronically mediated communications do not require the physical presence of others because one can be alone in a room while on a computer. Moreover, within the realm of cyberbullying, two of the three defining characteristics of bullying, repetition and power differential, have been reconceptualized. (Dooley, Pyzalski, & Cross, 2009).

Previous research on traditional bullying has been able to clearly identify repetition as *numerous acts of aggression* to fulfill the repetitive characteristic; however, cyberbullying may not be this simple. One single derogatory website can result in widespread and continuous ridicule and humiliation that is relived by the victim, repeatedly (Dooley et al., 2009). As such, one single act of cyberbullying may contribute to repetitive victimization experiences. For example, email and text messages can be forwarded to others, resulting in multiple repetitions of hurtful messages and an increasing audience size. Messages and comments posted to websites can be re-posted to additional people or new derogatory messages can be added in response. Furthermore,

when an interaction occurs in person, the memory of the event has the potential to fade over time, but this is not the case with electronic communications. The permanence of electronic messages results in messages that can be viewed multiple times by the victim, the bully, and the audience, which reduces or eliminates the likelihood of declining memory. Thus, with electronic communications, not only is it possible to expand the audience but also these experiences can be revisited over and over.

In addition to reconceptualizing repetition, the power differential for cyberbullying must be reconsidered. In traditional bullying research, the power differential may be emotional, psychological, or physical. Cyberbullying adds many more ways in which a power differential may be experienced. It is possible that individuals with advanced technological skills have increased power, though this would not always be necessary. Because most people, especially younger generations, are constantly surrounded by technology, victims may feel unable to escape, which will decrease their power and increase feelings of helplessness (Spears, Slee, Owens, & Johnson, 2009). The aggressor's identity may be unknown, which increases frustration and feelings of powerlessness (Mishna, Saini, & Solomon, 2009). Also, because cyberbullies do not need to have emotional, psychological, or physical prominence, more individuals are able to become bullies. And, finally, there is possibly a group effect with cyberbullying because many people are often able to observe and participate in the bullying act.

Is cyberbullying unique?

Though cyberbullying has some apparent different characteristics compared to traditional forms of bullying, some researchers have argued that cyberbullying is not a unique form of bullying (Olweus, 2012). In order to document uniqueness, investigators

have sought to identify whether cyberbullying is a different form of bullying than traditional bullying. Scholars have published investigations aimed at comparing the construct of cybervictimization to traditional forms and describing how youth perceive cybervictimization experiences to be different from traditional victimization in an effort to delineate this new form of bullying from previous forms.

A study including over 400 middle school children (Varjas, 2009) suggests that although there is some overlap between traditional and cyberbullying, cyberbullying is a separate construct. Confirmatory factor analysis of overt, relational, and cybervictimization revealed three separate constructs with a large residual variance when comparing cyber to the more traditional forms of victimization. The authors suggest that electronic bullying interactions vary from traditional bullying interactions in fundamental ways that need to be further explored. Similarly, a study including almost 1700 middle school children (Dempsey, Sulkowski, Nichols, & Storch, 2009) indicated that cyberaggression was a different latent construct from direct and relational aggression. In this study, confirmatory factor analysis revealed a 3-factor model of overt, relational, and cybervictimization was an appropriate fit with only weak associations among the factors, suggesting minimal overlap among the three constructs. These results further support that cybervictimization is a different experience from traditional victimization. Further, although these constructs do appear to correlate with one another, the overlap accounts for only a small percentage of the individuals, which further supports that cybervictimization affects an additional subset of youth who are not victims of the more traditional forms of bullying.

An Australian focus group study including early adolescents sought to identify factors that may be unique to cyberbullying (Mishna et al., 2009). Youth in this study reported that cyberbullying was "non-stop bullying" because it continued into their homes and, often, into their bedrooms. Youth further suggested that bullies "hide behind their keyboard" and "could be anyone" emphasizing the roles of anonymity. The authors suggest that bullies feel comfortable bullying from their own home and fear few consequences and believe that the victim would have no proof of their identity. This allows the bully to threaten, harass, and denigrate freely. Although youth in this study reported that anonymity was an integral component of cyberbullying, on self-report measures they indicated that cyberbullying often happens within their social circle of friends. In a similar focus group study, teens reported that cyberbullying was "constant all the time, really hard to escape" and "loads of people can see it if it's on the internet" as well as "you haven't got friends around you to support you" (Smith et al., 2008). Additionally, youth reported that picture and video clip cybervictimization was worse than traditional victimization but that chatroom and text messages were not as threatening as face-to-face victimization. In sum, youth describe cybervictimization as an unpleasant experience that is different and at least as bad if not worse than traditional victimization. Taken together, results from focus group studies and investigations of specific constructs suggest that cybervictimization is indeed a different form of victimization and that cybervictimization impacts an additional subset of youth.

Prevalence

Cybervictimization appears to be a distinct form of victimization that is highly influenced by the continual growth in technology. Currently, 97% of youth are connected

to the internet in some way (Tokunaga, 2010). In addition, 78% of all adolescents have a personal cell phone and almost half of them own a smartphone, which likely includes access to the internet (Madden, Lenhart, Duggan, Cortesi, & Gasser, 2013). A recent review of the literature (Tokunaga, 2010) determined that on average 20-40% of youth experience some form of cybervictimization. Another study (Calvete, Orue, Estevez, Villardon, & Padilla, 2010) asked youth to self-report on their cyberbullying behaviors. For any one item, between 8-20% of youth endorsed performing that bullying behavior and when the items were collapsed, 44% of youth endorsed performing at least one cyberbullying behavior.

Prevalence rates are likely impacted by how youth respond to cyberbullying. Generally, youth will consult a friend and rarely tell an adult (Tokunaga, 2010). An investigation aimed at identifying more details about these responses to cyberbullying suggests some alarming results. Over 40% of youth said that they would do nothing if they were cyberbullied and one in ten said that they would inform an adult (Li, 2010). Youth reported feeling reluctant to tell an adult because they feared the adult would not believe them, felt there was no way to stop the bullying, and believed that they might get themselves into trouble. Importantly, one-third of the youth reported that they believed informing an adult would only make things worse. An additional study indicated that youth do not tell adults about cyberbullying because they want to avoid conflict and maintain peer group harmony (Huang & Chou, 2010). Consequently, it is likely that prevalence rates for cybervictimization are underestimated.

Developmental and gender considerations

Several investigations have sought to identify developmental patterns in cybervictimization; however, many of the results conflict. One study suggested that cybervictimization continues to become more prevalent from ages 11 to 16 years (Smith et al., 2008). Specifically, results indicated a 14% prevalence in 7th grade, 19% in 8th and 9th grades, and 26% in 10th and 11th grades. Conversely, some studies report that cybervictimization seems to peak between the ages of 12 and 14 years (see Tokunaga, 2010 for review). An investigation including over 2,000 middle and high school students found that 6th and 7th graders are more apt to be cybervictims than 10th and 11th graders, but 10th and 11th graders are more likely to be combined bully-victims (i.e., both a perpetrator and a victim) (Mishna, Khoury-Kassabri, Gadalla, & Daciuk, 2012). Thus, it seems possible that there is a developmental progression of cybervictimization such that individuals who are victims earlier on proceed to become both a perpetrator and a victim of cyber aggression in later development. Additionally, it may be easier for cybervictims to retaliate with cyber aggression as the physical power differential is not necessary and access to technology is readily available.

Developmental changes during adolescence are also noteworthy as these changes likely influence involvement in online activities. During this developmental period there is an increase in relational aggression (Rubin, Bukowski, & Parker, 2006), youth have greater independence and less monitoring from adults, and youth are experiencing advances in their social skills. They also tend to have an increase in access to technology (Madden, Lenhart, Duggan, Cortesi, & Gasser, 2013; Tokunaga, 2010) and develop enhanced technology skills. All of these factors combine to make adolescents especially

vulnerable to cyberbullying and cybervictimization. Even though there is some evidence that cybervictimization peaks in early adolescence, this evidence is not conclusive and the influence of technology on later adolescent development is not well understood. It certainly seems as though later adolescents are just as well connected to electronic devices as are early adolescents, and in fact with an expanding social circle and less parental monitoring, they may be quite vulnerable to cybervictimization. Yet, this group appears to be neglected in cybervictimization research.

In addition to exploring developmental issues, several studies have revealed gender differences in vulnerability to cybervictimization. A large-scale investigation of middle and high school students reported that females are more likely than males to be cybervictims, and females are also more apt to be bully-victims (Mishna et al., 2012). Similarly, a study that included almost 1,400 youth ages 6-17 years found 32% of males and 36% of females were cybervictims (Hinduja & Patchin, 2007). Further, other research showed that females reported greater frequency of relational and cyber victimization than did males (Dempsey et al., 2009). It seems that females may be more likely to aggress and to be victims online because cyberbullying behaviors can be considered a form of relational aggression, which is a type of aggression that is more salient to females and more prevalently used by females. Therefore, it makes sense that females are equally or more likely to be participants in cybervictimization experiences (Hinduja & Patchin, 2008).

Although some results parallel the gender differences found with relational victimization, other cybervictimization studies report mixed or opposite results. An investigation of early adolescents indicated that males are more likely to be cybervictims

than females (Huang & Chao, 2010). The authors suggest that males may be better skilled at using computers due to another result in the study identifying that the majority of cyberbullying took place via a computer. Smith et al. (2008) published the results of two studies investigating youth ages 11-16 years. In the first study, females were more likely to be cybervictimized, but no gender differences were identified in the second study. Unlike traditional victimization, electronic social interactions do not have a physical presence and, thus, gender may not have as much of an influence (Huang & Chao, 2010).

Factors increasing vulnerability to cybervictimization

As with traditional victimization, there are certain factors that appear to increase the risk for particular individuals to be targeted for cybervictimization. Though these risk factors vary substantially from risk factors for traditional victimization, they will be described using the same categories of personal characteristics, behavioral vulnerability, psychological vulnerability, and social vulnerability.

Personal characteristics. An individual's interest in using technology is one way of identifying personal characteristics that increase his or her vulnerability to cybervictimization. This includes characteristics such as how much time the individual spends online and how susceptible to cybervictimization the activities the person does online are.

A study of almost 1400 adolescents revealed that youth were more likely to be a cybervictim when they reported spending more time on the Internet and were more computer proficient (Hinduja & Patchin, 2008). Similarly, another study found that cybervictims are more likely than those who are not cybervictims to use the computer for more hours each day and to give their password to a friend (Mishna et al., 2012). Thus, it

seems that with increased computer use, the risk for cybervictimization escalates. This may occur simply because the greater duration of time allows for more opportunity for cybervictimization experiences or it may be that increased time spent on the computer leads to involvement in more varied activities online.

Online activities were evaluated in an investigation to determine different risk factors for cybervictimization (Mesche, 2009). Youth who had active SNS and used chat rooms had an increased risk for cybervictimization but this was not the case for other online activities like gaming. It seems that the type of online activity plays a role in victimization, and it is possible that online activities that include displaying personal information may increase risk by creating an "electronic vulnerability."

Investigations have identified an increased risk of cybervictimization when youth also report that they have higher levels of instant messaging and webcam use (Juvoven & Gross, 2008). Greater risk is also found when an adolescent has a personal email account that is not accessible by his or her parents, when the individual spends at least four hours per week with a boyfriend/girlfriend, when he or she engages in at least four hours of computer-based social activities, and when the adolescent has a personal web site (Twyman, Saylor, Taylor, & Comeaux, 2010).

Interestingly, the risk associated with some online activities varies by gender. It seems that both genders are more victimized in chat rooms and by computer text message, but females are more victimized than males through email (Hinduja & Patchin, 2008). This study reported that females used email at a higher frequency than males and, as a result, it is possible that greater use of any particular form of online communication may increase the likelihood that an individual will be victimized via that form of

communication. It is also possible, however, that there are gender preferred modes of cyber aggression, but this has not yet been explored in cybervictimization research.

A study specific to victimization in chat rooms suggests that chat rooms are highly conducive to cybervictimization. It seems that there is an increased opportunity for users to assume anonymity in chat rooms. In chat rooms, users create a profile and are able to portray themselves as someone other than themselves. Thus, chat rooms may represent a unique online social environment in which cybervictims will be less likely to identify the perpetrator of aggression. An investigation including 1,700 students in 5th to 11th grades indicated that 69% of students reported regularly chatting in chat rooms (Katzer et al., 2009). Moreover, youth who told lies in chatrooms or used socially manipulative chat behavior experienced higher levels of cybervictimization in chatrooms. As a result, it seems that youth who use online chatrooms are at increased risk for cybervictimization, especially when they also exhibit certain behaviors.

Behavioral vulnerability. Specific behaviors have also been associated with an increased risk for cybervictimization. Behaviors such as recent school problems (e.g., skipping school), assaultive behaviors (e.g., getting in fights), and substance use (e.g., smoking marijuana) are associated with higher prevalence of cybervictimization (Hinduja & Patchin, 2008). Likewise, cybervictims and bully-victims are more likely than those not involved in cyberbullying to express verbal and/or physical aggression toward peers at school (Mishna et al., 2012). Modecki, Barber, and Vernon (2013) conducted a three-year longitudinal study in which they followed participants from 8th to 10th grades. Results suggest that developmental increases in problem behavior (e.g., physical fighting, substances, delinquency) across grades predicted cybervictimization in 11th grade.

Specific contributions of problem behavior are not known but may indicate problem behavior as a sign of increased risk that happens when adolescents have higher levels of association with deviant peers or less parental support or monitoring. Thus, these behavior problems may be indicative of greater involvement in interpersonal relationship problems.

When youth exhibit more problematic peer relationships, they are more likely to be involved in cybervictimization as both a perpetrator and a victim. In fact, bully-victim emerged as a common category for involvement in cyberbullying (Mishna et al., 2012). The authors of this study suggest that it may be easier for youth to shift between victim and perpetrator roles in cyberbullying than in traditional bullying because of increased access to technology and the lack of social cues that might act as a deterrent for some traditional bullying. They further explain that the lack of social cues might make it easier for youth to respond for revenge or payback as the inability to observe victim reactions may lessen feelings of guilt.

Psychological vulnerability. A variety of psychological vulnerability factors are associated with an increased likelihood of cybervictimization. Given that studies have used a correlational design, directionality cannot be assumed. Indeed, it is possible that symptoms of psychological distress are an antecedent and/or a consequence of cybervictimization. To date, research has examined several socioemotional variables that are correlated with being a cybervictim.

Youth who are cybervictims are more likely to exhibit deviant or delinquent behaviors; however, this relationship is fully mediated by the level of personal distress the victim has recently experienced (Hinduja & Patchin, 2007). Examples of distress

included, “parent divorced,” “recent death or hospitalization of close friend or family member,” and “broke up with significant other recently.” Thus, deviant or delinquent behavior was explained by the degree to which the victim was experiencing emotional distress. Therefore, it seems that youth who are suffering from psychological distress may be especially vulnerable to negative outcomes when they are cybervictimized.

Additionally, a study including almost 400 high school students indicated that cybervictimization predicted loneliness (Sahin, 2012). The author suggests that individuals who are lonely may seek out methods of electronic communication in an effort to lessen their loneliness, which, in turn, may increase their risk for cybervictimization due to the greater amount of time spent online. Further, subsequent victimization would exacerbate the already established feelings of loneliness; however, a causal relationship was not established and directionality can be discussed only in conjecture.

In a similar study, Ybarra (2004) included over 1,500 youth ages 10-17 years. Results revealed that victims were three times more likely to report major depressive-like symptoms than nonvictims. In addition, 30% of victims reported feeling very or extremely upset by the online incident. Those who are depressed may be more apt to perceive social situations as threatening, and the lack of social cues during electronic communications may increase the likelihood that depressed individuals will misinterpret interactions due to an elevated negative interpretation bias (Ybarra, 2004). Research has indicated that depressed individuals are more likely to interpret the actions of others as being more negative toward them (Hankin, 2006). Thus, individuals who have depressive symptoms may report higher rates of victimization due to a negative interpretation bias;

however, it also seems likely that they are viewed in such a way by their peers that depressive symptoms may be perceived as a sign of weakness, making them seem like suitable targets of bullying.

Additional support for psychological vulnerability was identified in a three-year longitudinal study that followed participants from 8th to 10th grade (Modecki et al., 2013). Over time, developmental decreases in self-esteem predicted cybervictimization in 11th grade. It is possible that youth who suffer declines in self-esteem also experience diminished social competence, which may reduce their number of social interactions. Peers may view these individuals as social outcasts who are weak, and consequently they may perceive them as easy and deserving targets for victimization. In addition, depressed mood in 8th grade predicted cybervictimization in 11th grade, regardless of change in depressed mood across time (Modecki et al., 2013). It seems that youth who exhibit depressed mood early in development become targeted as potential victims and remain targets whether or not they experience changes in depressed mood. In sum, problematic psychological adjustment may increase the likelihood that some youth will be victimized, but it is not clear whether the link between cybervictimization and maladjustment is unidirectional or bidirectional.

Social vulnerability. Psychological adjustment is apt to be influenced by social relationships. As such, social vulnerability factors are also likely related to cybervictimization. For example, a study including 261 youth in 6th to 8th grades found that peer rejection was correlated with cybervictimization (Wright & Li, 2013). Specifically, the more rejected by peers, the greater the likelihood the individual was also

cybervictimized. As peer rejection has been closely linked with traditional victimization, this finding is not surprising.

In research on traditional bullying, having more friends is associated with a decreased risk for victimization, suggesting that friends provide protection from bullies. However, a study including over 7,000 adolescents (Wang, Iannotti, & Nansel, 2009) revealed that cybervictimization was not associated with number of friends. Hence, the results of this study oppose the friendship protection hypothesis. The risk for being bullied over the internet does not seem to be reduced by quantity of friends.

Another risk factor for increased cybervictimization is being a victim of traditional bullying. Multiple studies have found that when an individual is overtly or relationally bullied, that individual is more likely to also be cyberbullied (Hinduja & Patchin, 2008; Juvoven & Gross, 2008; Ybarra & Mitchell, 2004). Further, results suggest that those who have been victims of traditional bullying in the previous six months are more than 2.5 times more likely to be victims of cyberbullying (Hinduja & Patchin, 2008). Interestingly, another study found an even larger effect. Juvoven and Gross (2008) reported that individuals who were bullied in school were seven times more likely to be cyberbullied. In fact, being repeatedly bullied in school predicted repeated acts of cyberbullying (i.e., bullied seven or more times in the past year). Thus, it seems cyberspace may be an extension of the social atmosphere experienced at school such that bullies are enabled to continue to reach out and target youth even when they are no longer face-to-face.

Factors specific to college students. Several vulnerability factors for cybervictimization pertain specifically to the college environment. One such concern is

related to mental health problems that are experienced by college students. The National Alliance on Mental Illness (Gruttadaro & Crudo, 2012) published statistical data for 765 college students in 48 states and the District of Columbia. According to the NAMI report, college students reported experiencing the following psychiatric symptoms: 27% depression, 24% bipolar disorder, 12% other (borderline personality disorder, dysthymia, eating disorders, obsessive-compulsive disorder, schizoaffective disorder, autism spectrum disorder), 11% anxiety, 6% schizophrenia, 6% PTSD, 5% ADHD, 1% substance use. In recent years, college counseling centers have reported increasing numbers of students in psychological distress (Byrd & McKinney, 2012). Further, racial and ethnic college minorities are in more distress than majority college students (Locke, Bieschke, Castonguay, & Hayes, 2012), and perceived racially tense campus climates are heightening psychological distress (Byrd & McKinney, 2012). In addition, first-generation undergraduate students report having less perceived social support, more traumatic stress, less life satisfaction, and more depressive symptoms than students with at least one parent who has graduated from college (Jenkins, Belanger, Connally, Boals, & Duron, 2013). As a result of all of these personal characteristics, students on college campuses are in a uniquely vulnerable position to experience worse outcomes when they are the recipients of cybervictimization. For example, rumination mediates the relationship between cybervictimization and depression (Feinstein, Bhatia, & Davila, 2014). As such, college students who are already experiencing depressive symptoms or dysthymia may be more likely to ruminate after receiving a harassing electronic message, thereby exacerbating their psychological distress.

In addition to mental health concerns, the college environment may lend itself to increases in access to personal information. College students live in a relatively close community with easy access to class schedules, phone numbers, and email addresses (Finn, 2004). In a study of almost 340 college students, up to 15% of students reported receiving electronic messages that "threatened, insulted, or harassed" (Finn, 2004). Almost 60% of the students received unwanted pornography, with one-third receiving the message five or more times. Importantly, sexual minority students were more likely to receive harassing messages from strangers than heterosexual students. Only 6.8% of the students indicated that they have reported incidents of online harassment and approximately half of those students indicated that the situation was not satisfactorily resolved.

In addition, college student drinking, sexual and relationship violence, and suicide have become critical areas of concern (Pinder-Amaker, 2012). In fact, student drinking has emerged as one of the greatest threats to college campus safety (Cooper, 2006). When traditionally-aged students begin college, it is often the first time that they have lived away from their parents and are forced to navigate social situations without the influence of adult supervision. Simultaneously, they are experiencing social pressure from peers and an emotional need to fit in among peers. A multitude of new social situations arise during college that have the potential to be problematic for some college students. Students are faced with figuring out how to be successful in a new living situation where they likely have a roommate and live in a dorm. Such close living conditions may contribute to additional stress. Some students will choose to become involved in sororities and fraternities that may participate in hazing new incoming pledges. In fact, a

study of over 1100 college students across the United States identified that a range of student organizations and athletic teams engage in hazing practices resulting in increased alcohol consumption, humiliation, isolation, sleep-deprivation, and sex acts (Allan & Madden, 2012). Such experiences could increase the vulnerability of college students to cybervictimization by putting them in positions where they have reduced power and are participating in acts that they wish to remain private. Unfortunately, the pervasive use of cell phones to take photographs and video make it possible for any hazing ritual to be shared with others and viewed repeatedly, further victimizing the individual.

Outcomes. Cybervictimization is associated with a variety of negative outcomes, including decreased self-esteem, as well as increases in depression, social anxiety, anger, emotional distress, and truancy (Tokunaga, 2010). Importantly, both cybervictimization and cyberbullying are associated with increased suicidal thoughts and attempts, with greater risk for cybervictims (Bonanno & Hymel, 2013; Hinduja & Patchin, 2010). One particular outcome related to cybervictimization seems to be fear and helplessness (Spears et al., 2009). In this qualitative Australian study, youth related helplessness and powerlessness with being the victim of cyberbullying but not with other forms of bullying. Youth also reported that they were experiencing this victimization at home via the internet and face-to-face at school. Youth felt extreme fear and an inability to escape the bullying behavior. The authors contend that cyberbullying may be a psychological bullying that is more tangible than relational bullying.

In a sample of over 24,500 adolescents in grades 9-12, seven percent of the students endorsed experiencing physical, relational, verbal, and electronic bullying (Bradshaw, Waasdorp, & Johnson, 2014). This “multiple” bullying group was associated

with increased risk for internalizing and externalizing problems, as well as endorsing retaliatory attitudes. In this sample, youth who endorsed experiencing electronic bullying were much more likely to simultaneously experience the other forms of bullying than to experience cybervictimization alone.

In a sample of over 1500 youth ages 10-17 years, those who were harassed online were two times more likely to report depressive symptomatology, 2.2 times more likely to report at least two forms of delinquent behavior, and two times more likely to report using three or more illegal substances as compared to youth who were not victimized (Mitchell, Ybarra, & Finkelhor, 2007). Similarly, another study by Ybarra and Mitchell (2004) found that cybervictims reported more depressive symptoms than non-victims. Also in support of the relationship to depression, a study including almost 400 adolescents indicated that after controlling for gender, cybervictimization contributed to predicting depressive symptomatology over and above traditional victimization (Bonanno & Hymel, 2013). And, finally, the more a victim is harassed electronically through either a computer or a cell phone, the less self-esteem and the more depressive feelings he or she reported (Didden et al., 2009). Conversely, another study including over 1,600 participants ages 11-16 years suggests that depressive symptoms are not related to cybervictimization. After controlling for relational and overt victimization, cybervictimization was not correlated with depressive symptoms (Dempsey et al., 2009). Notably, in this study, only 14% of participants indicated experiencing cybervictimization, which is lower than often found in cybervictimization research. Thus, it is possible that there was not enough statistical power to identify a relationship between cybervictimization and depressive symptoms.

In addition to investigating depressive symptoms, Dempsey et al. (2009) found that after controlling for relational and overt victimization, cybervictimization was correlated with symptoms of social anxiety. Similarly, another study showed that cybervictims have an increased risk of social anxiety (Juvoven & Gross, 2008). Hierarchical regression analyses suggested that the number of in-person and cyber victimization experiences each independently increased reported levels of social anxiety. Likewise, an investigation of college students found that cybervictimization was associated with greater symptoms of social anxiety and depression, even after controlling for other forms of peer victimization and comorbid symptomatology (Landoll et al., 2013). In essence, cybervictimization experiences are associated with elevated levels of distress much like traditional victimization.

Emotional distress has also been associated with cybervictimization. When asked how victims felt after being cyberbullied, 30% felt angry, 34% felt frustrated, and 35% were not bothered by their experience with cyberbullying (Hinduja & Patchin, 2007). Further, another study found that of 113 youth that reported being a cybervictim, 31.9% reported "it affected me at school," 26.5% said "it affected me at home," 20.4% indicated "it affected me with my friends," and 43.4% reported "it did not affect me" (Patchin & Hinduja, 2006). Importantly, those who are victimized online are more likely to report feeling significantly more unsafe than those who are not cybervictims (Mishna et al., 2012). All in all, studies assessing emotional distress indicate that cybervictims are distressed across multiple areas of their life and often feel concerned about personal safety.

Youth who experience emotional distress because of cybervictimization appear to be at increased risk for suicidal ideation. In a study including almost 2,000 middle school youth, cybervictimization was a significant predictor of suicidal thoughts and behaviors (Hinduja & Patchin, 2010). Similarly, an investigation with adolescents showed that cybervictimization contributed to predicting suicidal ideation over and above traditional victimization, after controlling for gender (Bonanno & Hymel, 2013). Litwiller and Brausch (2013) found that cybervictimization positively predicted substance use, violent behavior (e.g., physical fighting), unsafe sexual behavior, and suicidal thoughts and behavior. In addition, these negative outcomes were slightly more associated with cybervictimization than physical victimization. Most importantly, adolescence represents a stage in development that is already in a high-risk category for suicide attempts. For American youth between the ages of 15 and 24 years, suicide ranks as the second leading cause of death (Hoyert & Xu, 2011). Consequently, it seems especially important to understand the outcomes associated with cybervictimization in order to ameliorate the high levels of distress related to these experiences.

Summary and Implications. Electronically mediated communication has expanded in recent years such that the majority of youth now spend time every day communicating with friends via computers and cell phones. This boom in social communication methods has resulted in an increased risk for victimization experiences that follow youth into their home and even into their bedroom. As such, the inability to escape online harassment leads to intense emotional distress, depression, social anxiety, and, in some cases, suicidal thoughts and behaviors. Though recent research has begun to explore the impact of cybervictimization, this newer area of investigation has not examined the factors that

increase or minimize the impact of cybervictimization. Nor has cybervictimization research been built on a theoretical foundation. Importantly, no studies have identified gender differences in the relation between cybervictimization and psychological adjustment even though this form of aggression is quite similar to relational aggression, in which substantial gender differences in the association between victimization and adjustment have been found. These crucial gaps in the literature make it challenging for researchers to form a cohesive understanding of the mechanisms that underlie cybervictimization experiences. In addition, it will be difficult to develop successful prevention and intervention efforts without understanding why some youth are highly impacted by cybervictimization while other youth seem to be unaffected. For these reasons, the present study aims to address these crucial gaps by utilizing a guided theory approach to investigating the social-cognitive processes related to cybervictimization experiences.

Theories and Factors Proposed to Influence Outcomes of the Cybervictimization Experience

Research on cybervictimization has primarily focused on prevalence and associated outcomes (e.g., Calvete et al., 2010; Gradinger, Strohmeier, & Spiel, 2009; Landoll et al., 2013; Tokunaga, 2010) but has not investigated potential mechanisms that might influence outcomes. As a result, little is known about the process of cybervictimization and why some individuals report worse outcomes compared to other individuals who are also victimized but do not report negative outcomes. In addition, interactions that take place using electronic communication are apt to function differently

from interactions that happen in person (Dooley et al., 2010). Thus, it seems likely that there are differences in cognitive processing and behaviors associated with this newer form of communication that are impacting adjustment. More specifically, due to the inherently ambiguous nature of electronic communication, the intent attributions that are made when an interaction occurs have the potential to influence how individuals feel about their interaction and also how they respond. These intent attributions and responses have further potential to affect how the individual will adjust. To date, cybervictimization research has not applied previously well-supported theoretical models from traditional victimization research even though a cognitive processing model is likely to help explain at least some portion of this variance in outcomes. For these reasons, a primary aim of the current study is to investigate an empirically-supported theoretical model relative to cybervictimization experiences in an effort to better understand factors that are influencing adjustment for individuals who are cybervictimized.

Social Information Processing Theory

Social information processing (SIP) theory describes several stages of cognitive processing that occur when an individual encounters a social situation (see Figure 1). Specifically, the SIP model proposes that an individual goes through six steps: the encoding of cues (step 1), the interpretation of cues (step 2), goal clarification (step 3), response construction (step 4), response decision (step 5), and behavioral enactment (step 6). At the heart of the SIP model, the individual is described as having a "data base" of personal memories and social knowledge that influence his or her perspective and decision-making for each step of the model. In addition, the model is proposed to be reciprocal, not only moving in one circular direction from steps one to six but also with

reciprocal interactions occurring between the steps and with constant interchange with the personal data base. Notably, a vast amount of research has indicated that distortions in SIP are associated with negative outcomes such as biased aggressive responding, loneliness, social anxiety, and social avoidance (e.g., Amir et al., 2005; Crick & Dodge, 1994; Crick & Ladd, 1993; Lansford et al., 2003).

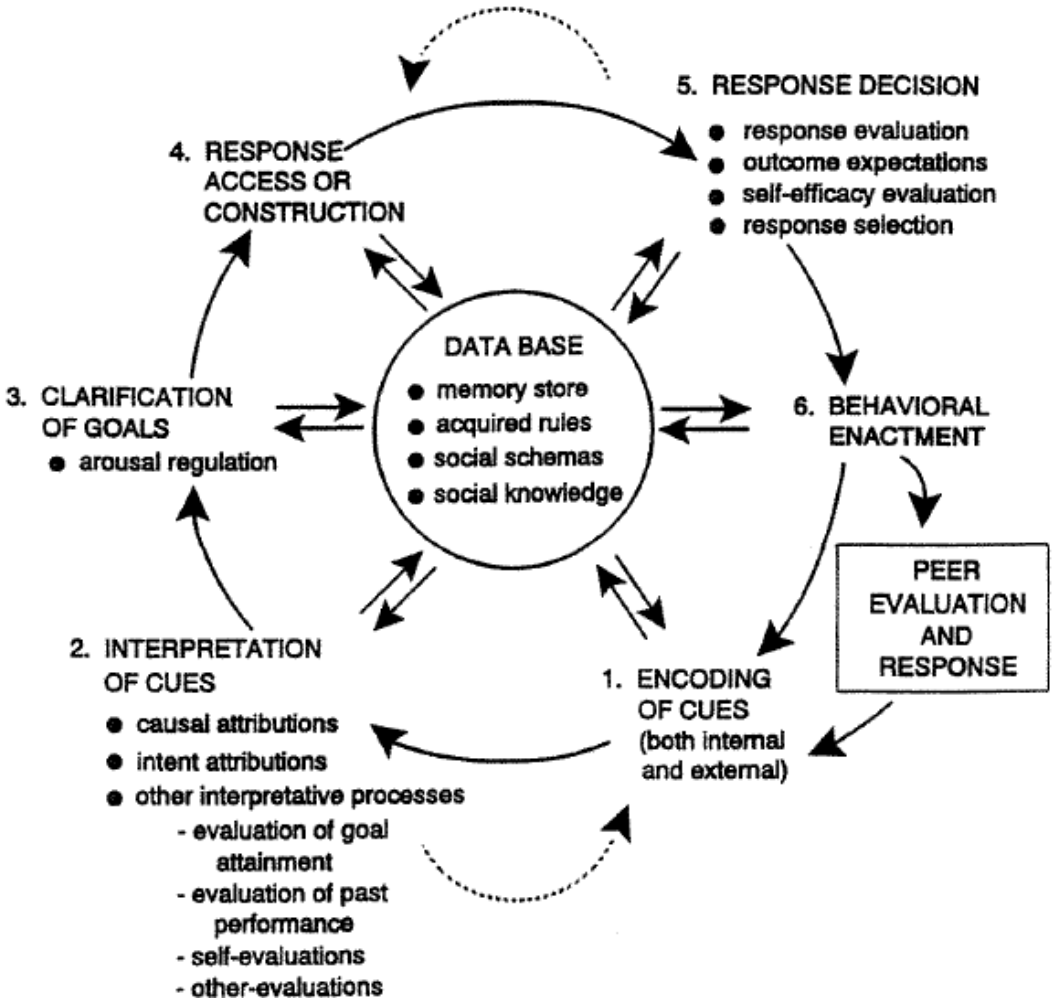


Figure 1. Crick and Dodge's (1994) revised social information processing model.

The SIP model provides a method of explaining the processes involved in bullying and victimization (Crick & Dodge, 1994). Past experiences create a database of memories, beliefs about social norms and social rules. This database is then used to

interpret future experiences. It seems that individuals who have more negative past experiences are more likely to interpret future interactions as involving negative intent. In fact, the most consistent finding within SIP research associates reactive aggression with hostile attributions (i.e., a propensity to assume the protagonist perpetrated harm on purpose) in situations in which the intent of the protagonist is unclear. Thus, when a victim has more negative past experiences he or she may display more maladaptive behaviors as a result of negatively biased interpretations. Further, this model helps to explain the process of bullying. It seems that bullies aggress in order to achieve a social goal of domination and are reinforced by the victim's negative response. Because the response is reinforcing it increases the likelihood of repeated victimization. This cycle indicates a negative feedback loop that may be challenging for victims to exit.

In the last 30 years, research on the SIP model has been quite extensive. Applying this model to electronic communications, which seem to be even more likely than face-to-face interactions to involve ambiguity in the social partner's intent, would allow researchers to better understand the relations between cyber communications and psychological adjustment (Dooley et al., 2009; Runions, Shapka, Dooley, & Modecki, 2012). The present study seeks to clarify relations among cyber experiences and outcomes by utilizing a theory-guided approach based on the SIP model's step 2 (interpretation/attribution of intent), step 6 (behavioral response), and a proposed "data base" vulnerability. The following sections detail each of these in turn.

Attributions

One area of cognitive processing that has received a great deal of attention in SIP research, and is specified in Step 2 of the SIP model, pertains to intent and causal

attributions, which can be described as the ways in which peers' intentions are interpreted during social interactions. When an interaction occurs, individuals search for cues that will aid them in interpreting the meaning underlying the interaction. These cues are both verbal and nonverbal and may include actions such as facial expression, posture, and vocal tone. The relevance of the interaction will also influence how the situation is interpreted. For example, if a peer breaks another peer's radio, the victim will be influenced by how important the radio was to him or her. If the radio was unimportant, the victim may be more inclined to attribute the protagonist's actions as accidental but if the radio had significant meaning such as being a birthday present, then the victim may more readily believe that the protagonist intentionally harmed the radio. An extensive body of research (e.g., Dodge & Frame, 1982; Dodge, Price, Bachorowski, & Newman, 1990; Dodge & Somberg, 1987) has consistently indicated that under conditions of ambiguous provocation (i.e., harm is caused, but the intent of the protagonist is unclear) children and adolescents who are aggressive and rejected are more likely to assume hostile intent. Moreover, they are apt to respond with hostile, retaliatory behaviors. In contrast, those who are nonaggressive and nonrejected are more likely to assume the act occurred by accident and to react with prosocial, problem-solving behaviors. Studies have typically indicated that males are more likely than females to demonstrate a hostile attributional bias in response to ambiguous provocation situations, but notably, most of the early studies on this topic used situations that resulted in (hypothetical) physical harm. In hypothetical situations, males and females feel more provoked when the scenario is in greater conflict with their own gender-matched social goals. For example, males have social goals concerning physical strength and are, thus, more provoked by the

threat of physical harm. In contrast, females' social goals place higher value on relationships, resulting in females feeling more provoked by situations that threaten harm to their relationships (Crick et al., 2006). In fact, females are more likely to show the hostile attribution bias in response to ambiguous relational provocations than males (Crick, 1995). When faced with hypothetical situations, females report that interpersonal conflict situations are more distressing than scenarios involving possible direct aggression (Crick, Grotpeter, & Bigbee, 2002). Relating this finding to cybervictimization research, it is possible that females are more distressed by and experience higher levels of hostile attribution bias in response to electronic conflict situations because these are quite similar to relationally aggressive actions that threaten to harm relationships; however, the influence of the hostile attribution bias in cyber communications has not previously been explored.

In addition to identifying attributions concerning whether harm is interpreted as purposeful or accidental by the recipient, studies have examined attributions regarding where the blame or fault for the harm is placed. Research indicates that adjustment outcomes vary based on whether the causal attributions are aimed internally at the self versus aimed externally outside of the self and whether or not those causal factors are stable or unstable. For example, you ask if you can join a study group and your peers say 'no.' Do you attribute the response as intentional and, if so, is it due to something about you or them? If you attribute the response as something about yourself that you cannot change, then you are likely to experience worse outcomes. It is suggested that evaluation of the stability of the cause (i.e., whether or not it has happened before or is changeable), in addition to where the blame is placed (i.e., someone else versus the self), represents the

degree of total control the individual believes he or she has in the given social interaction. Well-adjusted individuals tend to credit themselves (stable-internal) for positive social interactions and attribute negative interactions as being caused by their own lack of effort (unstable-internal), but less well adjusted individuals seem more likely to blame themselves (stable-internal) for negative interactions and give credit to others for positive interactions (Crick & Ladd, 1993). Attribution research suggests that negative causal attributions for peer provocation that are assigned internal, stable causes are correlated with decreased self-esteem (Crick & Ladd, 1993). Low self-esteem, in turn, is associated with heightened symptoms of depression (Abramson, Metalsky, & Alloy, 1989). Research on SIP theory has focused solely on in-person peer interactions and has not yet included electronic communication contexts.

Communication that occurs via technology may represent a form of social interaction that is inherently ambiguous in nature because of the inability of the recipient to view the nonverbal cues that typically assist the recipient in deciphering the intent of the message. Runions et al. (2012) proposed a model of structural and functional properties of information and communication technologies that influence steps of the SIP model (see Figure 2). Their model suggests that insufficient social semantic cues will influence how an individual interprets electronic communications, which will impact the attributions individuals make in these interactions. Additionally, the nature of these communications will differ from face-to-face communications in a variety of ways. One important difference is the permanence of the cues that accompany the message. During in-person interactions, cues are fleeting and their influence will be impacted by the individual's ability to access the memory, whereas electronic communications are

permanent and can be saved to digital storage or continuously accessed by revisiting the message. The permanence of the message makes it less vulnerable to memory deficits, which may increase the potency of the message (Runions et al., 2012). In addition, the emotional response may be heightened by the use of emoticons (e.g., a smiley face) and acronyms (e.g., LOL). Although these conventions are intended to reduce ambiguity by conveying an emotion or thought connected to the message, the meaning of these conventions can also be ambiguous or misinterpreted. Emoticons and acronyms can be used to convey either sarcasm or genuine intent but the true meaning is not typically obvious (Runions et al., 2012). Thus, the recipient must make sense of the message by interpreting the available cues, and resulting interpretations will likely be influenced by other factors such as past social interaction experiences and gender. Though this is speculative, it seems plausible that because females tend to be more emotionally reactive to relational provocations than males (Crick, 1995), females may be more likely than males to make hostile attributions regarding cyber communication. In summary, it seems possible that the interpretation of messages that are transmitted electronically may be more susceptible to misinterpretation and, thus, extending previous empirical work on attribution patterns to electronic communications may advance our understanding of both protective and vulnerability factors of cybervictimization.

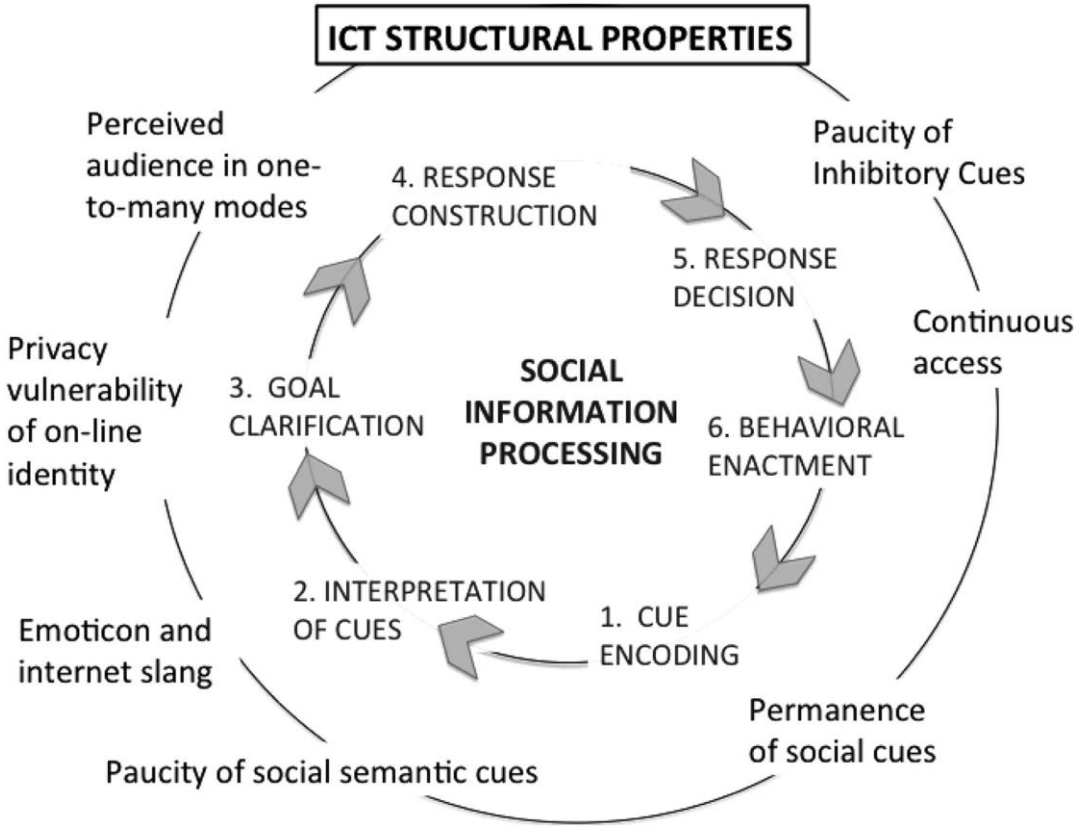


Figure 2. A model depicting structural and functional aspects of electronic communications.
Note: The inner items (1–6) reflect phases in Crick and Dodge's (1994) revised SIP model

Behavioral Response

According to the SIP model, during Step 6, individuals select a behavioral response to the particular social situation. This choice tends to be closely associated with the type of processing that has occurred during earlier steps. When individuals cognitively access behavioral options for their response (step 4), responses that have been used in the past or that have been recently observed will be more readily available (Dodge & Crick, 1990). Thus, these more salient behavioral responses will be at the top of the list of options. Similarly, the response decision (step 5) may be more automatic for individuals when a specific type of response is salient because it is more prevalent in the

person's memory. Stated another way, when an individual has habitually responded aggressively, it becomes automatic for him or her to respond with aggression in future interactions. Conversely, for other individuals, response decisions may resemble a problem-solving step in which the individual is mentally deciding if a behavior is appropriate for the given situation. He or she will accomplish this by considering the quality of each response, if the response will produce a desired outcome, and whether the individual believes he or she can successfully enact the behavior (Dodge & Crick, 1990). Finally, a behavior will be selected that is consistent with the cognitive processing that led up to the behavioral response. Indeed, by using the SIP model to investigate behaviors, researchers have been able to associate steps that occur earlier in social information processing with steps that follow later. For example, as previously stated, those who attribute hostile intent in reaction to an ambiguous provocation situation are more likely to enact an aggressive response. In contrast, those who assume benign intent are more apt to engage in prosocial tactics that protect both their relationships and their own emotional well-being (Dodge, 2006). Due to this variance, research has investigated how differences in steps of the SIP model are related to behavioral responses. Although the majority of research attention examining the SIP model has focused on explaining processes that contribute to the enactment of aggressive behavior, the maladaptive response patterns that might occur during Step 6 of the SIP model generally follow three broad response categories: aggression, avoidance/withdrawal, and rumination.

Individuals that more often select an aggressive response seem to evaluate their response options differently from their nonaggressive peers, especially when they are rejected by the peer group. Those who are aggressive and rejected tend to more favorably

view aggressive behavior in general (Crick & Ladd, 1990; Dodge et al., 1990). As a result, when aggressive and rejected youth are considering which behavioral response to enact, they will be more likely to view an aggressive response as being appropriate to the situation (Dodge & Crick, 1990). For example, Crick and Ladd (1990) found that rejected children expected positive outcomes (e.g., tangible rewards, increased social status) in situations where they used verbal aggression, and rejected children more readily selected this option. In addition, when compared to their peers, aggressive children are more confident that aggressive responses will produce a positive outcome and find it more difficult to inhibit aggressive responses (Perry, Perry, & Rasmussen, 1986). Thus it may be that aggressive responses become more automatic. It may also be that aggressive children have difficulty considering the possible negative consequences of their aggressive responses. When compared to aggressive children, nonaggressive peers rate the consequences of aggressive responses as more detrimental to the victim and to the social status of the perpetrator (Perry et al., 1986).

Aggressive responding has received much of the focus in research on social information processing, and the majority of research attention has evaluated the link between having a hostile attribution bias and aggression. Attributions made about a peer's intentions directly mediate, or account for, the subsequent action (Dodge & Frame, 1982). That is, when children attribute peers' actions as directly hostile toward them, they are quite likely to respond with retaliatory aggression, but when they attribute the peers' behavior as an accident, they typically do not engage in retaliatory behavior. Thus, aggressive responding can be explained, at least in part, by whether or not a hostile attribution bias exists. In fact, aggressive responding has been further linked to the hostile

attribution bias in that it seems to be present only when the aggression is a reaction to a peer and not when aggression is used for the instrumental, proactive purpose of achieving a goal (Dodge & Coie, 1987). It appears, then, that the hostile attribution bias contributes to a specific type of aggressive responding, namely reactive aggression. Though most of these investigations have examined physical provocation and physical aggression, more recent work has also identified that relational provocation is associated with a hostile attribution bias. Interestingly, as noted previously, when genders are compared, relational provocation is more strongly associated with a hostile attribution bias in females and physical provocation is more highly correlated with a hostile attribution bias in males (Crick, 1995; Crick, Grotpeter, & Bigbee, 2002). In addition, individuals who are relationally aggressive experience more distress in relational provocations, and physically aggressive individuals experience greater distress in physical provocations. Hence, the hostile attribution bias is influenced by whether or not distress is felt, which is impacted by the type of provocation. The hostile attribution bias, in turn, will affect the subsequent aggressive response. It is apparent that there are many phases of cognitive processing that impact the relationship between provocation and eventual outcome. As such, researchers have suggested that it is important to evaluate multiple steps of the SIP model when investigating social information processing (Crick & Dodge, 1996; Dodge & Crick, 1990; Perry et al., 1986).

Although aggression is the behavior most typically associated with attributional biases, there is also a correlation between attributions and behavioral withdrawal. Compared to peers, some withdrawn children have been found to overattribute hostility in ambiguous peer situations, whereas other withdrawn children underattribute hostility

(Harrist, Zaia, Bates, Dodge, & Pettit, 1997). In essence, withdrawn children are likely to misinterpret interactions in such a way that they either believe there are hostile intentions when there are not, or they do not pick up on hostility when it is actually present. It also seems likely that withdrawn youth are more inclined to internalize their problems and blame themselves for difficulties in their social interactions. Investigating this possibility, Wichmann, Coplan, and Daniels (2003) found that withdrawn youth demonstrate a self-defeating attributional style. The pattern that emerged indicates that withdrawn children attribute their successes to external-unstable (i.e., uncontrollable) causes and attribute failure to internal-stable (i.e., controllable) causes. Similarly, Burgess, Wojslawowicz, Rubin, Rose-Krasnor, and Booth-LaForce (2006) found that shy and withdrawn children more often blame themselves for social problems and seem to be socially wary or anxious. It also appears that because withdrawn youth have fewer social experiences, they may lack social skills resulting in more negative self-regard and a more passive social style. In fact, withdrawn children display a greater number of negative self-perceptions and lower number of positive self-perceptions when compared to peers (Burgess & Younger, 2006).

Though the social information processing of socially withdrawn youth is less understood, it seems likely that withdrawn youth are apt to interpret social rejection in such a way that will result in increased socially withdrawn responses (Dodge et al., 2003). As social withdrawal is associated with the later development of psychological and emotional difficulties (Rubin, Burgess, Kennedy, & Stewart, 2003), understanding the social information processing of this neglected group could help ameliorate future negative outcomes.

Aggressive and withdrawn behavioral responses are both observed within the group dynamic but another type of response, rumination, occurs within some individuals. Rumination takes place when an individual repetitively focuses on his or her negative emotional state in an effort to understand the meaning, causes, and consequences without problem-solving or taking action to alter his or her mood (Nolen-Hoeksema, 1991). Research suggests that individuals who engage in rumination as a coping response have an increased risk for future depression episodes and more severe depressive symptoms (Hankin & Abramson, 2001). Further, it is well established in the research literature that females are twice as likely as males to develop depression and some of this may be accounted for by rumination. Females are more likely than males to respond to distress by engaging in rumination (Nolen-Hoeksema, 2001). It is thought that this ruminative response style further exacerbates symptoms of depression by depleting the individual of cognitive resources (Nolen-Hoeksema, 2001). Interestingly, males do not engage in the same level of rumination as females and tend to use more distraction or problem-solving strategies (Broderick, 1998; Strauss, Muday, McNall, & Wong, 1997). In instances of cyberbullying, it seems that victims do have some control over the exposure and repetition that they experience (e.g., they can choose how often they access electronic communication devices). Unfortunately, research has not yet included this component so victim processes are unknown; however, it is possible that some youth may be able to turn off their electronic device to stop the bullying while other youth may continually revisit and ruminate about the content.

Whereas much research has focused on these response styles during face-to-face provocations, research to date has not included response styles to ambiguous electronic

communications. As noted previously, communications that take place over electronic devices may be especially prone to misinterpretation due to a lack of nonverbal cues. Interestingly, though, not only will the way in which the message is interpreted influence outcomes, but also the response enacted by the recipient is likely to contribute to adjustment outcomes. Runions, Shapka, Dooley, and Modecki's (2012) model of structural and functional properties of information and communication technologies (see Figure 2) suggests that behavioral responses during social information processing will be influenced by the perceived audience, the lack of social cues, and access to the provocation. Electronic communications take a variety of forms that will impact the potential audience during cybervictimization experiences. In communications that happen on a SNS, the audience could immediately be a large population of people or could grow in numbers over time. Conversely, interactions over cell phones or email may appear to be a one-to-one communication but are easily forwarded or shared with other individuals. As a result, the true audience in any given scenario is unknown and this is likely to be disturbing to the recipient. Again, as with the earlier steps in the SIP model, the lack of social cues will continue to affect how the recipient responds. Runions and colleagues (2012) propose that at this stage of SIP, the lack of inhibitory cues will exacerbate engaging in retaliatory behavior. Inhibitory cues in traditional bullying include influences such as peers and other environmental factors that may intervene to stop the individual from engaging in a response. Compounding the issue of escalating concerns about the real or imagined audience and the lack of inhibitory cues, the individual will also likely have continuous access to an electronic device. This can be especially problematic because it permits a response to occur at any given time, which could allow for an

impulsive emotional response. Previous research on cyber experiences has not assessed recipient behavioral responses and including this variable in the present study is expected to contribute to a more complex understanding of why some individuals report negative outcomes whereas others do not.

Rejection Sensitivity

As individuals engage in the steps of social information processing, certainly specific personal characteristics can influence their thinking. One such construct is rejection sensitivity. Those who are high on rejection sensitivity anxiously expect, readily perceive, and overreact to rejection (Feldman & Downey, 1994). The rejection sensitivity model is based on interactions between the person and his or her experiences such that his or her expectations, attentional biases, affect, self-regulation abilities, and social goals are shaped by his or her biopsychosocial history (Romero-Canyas, Downey, Berenson, Ayduk, & Kang, 2010). That is, each person develops his or her interactions with other people, which shape how he or she interprets future events. When these interactions are interpreted as rejection, this may defeat social goals for acceptance. It is theorized that rejection sensitive people have internal belief systems that shift their perceptions of others' motives to be negative and spiteful. Thus, rejection sensitivity may represent a perspective adopted in an individual's personal "data base" in the SIP model that may increase his or her vulnerability to negative outcomes.

It is argued that being accepted is a central human motive that is fundamental to the adaptive development of emotional, cognitive, and behavioral reactions (Staebler, Helbing, Rosenback, & Renneberg, 2011). When rejection repeatedly threatens the need to belong, it is believed that rejection expectations form in an effort to more readily

identify threats in order to either face the threat or to acquiesce. Thus, rejection will over time lead to the development of expectations for continued or new rejection experiences.

Two forms of expectations for rejection sensitivity have been conceptualized and tested using the rejection sensitivity model. The primary form of rejection sensitivity that has received the greatest attention in the literature happens when an individual develops an *anxious expectation of rejection* while the lesser studied form is considered as having an *angry expectation for rejection sensitivity* (Romero-Canyas et al., 2010). Both forms share many of the same tenants of the rejection sensitivity model, with the primary difference being in the responses that are exhibited by the individual. Those who have anxious expectation rejection sensitivity may be more inclined to respond with aggression that is directed inward in a way that puts concern for others before concern for the self. This likely occurs as a result of the intent to avoid rejection. Examples of this include being overly accommodating to others, suppressing personal opinions, and engaging in less self-protection against HIV contraction (Romero-Canyas et al., 2010). Conversely, those who have angry expectation rejection sensitivity may be more apt to display physical acts of aggression toward others or the self. Responses exhibited by those with angry expectations are more often outward aggressive actions directed toward another person or self-harm behaviors directed toward the self. Regardless of the form, rejection expectations lead to maladaptive responses that tend to elicit rejection, which creates a vicious cycle for continued rejection experiences and displays of maladaptive responses.

Rejection sensitive children tend to report rejection expectations that are associated with increased aggression, social anxiety, and withdrawal (Downey, Lebolt,

Rincon, & Freitas, 1998; London, Downey, Bonica, & Paltin, 2007). The pattern that emerges suggests that individuals who exhibit angry expectations respond to social threats with "fight" responses (aggression) whereas those with anxious expectations respond with "flight" responses (social anxiety and withdrawal). Thus, rejection sensitivity may be uniquely associated with specific pathways of maladaptive responses to social interactions that, in turn, lead to actual rejection as a self-fulfilling prophecy. An investigation related to these pathways found results suggesting that young females (ages 9 to 16 years) who are socially rejected and rejection sensitive are at greater risk for displays of aggression (Sijtsema, Shoulberg, & Murray-Close, 2011). Interestingly, the form of aggression displayed varied as a function of skin conductance reactivity and heart rate reactivity, both of which are considered indicative of changes in the autonomic nervous system during times of stress. The females who experienced high levels of peer rejection and rejection sensitivity engaged in the greatest number of acts of relational aggression when they exhibited a blunted stress reactivity, whereas they displayed the highest number of acts of physical aggression when they exhibited a heightened stress response. In other words, decreased physiological reactivity was associated with relational aggression and increased physiological reactivity was correlated with physical aggression, but high rejection sensitivity was indicated in both pathways. Thus, youth who are highly rejection sensitive are at greater risk for displaying relational or physical aggression, both of which are associated with a host of negative outcomes.

It has been established that individuals who are high in rejection sensitivity are less successful at regulating emotional responses to aversive social stimuli (Silvers et al., 2012) and that this leads to problematic interactions with others. It has been suggested

that a failure to achieve the social goal of avoiding rejection may both deteriorate social relationships, which leads to social isolation, and increase the individual's internal focus on the loss of this unresolved goal (Pearson, Watkins, & Mullan, 2011). In other words, rejection sensitive individuals may be at heightened risk for the development of internalizing distress and particularly at risk for the development of depressive symptoms.

Existing literature on rejection sensitivity (RS) has established that RS is harmful to intimate relationships (Downey & Feldman, 1996). Extending this finding to close friendships suggests that RS could also be detrimental to close friendships; however, there has been little research focused on rejection sensitivity among same-sex friends (Bowker, Thomas, Norman, & Spencer, 2011). Rejection sensitivity is included in the current study because beginning school at a new college is stressful, and during this time new relationships are forming and old ones are evolving. It is possible that during this period of transition, students who are rejection sensitive may be even more likely to perceive the quality of their friendships or communications with their friends in a negatively biased way. Further, perhaps those with higher rejection sensitivity are especially apt to interpret perceived negative electronic communications as quite harmful. Notably, few gender differences have been found regarding rejection sensitivity, and those that were described above have not been replicated. Given this situation, investigating potential gender differences is an important focus for future research. Thus, one goal of the present study is to explore the influence of rejection sensitivity for males and females on the relation of cybervictimization to adjustment outcomes in college students.

Friendship Quality

Rejection sensitivity is associated with fewer perceived social supports from friends (McDonald, Bowker, Rubin, Laursen, & Duchene, 2010). Friendship is defined as a bilateral construct referring to a voluntary, mutual, dyadic relationship acknowledged by both members (Asher, Parker, & Walker, 1996). Friendships provide a context for learning social skills and offer emotional support for coping (Hodges et al., 1999). Having friends is positively associated with self-esteem and predictive of general self-worth and self-confidence (Bagwell, Newcomb, & Bukowski, 1998; Hartup, 1996; Newcomb & Bagwell, 1995); however, despite the potential benefits of friendship, not all friendships are created equally, and friendship quality differs across various features, including intimacy, companionship, and conflict. Thus, friendship quality can be defined by determining whether there are more positive features (e.g., greater companionship) or more negative features (e.g., higher conflict) in the relationship (Berndt, 1998). All friendships seem to consist of both positive and negative features, with higher quality friendships being those that have a higher total positive value when the features of the relationship are summed together.

Being involved in high quality friendships can have many benefits such as decreased feelings of loneliness and depression (Nangle, Erdley, Newman, Mason, & Carpenter, 2003; Parker & Asher, 1993) and an increased sense of well-being and support that leads to better academic performance (Wentzel, Filisetti, & Looney, 2007). Further, the emotional and instrumental support provided in high quality friendships (Furman, 1989) seems to buffer children from family stressors (Bolger, Patterson, & Kupersmidt, 1998;

Gauze, Bukowski, AquanAssee, & Sippola, 1996; Schwartz, Dodge, Pettit, & Bates, 1997).

Likewise, friendship reduces feelings of loneliness for those who are rejected by peers (Parker & Asher, 1993) and protects against maladjustment for those with few friends or low sociometric status (Waldrip, Malcolm, & Jensen-Campbell, 2008). Interestingly, having a best friend present during a negative experience aids in maintaining global self-worth and protects against elevated changes in cortisol levels (i.e., a hormone that is released during stress; Adams et al., 2011).

In the adolescent years, intimacy becomes an especially important aspect of friendships (Berndt, 1992). Teens face a variety of stressors such as school, parents, and peers (Compas, Davis, Forsythe, & Wagner, 1987), and adolescents use self-disclosure with friends to cope with these stressors. Self-disclosure involves sharing important thoughts and feelings and may help to alleviate stress and reduce the potential for more serious emotional consequences. Normative (i.e., reciprocal) self-disclosure is associated with positive emotional outcomes (Parker & Asher, 1993) perhaps because intimate disclosure with friends generates bonds of attachment and alliance (Bukowski & Hoza, 1989). Females are more likely to establish intimacy through self-disclosure, whereas males are more apt to establish intimacy during shared activities (McNelles & Connolly, 1999). Regardless of how youth establish intimacy, this aspect of friendship is an important developmental task during adolescence as friendships are particularly instrumental in helping adolescents cope with stressors.

One stressor many adolescents face is peer victimization, and youth with high quality friendships seem better able to handle this stress. In a longitudinal study, Hodges and

colleagues (1999) found that victimized children who had a reciprocated best friendship did not exhibit an increase in internalizing or externalizing problems one year later, whereas youth who did not have a best friend did. Results further suggested that children with internalizing and externalizing behaviors at time one were more likely to be victimized at the one-year follow-up, but only for those who did not have a best friend. Thus, having a best friend helps to buffer children from suffering worse psychological adjustment and also protects them from experiencing additional victimization. In the only study to directly investigate whether or not friendship buffers against negative outcomes for peer victimized adolescents, it was found that high quality friendships mitigated the relationship between relational victimization and psychosocial maladjustment (Prinstein et al., 2001). These findings suggest that having a high quality friendship is a protective factor for victimized adolescents.

The majority of the investigations regarding the protective influence of friendship have focused on childhood friendships and, to date, no studies have examined the impact of friendships on outcomes of cybervictimization experiences. Nevertheless, establishment of high quality friendships has been shown to be an important developmental task during adolescence and research has demonstrated that friendships mitigate adjustment after negative experiences. Thus, it seems plausible to assume that friendships will buffer against the negative psychological outcomes that are commonly experienced due to cybervictimization experiences and may help to explain why some youth are less impacted when they are cybervictimized. As such, friendship quality is included in the current study in order to examine the influence it might have on the relationship between cybervictimization and adjustment.

Program of Research

Preliminary research examining the relation between cybervictimization and adjustment in college students and factors that might impact this association was conducted in preparation for the present study. The major goals of this pilot work were to investigate the psychometric properties of a specific measure of cybervictimization (i.e., The Social Networking- Peer Experiences Questionnaire (SN-PEQ; Landoll et al., 2013, but note that this measure was not yet published at the time it was used in the pilot work described below), to conduct an initial examination of whether a certain variable (i.e., rejection sensitivity) impacts the relation between cybervictimization and adjustment (i.e., depressive symptoms), and to develop a measure that assesses social-cognitive processes in response to ambiguous cybervictimization vignettes. Highlights of each study, as well as the implications of the findings for the current study, are presented below.

Study 1

A challenge in the study of cybervictimization is that investigations in this area are relatively new, and measures of cybervictimization have not been validated by more than one lab. Consequently, an important first step for the pilot investigation was to select and validate an appropriate measure. The Social Networking- Peer Experiences Questionnaire (SN-PEQ; Landoll et al., 2013) was selected for evaluation based on research presented at the biennial meeting of the Society for Research on Adolescence (2010). Landoll,(personal communication, June 2010) reported that the scale demonstrated good reliability ($\alpha = .81$), and scale items loaded on one factor. Study 1

replicated past research using the SN-PEQ in order to validate scale reliability, examine the factor structure of the scale, and explore the importance of cybervictimization variables for adjustment outcomes during college.

Participants included 131 undergraduates (93 females), ages 18 to 24 years (M = 19.02 years), who completed the SN-PEQ (Landoll et al., 2013), Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996), Social Anxiety Scale for Adolescents (SAS-A; La Greca & Lopez, 1998), Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996), and College Freshman Adjustment Scales (CAS; Brazziel, 1981). To assess whether the SN-PEQ items form a reliable scale, Cronbach's alpha was computed. The alpha for the 17 items was .84, indicating that the items form a scale that has reasonable internal consistency reliability. Principal axis factor analysis with varimax rotation was conducted to assess the underlying structure. Four factors emerged after 11 iterations (see Table 1). After rotation, the first factor accounted for 11.78% of the variance, the second factor 11.67%, the third factor 10.50%, and the fourth factor 8.88%. Table 1 displays the items and factor loadings for the rotated factors, with loadings less than .30 omitted to improve clarity. Interestingly, the items index four constructs: humiliation, harassment, social exclusion, and defamation.

Table 1. *Factor Analysis of the SN-PEQ*

Item	Factor Loading			
	1	2	3	4
A peer posted pictures of me on a SNS that made me look bad.	.656			
A peer shared embarrassing pictures or videos of me through a SNS, email, or texting.	.605			.423
A peer prevented me from joining a group on a SNS that I really wanted to join.	.553			
A peer posted mean things about me anonymously on an Internet site (e.g., Formspring).	.542	.473		
A peer tried to get me in trouble with parents, teachers or others by posting pictures or comments about me on a SNS.	.535			
A peer I was dating broke up with me using a SNS.				
A peer sent me a mean message on a SNS.		.581		.303
A peer posted mean things about me on a public portion of a social networking site (SNS).		.532	.489	
A peer made me feel jealous by "messing" with my girlfriend/boyfriend on a SNS (e.g., posting pictures, writing messages on a Facebook wall, ranking him/her in a "Top 8" or "Top Friends")		.526		
A peer made me feel bad by not listing me in his/her "Top 8" or "Top Friends" list.		.353	.346	
A peer I wanted to be friends with on a social networking site (i.e., MySpace, Facebook) ignored my friend request.			.699	
I found out that I was excluded from a party or social event over a SNS (e.g., MySpace, Facebook).			.524	
A peer sent me a mean message by text messaging.		.463	.520	
A peer removed me from his/her list of friends on a social networking site.			.431	
A peer created a group on a SNS to be mean and hurt my feelings.				.618
A peer pretended to be me on a SNS and did things to make me look bad/damage my friendships.				.588
A peer spread rumors about me or revealed secrets I had told them using public posts on a SNS, email, or texting.		.528		.574
Eigenvalues	2.00	1.98	1.79	1.51
% of variance	11.78	11.67	10.50	8.88

Further analysis investigated relations among the four subscales and measures of adjustment. Importantly, associations varied by gender (see Table 2). Females that reported greater harassment and embarrassment also endorsed higher levels of depressive symptoms, but for males, only embarrassment was associated with depressive symptoms. Both social anxiety and personal adjustment were correlated with most of the cybervictimization subscales for females but neither was associated with any of the

subtypes of victimization for males. For both males and females, social exclusion was related to poorer academic adjustment.

Table 2. *Correlations among Subscales of the SN-PEQ and College Students' Adjustment*

		1	2	3	4	5	6	7	8	9	10
1.	Harassment Subscale	-	.628**	.773**	.514**	.203	.301	.268	.300	.326*	.213
2.	Defamation Subscale	.508**	-	.684**	.386*	.172	.144	.210	.296	.279	.066
3.	Social Exclusion Subscale	.486**	.213*	-	.594**	.314	.249	.278	.427**	.274	.131
4.	Embarrassment Subscale	.455**	.544**	.190	-	.410*	.127	.075	.369*	.214	-.057
5.	Depressive Symptoms	.315**	.141	.136	.214*	-	.193	.348*	.494**	.051	.264
6.	Social Anxiety Symptoms	.275**	.028	.300**	.005	.539**	-	.693**	.213	.590**	.393*
7.	Rejection Sensitivity	.187	.063	.158	.243*	.421**	.617**	-	.242	.448**	.230
8.	Academic Adjustment	.195	.068	.286**	.201	.416**	.364**	.235*	-	.212	.171
9.	Social Adjustment	.145	-.097	.238*	-.029	.076	.428**	.326**	.319**	-	.176
10.	Personal Adjustment	.306**	.136	.341**	.304**	.656**	.644**	.538**	.320**	.238*	-

Correlations above diagonal – Male
Correlations below diagonal – Female
*$p < .05$
**$p < .01$

Results suggest that males and females experience cybervictimization differently and show different patterns of psychological adjustment as a result. For both genders, embarrassment may be an especially important component for psychological outcomes and social exclusion is correlated with lower academic achievement. For females only, harassment is linked with depressive symptoms and multiple victimization subtypes were correlated with social anxiety and overall adjustment.

The present study builds on the results of Study 1 by examining the factor structure of the SN-PEQ with a new population. Confirmatory factor analysis is used to examine whether the single factor structure found by Landoll et al. (2013) or the four factor structure identified in Study 1 is a better fit for the items in the SN-PEQ. Further, previous research has demonstrated that males and females experience traditional forms of direct and indirect aggression differently. Results from Study 1 likewise indicate that there are gender differences in how cybervictimization is experienced. To date, research has not identified *subtypes* of cybervictimization nor has there been much exploration of the ways in which males and females are impacted by various subtypes of cybervictimization. For this reason, it is important to replicate the results of Study 1. If support is established for subtypes of cybervictimization, then psychological adjustment outcomes will again be explored by gender. Such findings could have important implications for the field of cybervictimization research by expanding knowledge relevant to the ways in which males and females differ in regard to electronically mediated experiences.

Study 2

Whereas the focus of Study 1 was on exploring the psychometric properties of the SN-PEQ and documenting the relations between cybervictimization and various outcomes, Study 2 examined whether a specific variable, rejection sensitivity, impacted the association of cybervictimization with a particular outcome (i.e., depression) and whether this relationship varied as a function of gender. As previously described, individuals high in rejection sensitivity are those who anxiously expect, readily perceive, and overreact to rejection (Feldman & Downey, 1994), and thus, it was hypothesized that those with higher rejection sensitivity would be especially likely to perceive negative electronic communications as quite harmful and would experience greater depressive symptoms.

Participants included 287 undergraduates (212 females), ages 18-24 (M = 19.02), who completed the SN-PEQ (Landoll et al., 2013), Beck Depression Inventory (BDI-II; Beck et al., 1996), and Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996). Results revealed that for both males and females, cybervictimization, depressive symptoms, and rejection sensitivity were significantly correlated (see Table 3). To investigate whether rejection sensitivity moderates the relationship between cybervictimization and depression, hierarchical regression analyses were conducted. Results indicated that although the moderation model was not significant for females, it was for males, explaining 27% of the variance [R^2= .270, F(3,71) =10.12, p<.05)]. These findings suggest that whereas cybervictimization is associated with greater depressive symptoms for both males and females, it is the combination of cybervictimization and rejection sensitivity that increases vulnerability to depression for males. In contrast,

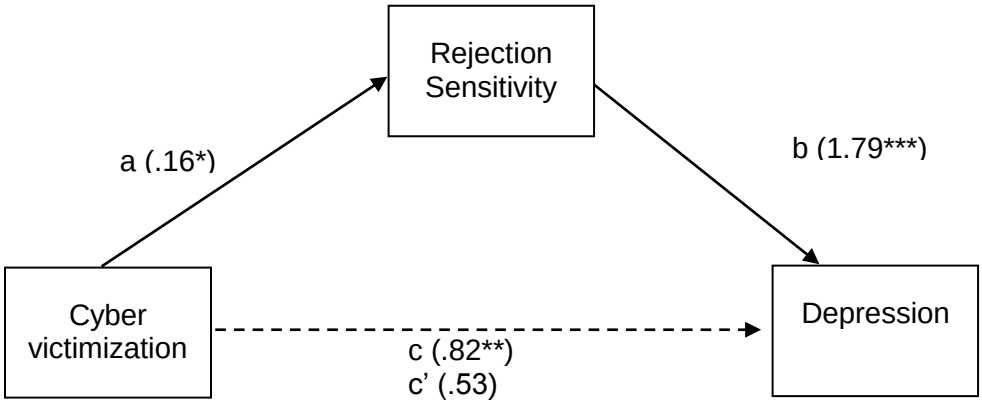
adding rejection sensitivity to the model did not increase the ability to predict depression in females.

Table 3. *Correlations among Victimization, Rejection Sensitivity, and College Students' Adjustment*

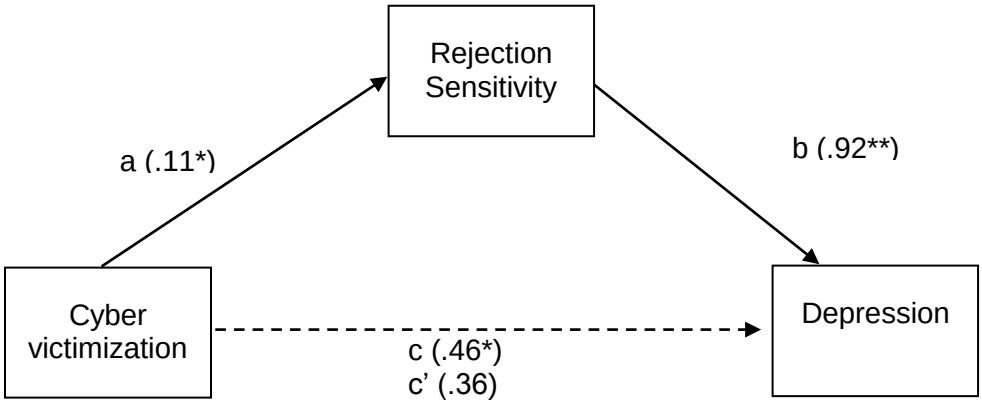
		1	2	3
1.	Cybervictimization	-	.252*	.302**
2.	Rejection Sensitivity	.168*	-	.472**
3.	Depressive Symptoms	.176*	.245**	-

Correlations above diagonal – Male
Correlations below diagonal – Female
*$p < .05$
**$p < .01$

To further explicate these relationships, subsequent analyses used the Baron and Kenny (1986) causal steps approach to examine rejection sensitivity as a mediator of the relationship between cybervictimization and depression. For both males and females, cybervictimization significantly predicted both rejection sensitivity and depression (see Figure 3). Indicative of a mediation effect, when rejection sensitivity was entered into the model predicting depression, the path from rejection sensitivity to depression was significant, and the direct path between cybervictimization and depression was not significant. The model explained 25.8% of the variance in depression for males and 7.7% for females. These findings indicate that the relation between cybervictimization and depression is explained by the influence of rejection sensitivity. That is, individuals who experience cybervictimization are at greater risk for depressive symptoms when they are also rejection sensitive. Interestingly, rejection sensitivity had both an additive and mediating effect on the prediction of depression for males but only a mediating effect for females.



Panel A - Males



Panel B - Females

Figure 3. Model indicating that rejection sensitivity mediates the association between cybervictimization and depressive symptoms
Note. Panel A [F (2,72) = 12.54, p<.001, r^2 = .26]; Panel B [F (2,207) = 8.60, p<.001, r^2 = .08]
***p<.001, **p<.01, *p<.05

Results from Study 2 suggest that rejection sensitivity plays an important role in outcomes for those who are victimized online and that the influence differs for males and females; however, a similar investigation of factors that impact outcomes for online victims has not been published. Moreover, even though additional variables were not examined in Study 2, it seems possible that there might be other factors that affect the

relationship of cybervictimization and psychological adjustment. For instance, research on traditional forms of victimization has shown that those with higher quality friendships exhibit better adjustment outcomes. Accordingly, in addition to replicating the results found with rejection sensitivity, the current study examines the influence friendship quality has on the relation between cybervictimization and outcomes. Although it is expected that rejection sensitivity will continue to explain an increase in maladjustment, it is hypothesized that higher friendship quality will explain more favorable outcomes. Results from Study 2 further inform the present study by indicating that gender differences are likely to be identified in statistical analyses of these factors. There are currently few publications that focus on gender differences in cybervictimization and none to date that have been able to explain why emotional adjustment outcomes vary for males and females. Thus, results of the pilot study support including a focus on identifying gender differences in an effort to address this gap in the literature.

Study 3

In addition to rejection sensitivity and friendship quality, it was thought that experiences with cybervictimization might be impacted by the ways in which individuals both perceive and respond to electronic interactions. Although the available measures of cybervictimization appear to capture forms of online aggression and prevalence of cybervictimization, there is currently a lack of assessments that target the cognitive processes and the behavioral responses associated with these cyber experiences. Thus, the purpose of Study 3 was to design and evaluate a new measure that examines whether adolescents' attributions regarding hypothetical situations involving potential cybervictimization may help explain the relation between their self-reported

cybervictimization experiences and emotional adjustment and whether these relations vary by gender.

The Ambiguous Cyber Situations (ACS; Hord & Erdley, 2015, see Appendix E) measure was developed specifically to assess intent attributions and response patterns within the context of situations that commonly occur in electronic interactions. The measure was initially developed through input from graduate students about situations that commonly occur and then, based on SIP theory, the principal investigators formulated example scenarios and response options (described in more detail below). Next, a team of graduate students and undergraduate students evaluated the measure to ensure that the response options were relevant to both theory and context. This work generated a series of 13 vignettes that were reduced to 10 vignettes in an effort to minimize redundancy and reduce participant exhaustion. The final questionnaire piloted included 10 vignettes that describe situations that both commonly occur during electronic interactions and for which the actor's actions could be interpreted in a variety of ways.

The ACS measure begins by instructing participants, "The following scenarios describe things that sometimes happen in online communication. Please imagine that each situation has happened to you and answer the questions thinking about how you would feel and respond in the moment." Each of the 10 vignettes describes a hypothetical situation that commonly occurs in electronically mediated communication. For example, "You notice that many of your friends are online so you post exciting news on a social networking site (e.g., Facebook, Instagram, Twitter, Tumblr) but no one responds." Each vignette is followed by four sections of questions. The first section is a forced choice option asking the participant whether it is more likely that the scenario has happened on

purpose or by accident. For example, “you are being ignored on purpose” represents that the event happened on purpose and “no one noticed the post” represents that the event was not intentional. Selection of purposeful intent may signify a hostile attribution bias if the majority of comparable peers rate the intent as accidental. The second section asks participants to rate how likely on a 5-point Likert scale (1 = *not at all likely* to 5= *really likely*) they would think four possible cognitions were the reason for the event. The first cognition is designed to assess for stable-external attributions (e.g., “My friends are being rude”), the second cognition assesses stable-internal attributions (e.g., “I am not good at writing posts”), the third cognition assesses unstable-internal attributions (e.g., “I didn’t try hard enough to make my post interesting to my friends”), and the fourth cognition assesses neutral attributions (e.g., “My friends were distracted with other things”). In the third section, participants are asked to rate on the same Likert scale how likely it would be that they carry out four different behavioral responses. The first behavioral response is designed to assess for rumination (e.g., “Repeatedly check for a response throughout the day”), the second response assesses avoidance or withdrawn behavior (e.g., “Purposely not post again for a while”), the third response assesses aggressive reactions (e.g., “Post a general negative message to everyone”), and the fourth response assesses prosocial or problem solving behavior (e.g., “Actively respond to others’ posts to encourage responding to mine”). The final section is a forced choice question asking the participants to select the one behavioral response from the third section that they are most likely to enact.

To assess the reliability and validity of the newly developed ACS measure and to compare data from the ACS with other measures of cybervictimization and adjustment

outcomes, a pilot study was conducted. Participants included 117 undergraduates (67 females), ages 18 to 24 years (M = 19.3 years), who completed the Social Networking-Peer Experiences Questionnaire (SN-PEQ; Landoll et al., 2013), the Beck Depression Inventory (BDI-II, Beck et al., 1996), the UCLA Loneliness Scale-Version 3 (UCLA-LSV3, Russell, 1996), and the Ambiguous Cyber Situations questionnaire (Hord & Erdley, 2015).

Initial analyses focused solely on the attribution portion of the ACS. The new measure demonstrated good reliability (α = .75). Correlational analyses revealed that participants who reported higher levels of cybervictimization were more likely to assume hostile intent in response to the ambiguous situations and had higher levels of emotional distress (see Table 4). Moreover, in general, the internal and external attributions were positively associated with depressive symptoms and loneliness, whereas the neutral attributions were negatively correlated.

Table 4. *Correlations among Cybervictimization, Causal Attributions, and College Students' Emotional Adjustment*

		1	2	3	4	5	6	7	8	9	10
1.	Cybervictimization	-	-.607**	.485**	.340*	.240	-.227	.414**	.306	24.29	9.04
2.	Purposeful/Accidental Intent	.504**	-	-.787**	-.725**	-.503**	.269	-.724**	-.437**	1.78	.22
3.	Stable-external Cause	.331**	-.557**	-	.738**	.636**	.000	.651**	.278	1.42	.45
4.	Stable-internal Cause	.196	.457**	.785**	-	.789**	.082	.747**	.431**	1.53	.58
5.	Unstable-internal Cause	.199	-.358**	.678**	.871**	-	.300*	.607**	.208	1.75	.65
6.	Neutral Cause	-.186	.445**	.002	.112	.212	-	.335*	-.402**	3.04	.91
7.	Depressive Symptoms	.384**	-.611**	.363**	.480**	.357**	-.258*	-	.404	9.45	10.25
8.	Loneliness	.294*	-.616**	.461**	.472**	.387**	-.341**	.724**	-	15.48	3.77
9.	Mean	23.36	1.77	1.46	1.55	1.74	3.23	10.63	15.97	-	-
10.	SD	5.22	.21	.56	.61	.71	.86	9.74	3.71	-	-

Correlations above diagonal – Male
Correlations below diagonal – Female
*$p < .05$
**$p < .01$

Hierarchical multiple regressions were computed to investigate whether cybervictimization and attributions predicted depression and loneliness. Results revealed that for both genders, cybervictimization explained a significant portion of the variance in depressive symptoms and when causal attributions were added, they significantly improved the prediction [$\Delta R^2 = .27$], with stable-internal attributions making a unique contribution (see Table 5). Similarly, cybervictimization explained a significant portion of the variance in loneliness for both genders and the addition of causal attributions significantly improved the prediction [$\Delta R^2 = .23$ for males; .29 for females]. Loneliness was uniquely predicted by stable-internal attributions for males, and neutral attributions for females.

Table 5. *Hierarchical regression assessing the unique contribution of cybervictimization and causal attributions to the prediction of depressive symptomatology and loneliness.*

	Males					Females				
Variable	*B*	*SEB*	β	R^2	Δ R^2	*B*	*SEB*	β	R^2	Δ R^2
Depression										
Step 1				.40	.40				.15	.15
Cybervictimization	.60	.12	.63***			.72	.22	.38**		
Constant	-5.98	3.02				-6.12	5.21			
Step 2				.67	.27				.42	.27
Cybervictimization	.39	.11	.41***			.54	.20	.29**		
Stable-external	1.89	2.77	.10			-3.69	2.89	-.21		
Stable-internal	6.62	2.70	.45*			12.75	3.88	.80**		
Unstable-internal	-.02	2.18	-.001			-2.62	2.87	-.19		
Neutral	1.40	1.03	.15			-2.97	1.20	-.26*		
Loneliness										
Step 1				.11	.11				.09	.09
Cybervictimization	.37	.17	.33*			.60	.25	.29*		
Constant	31.80	4.40				24.58	6.17			
Step 2				.34	.23				.38	.29
Cybervictimization	.17	.19	.15			.24	.26	.12		
Stable-external	-4.64	4.65	-.22			.51	4.31	.02		
Stable-internal	10.68	4.76	.62*			6.78	4.40	.39		
Unstable-internal	-2.08	3.80	-.14			1.10	3.66	.07		
Neutral	-3.44	1.76	-.32			-4.48	1.41	-.37**		

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

Depressive symptoms

- males: R^2 change = .27, $F(4,35) = 14.39$, $p < .001$, adjusted $R^2 = .62$
- females: R^2 change = .27, $F(4,59) = 8.53$, $p < .001$, adjusted $R^2 = .42$

Loneliness symptoms

- males: R^2 change = .23, $F(4,34) = 3.53$, $p < .05$, adjusted $R^2 = .24$
- females: R^2 change = .29, $F(4,55) = 6.75$, $p < .001$, adjusted $R^2 = .32$

Overall, results suggest that while cybervictimization predicts emotional outcomes in late adolescents, causal attributions add to the prediction. It appears that those who are cybervictimized and tend to blame cybervictimization on their poor social ability are especially likely to have emotional difficulties. Interestingly, the influence of causal attributions varied by gender in some but not all indices of adjustment. Similar to previous SIP theory investigations (Abramson, Metalsky, & Alloy, 1989; Crick & Ladd, 1993), it seems that worse outcomes occur when attributions are focused on internal-stable factors. Taken together, these findings highlight the fact that cognitions do seem to influence how cybervictims perceive their online interactions. Importantly, identifying the influence of cognitions may help to explain why some individuals are more impacted by cybervictimization than others.

Additional analyses were conducted to further examine the newly developed ACS measure. After reviewing the frequency with which responses were endorsed across the ten vignettes, two vignettes were removed from the measure because they did not elicit much variability in participant responses. This modified scale (based on eight vignettes) demonstrated good overall reliability (α = .86). Furthermore, adequate reliability was found for both the attribution subscale (α = .75) and the behavioral response subscale (α = .73). Examination of the responses on the ACS by gender revealed two significant gender differences. First, females reported significantly more ruminative behavioral responses than males (t (108) = -2.06, p = .042). This finding is not surprising given that previous research has established that females ruminate more often than males (Nolen-Hoeksema, 2001). Also consistent with past research (Martin & Huebner, 2007), females were significantly more likely than males to endorse prosocial behavioral responses (t

(108) = .52, p = .002). Males and females did not differ in the attributions they made about the hypothetical scenarios, nor did they vary in aggressive or avoidant responding. It may be that when communicating online, without the physical presence of peers, females feel more motivated to and capable of responding aggressively, thus reducing gender differences in aggressive behavior. Further analyses with a larger sample are necessary to confirm these results and to explore gender differences using more advanced statistical methods. To that end, the present study was designed to include causal attributions in order to further explicate the role of attributions in the relationship between cybervictimization and psychological adjustment. Further, use of the ACS measure allows for a novel investigation of the ways in which behavioral response patterns influence outcomes for individuals who are cybervictimized. It is possible that the combination of certain causal attributions with specific responses may be identified as leading to the worst outcomes. It also seems likely, based on the results of Study 3, that gender differences will emerge in the current study.

The Present Study

As research on cyberbullying is just beginning, there are many avenues for future directions of investigation. Thus far, cyberbullying research has consisted mostly of atheoretical inquiries, and the few studies that have been based in theory have not tested the same theories. Theory building creates cohesiveness by establishing order among the variables under investigation and enables researchers to use theories to understand broader processes, but theory building has been largely absent in cybervictimization research (Tokunaga, 2010). As a result, reviewing the literature for a cohesive understanding of cyberbullying is challenging. Cyberbullying research could benefit

immensely by building a theoretical foundation that would allow researchers to compare, contrast, and build off of one another's work. Without a framework to compare research studies, it will be difficult for researchers to make progress and, unfortunately, technology is advancing so quickly that research seems to be behind already. One theory that has been well supported in the traditional bullying research is the SIP model. It seems to make sense that cyberbullying research should closely evaluate the processes of the cyberbullying experience as related to the SIP model.

Recent research has developed various measures to assess cybervictimization, but an exhaustive search of the literature indicates that studies have not been replicated in order to validate measures of cyber experiences in new populations. Consequently, it is difficult for researchers to compare results across investigations. A recent study by Landoll et al. (2013) demonstrated good reliability of a new cybervictimization measure, the Social Networking-Peer Experiences Questionnaire (SN-PEQ). As described above, the SN-PEQ has been used in previous research by the primary investigator of the present study. Preliminary analyses of this measure demonstrate that it has good reliability and provides valuable data regarding the prevalence of cybervictimization. Landoll et al. (2013) suggested that the items on the SN-PEQ converge to form one factor but preliminary analyses conducted at the University of Maine indicate otherwise. Factor analysis of the SN-PEQ suggest that four factors may exist (i.e., humiliation, harassment, social exclusion, and defamation). Further, emotional adjustment related to these individual factors seems to vary by gender. These findings could result in important implications for intervention and prevention research as understanding how various subtypes of cybervictimization impact females versus males could lead to more specific

intervention programs. One goal of the current study is to replicate past research by investigating the psychometric properties of this measure and exploring the importance of cybervictimization variables for adjustment outcomes during college.

Time and time again research has proven that behavioral responses and cognitive attributions play a crucial role in maladaptive adjustment. It seems obvious then that these concepts should be applied to cyberbullying research. To date, research has not included the role of cognitive attributions in electronic communications, which is surprising given that the inherent ambiguity of cyber interactions lends itself to misinterpretation. Interpersonal interactions that take place via cell phones and computers may be especially susceptible to distortions in social information processing. Developing an understanding of how individuals cognitively process electronic social interactions may shed light on why some individuals are negatively impacted by cybervictimization whereas others are not. A new measure was developed specifically to investigate cognitive and behavioral responses to potential cybervictimization experiences. The new measure demonstrated good reliability in the pilot study. Preliminary analyses of the new ACS measure suggest that individuals who are cybervictimized are more likely to exhibit a hostile attribution bias and also have an increased risk for emotional distress. Further, analyses indicate that cognitive attributions made during ambiguous cyber situations predict changes in adjustment outcomes. Thus, building a knowledge base related to attributions for online communication would likely help to explain the variance in psychological adjustment for those who are cybervictimized. In addition, preliminary analyses demonstrated that the strength of predicting outcomes based on attributions of intent varies by gender. As such, it seems that specific forms of causal attributions impact

females and males differently. One goal of the present study is to further investigate the ways in which causal attributions contribute to predictions of adjustment and whether the influence of attributions varies by gender. Similarly, research thus far has not investigated how cybervictims respond, and it seems plausible that there could be a variety of factors involved. Perhaps some individuals may be more likely to turn off the electronic device whereas other individuals may focus on the bullying by repeatedly viewing the messages. In effect, these individuals may be "turning up the volume" of their own victimization experience. Preliminary analyses have not yet been conducted for the behavioral response items, though this subscale did demonstrate good reliability. Thus, another goal of the current study is to explore the influence of behavioral responses on the relation between cybervictimization and psychological adjustment. Understanding the differences between how individuals respond would likely inform additional bullying research as well as intervention programs aimed at minimizing the impact of cybervictimization.

Pursuing this further, additional variables have been shown in the literature to influence psychological adjustment, and these variables seem likely to be involved in adjustment for individuals who are cyber victims. Having higher quality friends mitigates negative outcomes for youth who are overtly or relationally victimized and also decreases the likelihood of further victimization. At the present time, research has yet to include friendship quality in order to investigate the role of friendship for those who are cyber victims. Confirming whether or not friendship buffers outcomes for online victimization experiences, as it does for traditional victimization, would create an additional avenue for building successful intervention and prevention programs. Rejection sensitivity is another

variable that has been shown to influence outcomes and seems especially relevant to electronic communication given the ambiguous nature of online interactions and the tendency for those high in rejection sensitivity to overly perceive interactions as negative. Preliminary analyses suggest that rejection sensitivity influences outcomes such that those who are cybervictimized and have high rejection sensitivity are more likely to also report depressive symptoms. Furthermore, the influence of rejection sensitivity varied by gender in such a way that rejection sensitivity had both a mediating and a moderating effect for males but only a moderating effect for females. These results indicate that rejection sensitivity plays an important, but slightly different, role for each gender. As such, one goal of the current study is to further explore gender differences in the influence of rejection sensitivity on the relationship between cybervictimization and psychological adjustment.

Previous studies have examined some important factors that predict adjustment to college. However, the established literature on late adolescent adjustment has not been clearly connected with the impact of social experiences. Notably, because the influence of technology on peer relationships has only recently begun, research has yet to establish reliable measures of cybervictimization and to identify the factors that influence adjustment. The primary aim of the present study is to address these crucial gaps in the literature by conducting a study of peer cyber experiences, adolescent adjustment, and factors that may influence why some individuals experience negative outcomes while others seemingly walk away unscathed. Specifically, college students' experiences with victimization are assessed using a well-established measure of overt and relational victimization (i.e., The Revised Peer Experiences Questionnaire; Prinstein et al., 2001)

and a new measure of cybervictimization (i.e., The Social Networking- Peer Experiences Questionnaire; Landoll et al., 2013) in order to compare subtypes of victimization and to verify the psychometric properties of the newer cyber measure. Outcome measures assess symptoms of depression, social anxiety, loneliness, and self-esteem. This study assesses several factors that are hypothesized to influence the relationship between cybervictimization experiences and adjustment. These factors include friendship quality, rejection sensitivity, and a measure developed specifically for this study that assesses attributions and behavioral responses in ambiguous cyber situations.

Hypotheses for the Present Study

The models of interest in this research resulted in the decision to include a wide range of variables in the current study. However, hypotheses are presented that focus on certain variables and test specific models. This approach has been taken to streamline the study and so that hypotheses can be appropriately tested using the obtained sample.

The following hypotheses tested in the current study are based on the previously presented literature review. Other than the pilot investigations conducted prior this study, there has been no examination of the attributions and behavioral responses of individuals who are cybervictimized. Given this minimal research precedent, any hypotheses involving these aspects of social information processing are largely exploratory.

Cybervictimization status and psychological adjustment

Hypotheses 1a and 1b. Based on results of the pilot research, as well as past studies indicating that victimization experiences are associated with a host of negative outcomes (e.g., Hawker & Boulton, 2000; Prinstein et al., 2001; Reijntjes et al., 2010), it

is hypothesized that cybervictimization will be positively correlated with depression, social anxiety, and loneliness and negatively correlated with self-worth (Hypothesis 1a). Consistent with past research (Grills & Ollendick, 2002; Nolen-Hoeksema, 2001), these correlations are hypothesized to be stronger for females than males (Hypothesis 1b).

Hypothesis 2. Pilot data for the present study found that individuals who had been cybervictimized were more likely to attribute purposeful intent to an ambiguous cyber situation. Based on these findings, it is hypothesized that individuals who are cybervictimized will be more apt to interpret hypothetical cybervictimization experiences as taking place on purpose.

Influential factors on the relation between the interaction of cybervictimization status and rejection sensitivity and psychological adjustment.

Hypotheses 3a and 3b. Based on the findings in the preliminary investigation that individuals who are cybervictimized and rejection sensitive exhibit increases in depressive symptoms, it is hypothesized that the interaction between cybervictimization and rejection sensitivity (VxRS) will have a direct effect on depression (Hypothesis 3a; see Figures 4 and 5). The preliminary investigation also found that the influence of cybervictimization on depressive symptoms varied by gender, and previous research (Nolen-Hoeksema, 2001) indicates that females tend to report a higher prevalence of depression than males. As such, it is hypothesized that the direct effect on depression will be significant for both genders but females are expected to have higher mean depression scores than males (Hypothesis 3b).

CVxRS ⟶ Depression

Figure 4. The interaction between cybervictimization and rejection sensitivity will have a direct effect on depression.

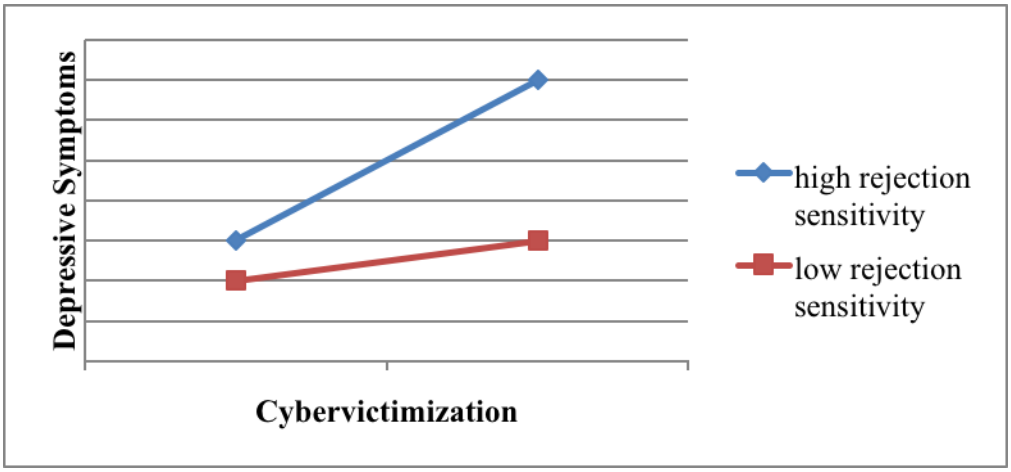


Figure 5. Expected relationship between the interaction of cybervictimization and rejection sensitivity and depressive symptoms.

Hypothesis 3c. Pilot study results indicated that individuals who were cybervictimized and made stable-internal attributions were more likely to report greater depressive symptoms. Based on these findings and a large body of research on the SIP model (e.g., Amir et al., 2005; Crick & Dodge, 1994; Crick & Dodge, 1995; Crick & Ladd, 1993; Lansford et al., 2003), it is hypothesized that the direct effect of the interaction between victimization and rejection sensitivity on depressive symptoms is due to the mediation of stable-internal attributions (see Figure 6).

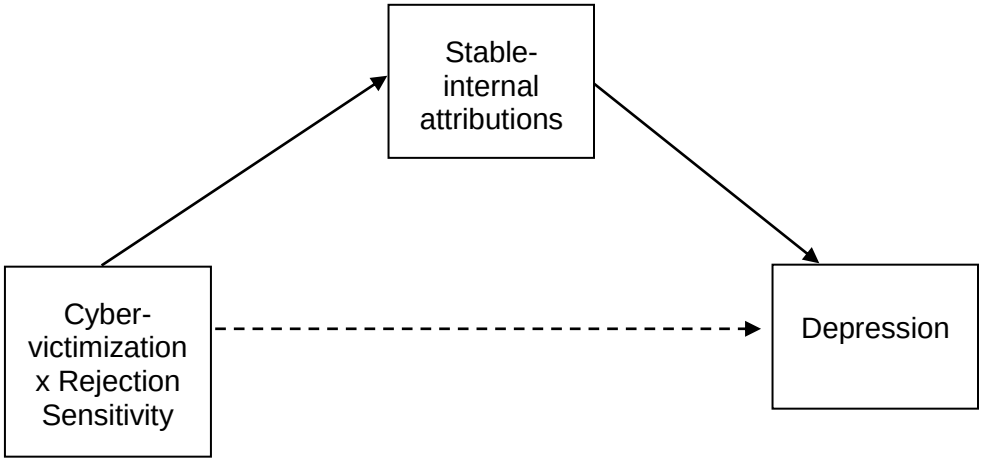


Figure 6. The direct effect of the interaction between cybervictimization and rejection sensitivity on depressive symptoms will be due to the mediation of stable-internal attributions.

Hypothesis 3d. Based on previous research demonstrating that rumination increases depressive symptoms (Nolen-Hoeksema, 2001) and because rumination was the highest frequency response in the pilot study, it is hypothesized that the effects of stable-internal attributions on depression will be moderated by ruminative behavioral responses (see Figure 7).

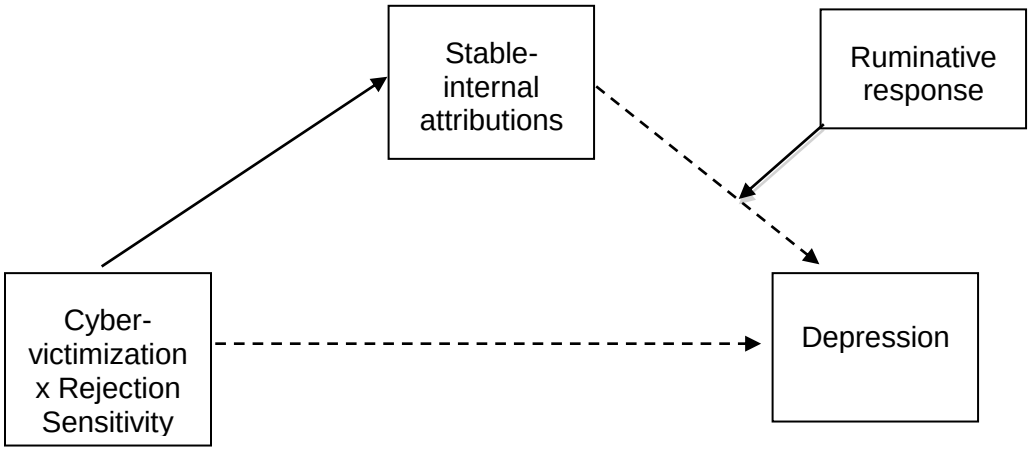


Figure 7. The effects of stable-internal attributions on depression will be due to the mediation of ruminative behavioral responses.

Hypothesis 3e. The moderated mediations in hypotheses 3c-3d will also be explored by gender. Given that relational aggression is more salient to females and that females tend to ruminate more than males, it is hypothesized that the effect of the moderated mediation will be stronger for females.

Influential factors on the relation between the interaction of cybervictimization status and friendship quality and psychological adjustment

Hypotheses 4a and 4b. Based on previous research indicating that friendship mitigates negative outcomes for those who are victimized (Hodges et al., 1999; Prinstein et al., 2001), it is hypothesized that the interaction between cybervictimization and friendship quality (VxFQ) will have a direct effect on depression (Hypothesis 4a; see Figures 8 and 9). The preliminary investigation found that the influence of cybervictimization on depressive symptoms varied by gender, and previous research (Nolen-Hoeksema, 2001) indicates that females tend to report a higher prevalence of depression than males. As such, it is hypothesized that the direct effect on depression will be significant for both genders, but females are expected to have higher mean depression scores than males (Hypothesis 4b).

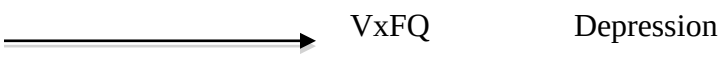


Figure 8. The interaction between cybervictimization and friendship quality will have a direct effect on depression.

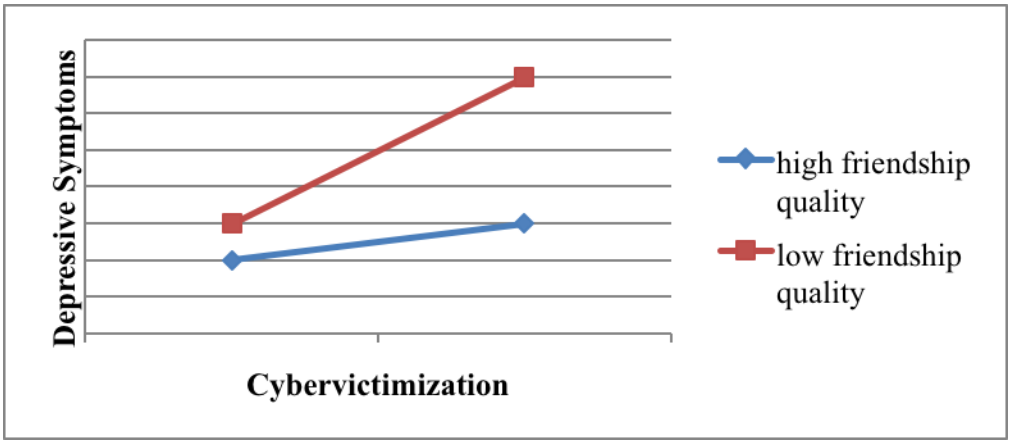


Figure 9. Expected relationship between the interaction of cybervictimization and friendship quality and depressive symptoms.

Hypothesis 4c. Pilot results found that individuals who were cybervictimized and made stable-internal attributions were more likely to report greater depressive symptoms. Based on these findings and a large body of research on the SIP model (e.g., Amir et al., 2005; Crick & Dodge, 1994; Crick & Dodge, 1995; Crick & Ladd, 1993; Lansford et al., 2003), it is hypothesized that the direct effect of the interaction between cybervictimization and friendship quality on depressive symptoms will be due to the mediation of stable-internal attributions (see Figure 10).

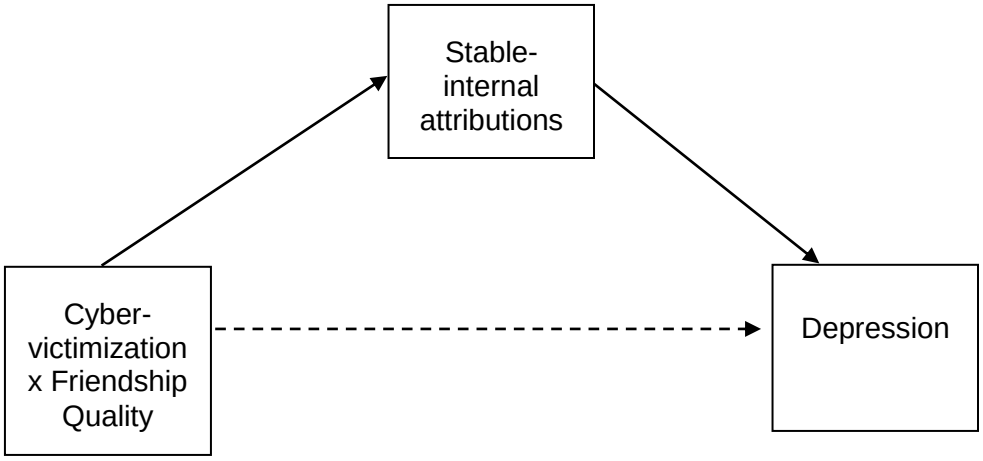


Figure 10. The direct effect of the interaction between cybervictimization and friendship quality on depressive symptoms will be due to the mediation of stable-internal attributions.

Hypothesis 4d. Based on previous research demonstrating that rumination increases depressive symptoms (Nolen-Hoeksema, 2001) and because rumination was the highest frequency response in the pilot study, it is hypothesized that the effects of stable-internal attributions on depression will be moderated by ruminative behavioral responses (see Figure 11).

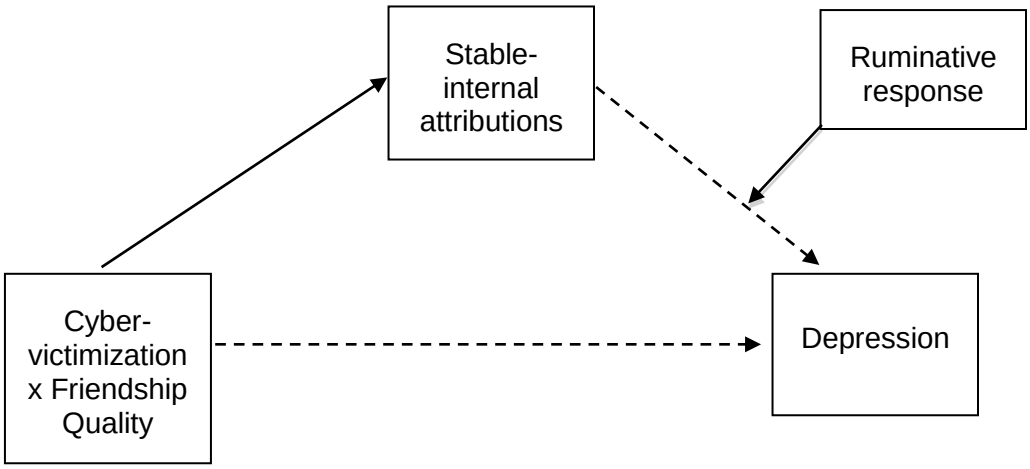


Figure 11. The effects of stable-internal attributions on depression will be due to the mediation of ruminative behavioral responses.

Hypothesis 4e. The moderated mediations in hypotheses 4c-4d will also be explored by gender. Given that relational aggression is more salient to females and that females tend to ruminate more than males, it is hypothesized that the moderated mediation will be stronger for females than males.

Chapter 2: METHOD

Participants

A total of 454 undergraduate students enrolled in psychology classes at the University of Maine participated in this study. Based on power analysis, a target sample of 462 participants was proposed before the sampling began to ensure an adequate number of participants for the analyses. A conservative estimate was used to approximate the number of participants required for detection of effects. Power estimation was accomplished by combining use of published data (Fritz & MacKinnon, 2007) regarding effect size and Preacher and Hayes' (2008) bootstrapping technique. For the estimation two small effect sizes were assumed as the most conservative estimate needed in order to reach acceptable power.

The sample included 454 college students (235 female, 219 male) who ranged in age from 18-24 years old (M=18.79, SD = 1.10). The participants were primarily Caucasian (90.3%) with fewer minority samples represented as African American (3.5%), Hispanic (2.9%), Asian (1.5%), American Indian (0.9%) and (0.9% no response). Most of the students were freshmen (67.4%), followed by sophomores (21.8%), juniors (7.0%), and seniors (3.5%). A majority of the sample lived on campus with a roommate (69.4%), while 7.5% lived off campus with relatives, 19.4% lived off campus with nonrelatives, 0.7% lived alone off campus, and 3.1% lived alone on campus. Most parents had at least some college education (mother 73.2%, father 71.8%), with 24.9% of mothers and 24% of fathers completing high school only, and the remainder completing less than a high school education.

In this sample, 97.8% of the participants had the internet where they live, 98.9% had a personal cell phone, 96% had unlimited text messaging cell phone plans, 85.7% used their phone to access the internet, and 34.6% had unlimited data plans for their cell phone. Students were asked to enter the number of hours they engage in various electronic activities. This sample of college students spent an average of 4.27 hours online each day. Broken down, they reported a weekly average of hours engaged in the following activities online: Facebook (5.2 hours), Instagram (3.1 hours), Tumblr (.5 hours), Twitter (3.8 hours), email (1.8 hours), texting (12.9 hours), and talking on the phone (2.6 hours).

Procedure

The principal investigator posted a description of the study on the Sona website (See Appendix A). Sona is used by the Psychology Department to recruit students for participation in research projects in which students can earn research credits for psychology classes. On this website, students could view a brief description of the study method, inclusion criteria, and contact information for the principal investigator. Students could then click on an electronic link in Sona that directed them to the consent form (See Appendix B) and questionnaires on SurveyMonkey.com. At that time, students could make a check to indicate that they agreed to participate or not participate. If they clicked the box to participate, they then viewed a series of questionnaires. Students were asked to click the "continue" button at the end of each questionnaire to move on to subsequent questionnaires. Participants could choose to exit the website and withdraw their participation at any time. Responses to the questionnaires were anonymous, as no personally identifying information was collected on SurveyMonkey.com. At the

conclusion of the session, the participant was provided with a thank you statement for his/her participation, as well as referral information to counseling services for those who might be experiencing distress. (See Appendix C for the thank you message.)

A total of 905 students clicked the link on Sona to potentially participate in the study. Of the 905 who clicked the link, 91 participants did not respond past the first question requesting voluntary consent. Another 8 participants were excluded for being older than 24 years old. To determine whether the length of time for completion of the online measures had an influence on scores on the primary measures, time duration was analyzed. The mean duration for completion was 1 hour and 17 minutes. Significant differences in total scores were not identified based on duration and, thus, duration was not used as an exclusionary method. Instead, completion of primary measures was utilized to ensure that participants had the requisite data for inclusion. Subsequently, the 25 students who dropped out before completing at least 50% of the primary measures were removed from further analyses reducing the N to 781 (e.g., "non completers"; Scannell & Gifford, 2010). Further sample reduction steps were necessary in order to improve the psychometric properties of the data (see *Data preparation: SN-PEQ Measure* in the results section for details). After these procedures were followed, it was necessary to eliminate 327 additional participants, resulting in a final sample size of 454.

Primary measures

Demographics and online activity questionnaire. Information about participant characteristics (e.g., age, sex, ethnicity) and electronic communication patterns were collected using a self-report questionnaire designed specifically for this project (See Appendix D).

Cybervictimization. The Social Networking- Peer Experiences Questionnaire (SN-PEQ; Landoll et al., 2013; see Appendix E) is an 18-item scale designed to assess the frequency with which individuals are subjected to negative peer experiences on social networking sites (e.g., Facebook), including social exclusion, embarrassment, and harassment. Items are rated on a 1 (*never*) to 5 (*a few times a week*) scale. Sample items include, "A peer made me feel bad by not listing me in his/her 'Top 8' or 'Top Friends' list," "A peer posted mean things about me on a public portion of a social networking site (i.e., a Facebook 'wall post,' photo comment," or "I found out that I was excluded from a party or social event over a social networking site (e. g., Facebook)." One item assesses negative experiences that occur using text messaging (e.g., "A peer sent me a mean message by text messaging") and the last item asks participants to describe other hurtful online experiences in an open-ended format. This scale has demonstrated good internal consistency ($\alpha = .81$) in previous college student samples, and exploratory factor analyses suggest items load consistently on a single factor (Landoll et al., 2013).

In the current sample, item analyses indicated 80% or more of the participants have "never" experienced the form of cybervictimization described on five individual items (see Table 6). Because of low endorsement, these five items were removed from additional analyses and the new total score for this measure included the remaining 12 items. The final SN-PEQ measure produced good internal consistency with the present college sample yielding a Cronbach's alpha of .85.

Table 6: Items from the SN-PEQ with low endorsement

SN-PEQ Item	Mean	Percent of participants who endorsed "never"
A peer made me feel bad by not listing me in his/her "Top 8" or "Top Friends" list.	1.32	84.0%
A peer tried to get me in trouble with parents, teachers or others by posting pictures or comments about me on a SNS.	1.29	86.0%
A peer pretended to be me on a SNS and did things to make me look bad/damage my friendships.	1.32	83.4%
A peer prevented me from joining a group on a SNS that I really wanted to join.	1.24	88.9%
A peer created a group on a SNS to be mean and hurt my feelings.	1.24	89.0%

Attributions and response style. The Ambiguous Cyber Situations (ACS; Hord & Erdley, 2015; see Appendix F) measure was developed to assess attributions and response patterns within the context of situations that commonly occur in electronic communications. Participants are asked to imagine themselves in eight different scenarios and respond based on how they would feel in the moment. Each vignette begins with a description of a scenario. For example, "In response to one of your posts, a friend writes a sarcastic comment about you." The participant is then asked to respond to four subsections of questions. The first section asks the participant to choose whether or not the action was on purpose or by accident. The second set of questions asks participants to rate on a scale from 1 (*not at all likely*) to 5 (*really likely*) how likely they would be to

think each intent attribution was the reason for the provocation. Within this second section of questions, the participant rates attributions that are specifically designed to assess external attributions (unstable-external), internal attributions (one for stable-internal and one for unstable-internal), and one neutral response. In the third section, participants are asked to rate on the same scale how likely they would be to enact each of four behavioral responses (i.e., ruminative, withdrawn/avoidant, aggressive, and prosocial/problem-solving). The final question asks the participant to select which of the behavioral responses he or she would be most likely to enact. In the pilot study, the eight vignette measure yielded good overall reliability (α = .86). Furthermore, adequate reliability was found for both the attribution subscale (α = .75) and the behavioral response subscale (α = .73). In the present study, the full scale produced an alpha of .80. With further reflection, it was decided that internal consistency of the ACS subscales should be calculated based on each individual attribution or behavior for increased accuracy. The internal consistency for each individual subscale was as follows: On purpose (α = .80), By accident (α = .71), External (α = .82), Ability (α = .77), Effort (α = .78), Neutral (α = .74), Ruminative (α = .88), Avoidance (α = .80), Aggressive (α = .78), Prosocial (α = .66), and Most Likely Response (α = .63).

Depressive symptoms. In order to assess self-reported depressive symptoms, the students completed the Beck Depression Inventory (BDI-II, Beck et al., 1996; see Appendix G). This scale is a 21-item self-report screening questionnaire designed to assess the severity of depressive symptoms. Each item is rated on a four-point scale ranging from 0-3 where 0 reflects no symptoms and 3 indicates severe symptoms. Consistent with other studies assessing depression in adolescents (see Williams,

Connolly, & Segal, 2001), the item evaluating suicidality was dropped from the measure, resulting in a total of 20 items. The BDI-II is one of the most widely used measures to assess depressive symptoms in nonclinical populations. The BDI-II has demonstrated good internal consistency as evidenced by coefficient alpha of .92 in samples of both adults and adolescents (Beck et al., 1996; Dozois, Dobson, & Ahnberg, 1998; Steer, Kumar, & Ranieri, 1998). Furthermore, support for test-retest reliability has been found (r = .93; Beck et al., 1996). Convergent and discriminant validity of the BDI-II has been supported using adult and adolescent populations (Ambrosini, Metz, Prabucki, & Lee, 1989; Beck et al., 1996; Beck & Steer, 1988). Consistent with previous findings, the coefficient alpha for the BDI-II in the present study was .93.

Friendship quality. Participants were also asked to assess the quality of their perceived closest friendship using the Friendship Quality Questionnaire-Revised (FQQ-R; Nangle et al., 2003; Parker & Asher, 1993; see Appendix H). This questionnaire has six subscales, and includes the three items that, according to Parker and Asher (1993), load most strongly onto each of the six factors: validation (e.g., "My friend makes me feel good about my ideas"), conflict (e.g., "My friend and I argue a lot"), conflict resolution (e.g., "My friend and I make up easily when we have a fight"), help and guidance (e.g., "My friend helps me so I can accomplish tasks faster"), companionship (e.g., "My friend and I always eat together"), and intimacy (e.g., "My friend and I always tells each other our problems"). Each participant was asked to think about his/her closest friend when rating each of 18 items on a 5-point scale, ranging from 1 (*not at all true*) to 5 (*really true*). Some items (i.e., 4, 5, 17) on this questionnaire were modified to make them more appropriate for use with the college population (e.g., The item, "My friend

and I always play together at recess" was modified to "My friend and I always hang out together"). Internal consistency for the FQQ-R has been found to be good, with Cronbach's alphas ranging from .81 to .90 for boys and from .87 to .95 for girls (Nangle et al., 2003). In the present sample, an overall friendship quality score was calculated by averaging all items together, after reverse-scoring the conflict items. The final FQQ-R measure produced good internal consistency with the present college sample, yielding a Cronbach's alpha of .87.

Rejection sensitivity. Participants were asked to evaluate their perception of anxious expectations of rejection by completing the Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996; see Appendix I. Participants rated how concerned or anxious they would be in each situation (e.g., "You ask someone in class if you can borrow his/her notes") using a 6-point scale ranging from *very unconcerned* (1) to *very concerned* (6). Then they are asked to rate how they expect the other person would respond (e.g., "I expect that the person would willingly give me the notes") using a 6-point scale ranging from *very unlikely* (1) to *very likely* (6). The RSQ shows high internal reliability, with Cronbach's alpha at .83 and high test-retest reliability ranging from .78 to .83 (Downey & Feldman, 1996). The RSQ has shown a stable one-factor structure and discriminant validity with measures of introversion, neuroticism, self-esteem, attachment, depression, social anxiety, and social avoidance (Downey & Feldman, 1996). The current sample generated good internal consistency with Cronbach's alpha of .86.

Social anxiety. To assess social anxiety symptoms, participants completed the Social Avoidance and Distress (SAD) and the Fear of Negative Evaluation (FNE) scales (Watson & Friend, 1969; see Appendix J and K). Together, the SAD and FNE consist of

58 true/false statements and participants are asked to evaluate whether each statement is true for them (e.g., "I feel relaxed even in unfamiliar social situations," "If someone is evaluating me, I tend to expect the worst"). Scores consistent with tendencies to be anxious in social situations receive a value of 1, while scores indicating the absence of social anxiety receive a score of 0. Total scores range from 0 to 58 with higher scores indicating greater social avoidance and distress and greater fear of negative evaluation. The SAD and FNE have demonstrated excellent internal reliability with KR-20s (Cronbach's alpha for measures with dichotomous choices) reported at .94 and .96, respectively, and high test-retest reliability reported at .78 and .68, respectively (Watson & Friend, 1969). In the present sample, internal consistency was excellent (α = .93).

Loneliness. The UCLA Loneliness Scale-Version 3 (UCLA-LSV3; Russell, 1996; see Appendix L) assesses subjective feelings of loneliness or social isolation. Participants were asked to rate 20 items on a 4-point scale ranging from 1 (*never*) to 4 (*always*) regarding how often each item applies to them. Eleven items on the measure are worded negatively (e.g., "How often do you feel alone?") and nine items are worded positively ("How often do you feel close to people?"). Possible total scores range from 20 to 80, with higher scores indicative of greater feelings of loneliness. The UCLA-LSV3 has shown good internal consistency in a college student sample (Cronbach's alpha = .92; Russell, 1996) and good convergent validity with other measures of loneliness (Russell, Kao, & Cutrona, 1987, as reported in Russell, 1996). The UCLA Loneliness Scale produced excellent internal consistency (α = .91) in the current sample.

Secondary Measures

Peer Experiences Questionnaire. Participants completed a modified version of the Revised Peer Experiences Questionnaire (PEQ-R; De Los Reyes & Prinstein, 2004; Prinstein et al., 2001; see Appendix M). This questionnaire was modified for the college population by changing the term "teen" to "peer." Participants assessed self-perceptions of prosocial and antisocial behavior with peers. This measure includes 18 items making up four subscales: Overt Aggression/Victimization (e.g., "I chased a peer like I was really trying to hurt him or her" and "A peer chased me like he or she was really trying to hurt me"), Relational Aggression/Victimization (e.g., "I left another peer out of what I was doing" and "A peer left me out of what they were doing"), Reputational Aggression/Victimization (e.g., "I gossiped about another peer so others would not like him/her" and "Another peer gossiped about me so that others would not like me"), and Prosocial Behavior towards other/Recipient of Prosocial Behavior (e.g., "I helped another peer when they were having a problem" and "Another peer helped me when I was having a problem"). Participants rated each item on a 1 (*never*) to 5 (*a few times a week*) scale. The internal consistency for the four scales has been found to be good, with Cronbach's alphas ranging from .68 to .84 (Prinstein et al., 2001). In the present sample the internal consistency was good, generating Cronbach's alpha values as follows for each subscale: Overt Aggression/Victimization (α = .81), Relational Aggression/Victimization (α = .80), Reputational Aggression/Victimization (α = .82), and Prosocial Behavior towards other/Recipient of Prosocial Behavior (α = .79)

Perceived social competence. Participants completed the Self-Perception Profile for College Students (Neemann & Harter, 2012; see Appendix N) in order to assess self-

perceptions of competence in various domains. This measure includes 54 items making up twelve domains and one subscale: Creativity, Intellectual Ability, Scholastic Competence, Job Competence, Athletic Competence, Appearance, Social Acceptance, Close Friendships, Romantic Relationships, Parent Relationships, Finding Humor in One's Life, Morality, and the Global Self-Worth subscale. Four of these subscales are described to provide examples of this measure. The Social Acceptance scale assesses the degree to which the individual feels he/she is popular and accepted by his/her peers (e.g., "Some college students find it hard to make friends, BUT other college students find it's pretty easy to make friends"). The Close Friendship scale assesses individuals' beliefs that they can make close friends with whom they feel that can share personal thoughts and secrets (e.g., "Some college students wish they had a really close friend to share things with, BUT other college students do have a really close friend to share things with"). The Scholastic Competence scale assesses the individual's perception of his/her competence within the school setting (e.g., "Some college students do very well at their class work BUT other college students don't do very well at their class work"). The Global Self-Worth scale assesses the degree to which the individual likes and is happy with him/herself (e.g., "Some college students don't like the way they are leading their life, BUT other college students do like the way they are leading their life"). Participants first select which statement in the pair is more descriptive of them, and then they rate whether the selected statement is "sort of true" or "really true." This questionnaire has been used with college samples, and the internal consistency for the subscales has been found to be good, with Cronbach's alphas ranging from .76 to .92 (Neemann & Harter, 2012). For the present study only the Global Self-Worth scale was used for

supplementary analyses. The current sample yielded good internal consistency with Cronbach's alpha of .79 for the Global Self-Worth scale.

Chapter 3: RESULTS

The major study hypotheses involve assertions that cybervictimization is related to psychological adjustment and that certain vulnerability factors and response patterns increase the susceptibility to worse adjustment outcomes. Several preliminary analyses were performed prior to examining hypothesis-specific analyses. The first section describes the preliminary data screening and preparation processes, and the next section details tests of the major study hypotheses.

Preliminary Data Preparation and Screening

The questionnaire data were first examined for missing items, outliers, and normality of distribution. For all primary measures (i.e., Social Networking, Ambiguous Cyber Situations, Depression, Loneliness, Social Anxiety, Rejection Sensitivity, and Friendship Quality), total scores were calculated if 90% or more of items were completed using list wise deletion (Bennett, 2001). This strategy was chosen, as it offers a conservative estimate of responses while retaining sample size and statistical power (Kromrey & Hines, 1994). Total scores and correlations were compared between those with full response sets and those with 'estimated' total scores, with nearly identical outcomes. Thus, data analyses proceeded using the estimated scores (Tabachnick & Fidell, 2007). Next, all measures were examined for outliers and normality of distribution. Upon review of frequencies, all responses fell within acceptable ranges. Three outliers were identified for the Social Networking measure and one outlier was identified for the Rejection Sensitivity questionnaire. Each outlier was replaced with the appropriate z-score as recommended by Andy Field (2009). Skewness and kurtosis were then evaluated for each measure of interest. Cybervictimization was highly positively

skewed, and corrections are addressed in the next section describing data preparation of the Social Networking measure. Depression, rejection sensitivity, and specific subscales of the vignette measure (e.g., attributions for purposeful intent, external cause, internal ability, self-effort, and behavioral responses that were ruminative, avoidant, aggressive, and prosocial) were each moderately positively skewed. Friendship quality and self-worth were moderately negatively skewed. Following Tabachnick and Fidell's (2007) recommendation, square root transformations were applied first. Follow-up evaluation revealed significant improvement in normality for all variables except for some cognitive attributions (on purpose, external, ability, effort) and behavioral responses (ruminative, avoidant, aggressive). A logarithmic transformation was applied to those variables, and resultant skewness and kurtosis were assessed to be within acceptable ranges. These transformed variables were then used in all subsequent analyses. In addition, all variables were centered at the mean for statistical analyses. Note that means and standard deviations are presented with the untransformed data, for ease of interpretation. After all data were cleaned and the final data set identified, missing data items were replaced with the mean only for the Social Networking measure, which was a requirement to run confirmatory factor analysis in AMOS.

Data preparation: SN-PEQ Measure

Analysis of the SN-PEQ measure indicated a high positive skew (skewness = 2.002, standard error = .115). To reduce skew and improve data analysis capabilities, several steps were conducted. First, participants with a low overall endorsement of cybervictimization were removed. Participants were excluded if their endorsement of negative cyber experiences resulted in a mean score less than 1.2. The cutoff score of 1.2

was selected in order to retain as many participants as possible while also more accurately selecting participants who could inform the cybervictimization questions that are a focus of the current study. Having a mean score of greater than 1.2 is indicative of an individual who has endorsed at least 3 points higher than selecting "never" for all of the 12 included SN-PEQ items. Thus, there is at least a minimal level of cybervictimization being endorsed by the participant. Performing this step removed 273 students, resulting in a new population of 508 participants (skewness=1.88, standard error=.09). Next, three outliers were identified as having undue influence on the data and thus, the outliers were replaced with the *z* score for that item. The resulting new skew was 1.49 (standard error=.115). To further improve normality, the data were transformed using the log, square root, and reciprocal mathematical transformations; however, these approaches did not improve normality. Next, the SN-PEQ data were divided into quartiles (i.e., four groups) but each of the four groups was not significantly different from one another. Finally, based on SN-PEQ scores, the participants were split into two groups (low- vs. high-cybervictimization), using a median split (median =1.5833). An independent-samples t-test revealed that the low- (M = 1.39, SD = 0.11) and high-cybervictimization (M = 2.11, SD = 0.45) groups differed significantly in their level of self-reported cybervictimization (t (452)=-24.62, $p < .001$). As a last step, if a primary measure was completely missing from a participant's data (i.e., the participant had not completed at least 90% of the questions), that person was removed from continued inclusion in analyses. This reduced the N to the final population used in the study (N = 454). See Table 7 for descriptive statistics on the two groups used in analyses for the SN-PEQ measure.

Table 7: *SN-PEQ measure descriptive statistics by low- and high-cybervictimization groups*

Group	*N*	Minimum	Maximum	Mean	Std. Deviation	Skewness statistic	Skewness Std. Error
Low CVS	250	1.25	1.58	1.39	.11	.25	.15
High CVS	204	1.64	3.55	2.11	.45	1.22	.17

Note: Low CVS = 131 females, 119 males; High CVS = 104 females, 100 males

Confirmatory factor analysis was used to investigate whether data from the current study converge to form more than one factor. Originally, it was proposed that the four factors (i.e., constructs) identified in the preliminary investigation: humiliation, harassment, social exclusion, and defamation, would be structurally analyzed. However, five of the original items were removed from analyses due to low endorsement. As such, the remaining twelve items were grouped into three theoretical factors: humiliation/embarrassment, harassment, and social exclusion. SPSS Amos software was employed to draw the factor structure and allow the factors to covary in order to test for model fit. In order to determine the best model fit, confirmatory factor analysis was also examined using a single structure model such as the one identified by Landoll et al. (2013).

As a first step, means, standard deviations, inter-correlations, and internal consistencies were calculated for the proposed subscales. See Table 8 for a summary.

Table 8: *Descriptive statistics of the proposed SN-PEQ subscales.*

	Embarrassment	Harassment	Social Exclusion
Embarrassment	1		
Harassment	0.46***	1	
Social Exclusion	0.33***	0.44***	1
Mean	1.73	1.61	1.97
Standard Deviation	0.74	0.60	0.54
Cronbach's Alpha	0.70	0.86	0.47

Note. *** $p < .001$.

The absolute goodness of fit was measured by the chi-square goodness-of-fit test, and the akaike information criterion (AIC). The chi-square test is considered to demonstrate acceptable fit if the ratio of χ^2 to $df \leq 2$ or 3 and the AIC test is recommended for comparing models where smaller values indicate better fit (Schreiber et al., 2010). The chi-square test is sensitive to sample size and can be unreliable with sample sizes that exceed 150-200 (Smyth & MacLachlan, 2005). Therefore, a combination approach evaluating several indices was pursued. The Comparative goodness of fit was measured by the comparative fit index (CFI) and the Tucker-Lewis index (TLI; Bentler, 1990). Acceptable fit values for the comparative fit indices (CFI &TLI) are .95 or greater (Hoyle & Smith, 1994; Hu & Bentler, 1999). Additional indices evaluated in these analyses are the standardized root mean square residual (SRMR) and root mean square error of approximation (RMSEA). Acceptable SRMR values are smaller than .08 and acceptable RMSEA values are smaller than .08 and preferably less than .06 (Schreiber et al., 2010). In terms of sample size, small sample sizes increase the probability of obtaining improper solutions and lack of model convergence, while

samples that are too large may inflate global fit indices. However, when multiple fit indices indicate a good fit, then there is probably a good fit (Shreiber et al., 2010).

Based on the modification indices, the fit of the one-factor cybervictimization model was improved by allowing five pairs of errors to correlate (Schaufeli et al., 2001). Despite the danger of type 1 error, these error terms were covaried as they were theoretically similar to one another. This created a revised one-factor model. Other model modifications suggested by modification indices were not adopted because they did not fit with theoretical knowledge. The revised one-factor model fits better to the data than the original one-factor model. Similarly, the fit of the three-factor model was significantly improved by allowing four error terms to correlate, where each error correlation fit with theoretical judgment, creating a revised three-factor model. Table 8 reports the fit indices for the four models.

As can be seen in Table 9, there is minimal difference between the two revised models, with the revised three-factor model only slightly superior $\Delta \chi^2 (2) = 10.70$, $p < .001$. Since both of the revised models yielded acceptable values across all fit indices, it could be argued that either model is accurate. However, latent variables have not previously been identified in the cybervictimization literature and could have interesting implications. See Figures 12 & 13.

Table 9. *Fit Indices for the Hypothesized Models*

Model	Description	χ^2	*df*	CFI	AIC	TLI	RMSEA	CI	SRMR
1	1 Factor	325.44***	54	0.84	373.44	0.81	0.10	.09-.12	0.07
1r	1 Factor(r)	94.40***	49	0.97	152.40	0.96	0.04	.03-.06	0.03
2	3 Factors	214.77***	51	0.91	268.77	0.88	0.08	.07-.10	0.05
2r	3 Factors(r)	83.70**	47	0.98	145.70	0.97	0.04	.03-.06	0.03

Note. CFI = Comparative fit index; TLI = Tucker-Lewis Index; RMSEA = root mean square error of approximation; CI = 90% confidence interval; SRMR = standardized root mean squared residual; (r) = revised

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

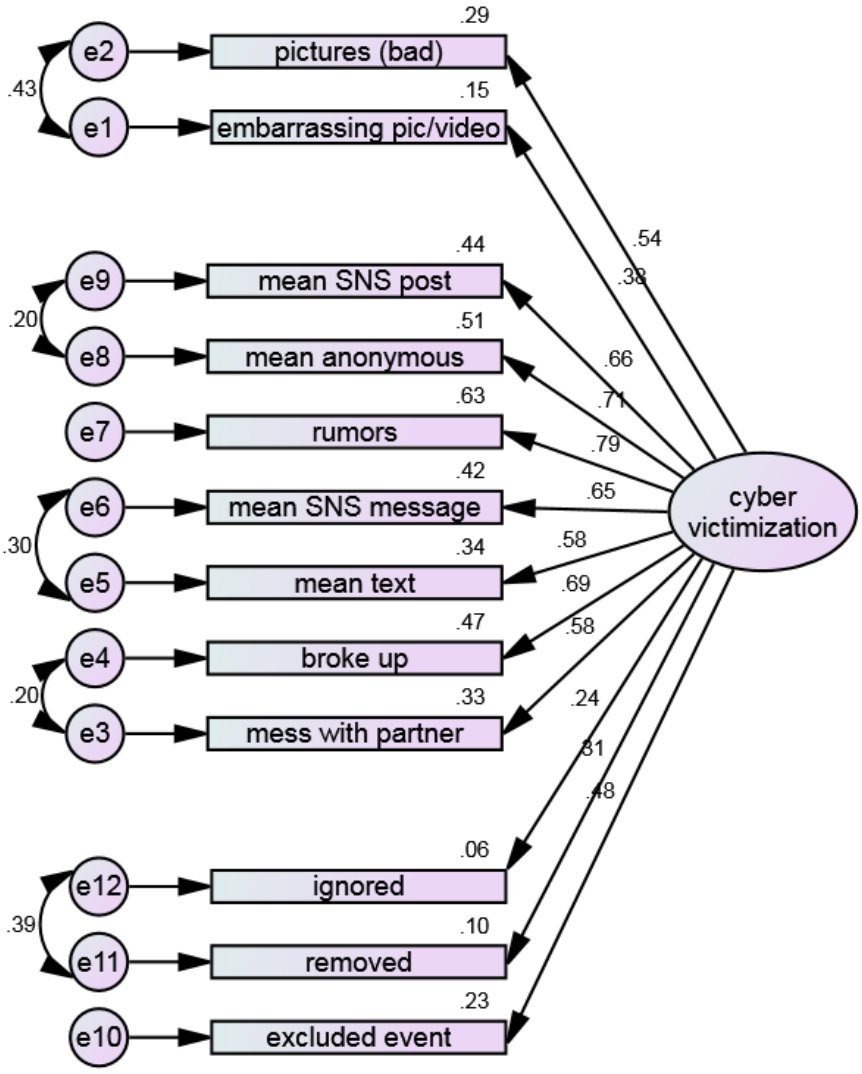


Figure 12. Revised one-factor model of the SN-PEQ.

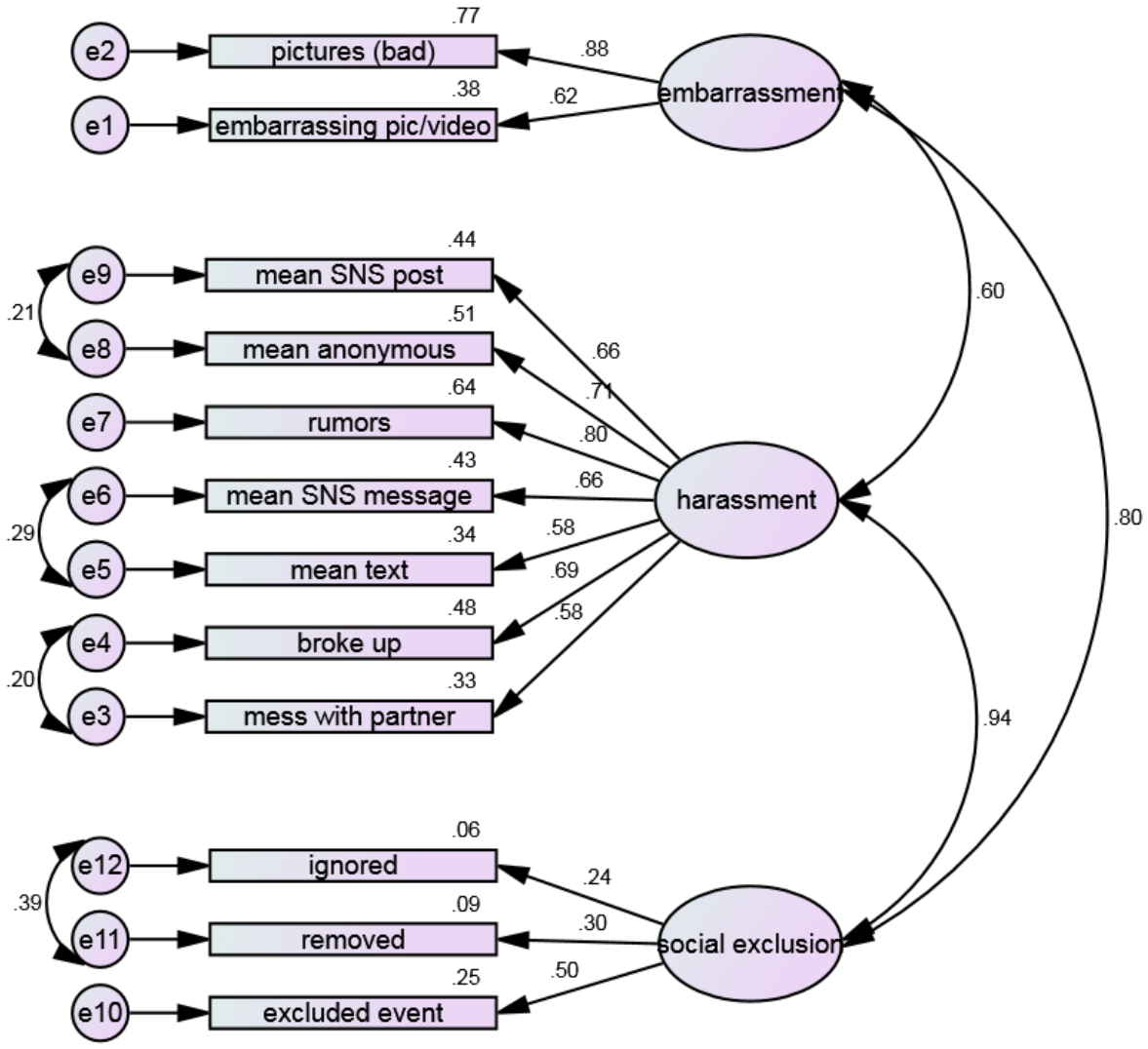


Figure 13. Revised three-factor model of the SN-PEQ.

Data screening: Differences in ambiguous cyber situations responses

To examine differences in the low- and high-cybervictimization groups, data were screened by calculating descriptive information, including means and standard deviations, for the Ambiguous Cyber Situations (ACS) measure. Means, standard deviations, and correlations among the subscales of the ACS and cybervictimization (CV) are shown by high and low CV in Table 10. For the low CV group, only purposeful intent and internal-unstable attributions were significantly and positively correlated with CV,

whereas for the high CV group, purposeful intent, external-stable, internal-stable, and internal-unstable cognitive attributions were significantly and positively correlated, neutral attributions were significantly and negatively correlated, and avoidant and aggressive behavioral responses were significantly and positively correlated with CV.

Table 10. *Correlations for Attributions and Behavioral Responses by CV*

	1	2	3	4	5	6	7	8	9	10	11
1. Cybervictimizaton	-	.24**	-.13	.34***	.33***	.21**	-.16*	.11	.40***	.48***	.11
Attribution	-										
2. Purposeful Intent	.13*	-	.09	.82***	.66***	.67***	.13	.59***	.70***	.48***	.32***
3. By Accident	.07	-.04	-	.03	.13	.24**	.84***	.28***	-.01	.04	.53***
4. External-Stable	.09	.82***	-.07	-	.70***	.66***	.07	.47***	.77***	.67***	.29***
5. Internal-Stable	.07	.59***	.11	.54***	-	.83***	.12	.49***	.69***	.59***	.28***
6. Internal-Unstable	.18**	.52***	.31***	.47***	.71***	-	.24**	.55***	.67***	.49***	.37***
7. Neutral	.03	-.01	.78***	-.05	.07	.29***	-	.37***	-.04	.02	.58***
Behavioral Response											
8. Ruminative	.12	.48***	.22***	.47***	.56***	.50***	.26***	-	.47***	.24**	.47***
9. Avoidance	.07	.69***	-.01	.62***	.47***	.37***	.02	.50***	-	.71***	.26***
10. Aggressive	.03	.24***	.01	.30***	.14*	.11	.02	.15*	.25***	-	.27***
11. Prosocial	.02	.10	.42***	.10	.14*	.26***	.43***	.34***	.13*	.16*	-

Note: Correlations above diagonal – High Cybervictimization (High CV), N=250
Correlations below diagonal – Low Cybervictimization (Low CV), N=204
*$p < .05$, **$p < .01$, ***$p < .001$

To investigate whether differences in the low and high CV groups were significant, independent samples t-tests were conducted. As displayed in Table 11, most of the subscales for the ACS measure were significantly different between the two groups, except for by accident and neutral attributions. Overall, compared to those who reported less CV, the individuals who endorsed a greater number of CV experiences were significantly more likely to have higher scores for placing blame on themselves and others, as well as desiring to avoid the situation or retaliate.

Table 11. *Differences between high- and low- cybervictimization groups for attribution and behavioral response*

	Low CV		High CV					
	Mean	*SD*	Mean	*SD*	*df*	*T*	*r*	*p*
1. Cybervictimizaton	1.39	0.11	2.11	0.45	223	-22.49***	.83	<.001
2. Purposeful Intent	1.80	0.59	2.15	0.68	398	-5.81***	.28	<.001
3. By Accident	3.00	0.70	2.88	0.64	452	1.92	.09	0.05
4. External-Stable Attrib.	1.50	0.51	1.94	0.69	366	-7.58***	.43	<.001
5. Internal-Stable Attrib.	1.63	0.56	1.93	0.67	393	-5.21***	.25	<.001
6. Internal-Unstable Attrib.	1.94	0.66	2.15	0.68	452	-3.25**	.15	0.001
7. Neutral Attrib.	3.20	0.68	3.07	0.70	451	1.98	.09	0.05
8. Ruminative Resp.	2.22	0.87	2.62	0.89	452	-4.72***	.22	<.001
9. Avoidant Resp.	1.46	0.51	1.85	0.69	366	-6.81***	.33	<.001
10. Aggressive Resp.	1.20	0.29	1.66	0.64	270	-9.37***	.49	<.001
11. Prosocial Resp.	2.33	0.67	2.60	0.67	451	-4.40***	.20	<.001

Note: High Cybervictimization (High CV), *N*=250
Low Cybervictimization (Low CV), *N*=204
Bonferroni adjusted alpha level of .0045 per test (.05/11) **p<.01, ***p < .001

Gender. Correlations were also examined for the ACS measure by calculating descriptive information, including means and correlations for males and females. As shown in Table 12, correlations were quite similar in males and females. For both genders, cybervictimization was positively associated with purposeful intent, external stable, internal-stable, and internal-unstable cognitive attributions. Similarly for both genders, cybervictimization was positively associated with ruminative, avoidant, aggressive, and prosocial behavioral responses. For males only, cybervictimization was negatively associated with the by accident intent attribution and with the neutral behavioral response. For both groups, purposeful intent, external-stable, internal-stable, and internal-unstable attributions were significantly and positively correlated with all of the behavioral responses: rumination, avoidance, aggression, and prosocial. Also for both genders, by accident and neutral attributions were significantly and positively correlated with ruminative and prosocial behavioral responses.

Table 12. *Correlations for Attributions and Behavioral Responses by Gender*

	1	2	3	4	5	6	7	8	9	10	11
1. Cybervictimizaton	-	.34***	-.17*	.51***	.44***	.26***	-.18**	.28***	.49***	.62***	.23**
Attribution	-										
2. Purposeful Intent	.31***	-	.04	.80***	.64***	.59***	.05	.47***	.68***	.55***	.33***
3. By Accident	-.05	-.04	-	-.05	.07	.31***	.81***	.24***	-.03	-.06	.41***
4. External-Stable	.36***	.85***	-.05	-	.71***	.58***	-.05	.51***	.80***	.74***	.36***
5. Internal-Stable	.24***	.66***	.11	.62***	-	.74***	.08	.56***	.68***	.61***	.38***
6. Internal-Unstable	.19**	.62***	.22**	.58***	.80***	-	.33***	.59***	.57***	.45***	.50***
7. Neutral	-.07	.01	.81***	-.01	.06	.19**	-	.32***	-.04	-.05	.45***
Behavioral Response											
8. Ruminative	.21**	.62***	.21**	.50***	.56***	.54***	.24***	-	.57***	.38***	.50***
9. Avoidance	.37***	.68***	-.04	.70***	.58***	.53***	-.04	.50***	-	.70***	.37***
10. Aggressive	.51***	.38***	.03	.54***	.38***	.31***	.02	.25***	.56***	-	.38***
11. Prosocial	.21**	.18**	.48***	.15*	.15*	.24***	.48***	.32***	.13*	.26***	-

Note: Correlations above diagonal – Male, N=235
Correlations below diagonal – Female, N=219
*$p < .05$, **$p < .01$, ***$p < .001$

In order to determine whether differences in attributions and behavioral responses existed based on gender, independent samples t-tests were conducted. Few significant differences were identified (see Table 13). There were no significant gender differences in cognitive attributions. Ruminative and prosocial responses were significantly higher for females.

Table 13. *Differences between gender for attribution and behavioral response*

	Female		Male					
	Mean	*SD*	Mean	*SD*	*df*	*t*	*r*	*p*
1. Cybervictimizaton	1.70	0.44	1.74	0.51	452	-0.84	.04	0.40
2. Purposeful Intent	1.99	0.69	1.91	0.62	449	1.27	.06	0.20
3. By Accident	2.95	0.67	2.94	0.69	452	0.16	.01	0.87
4. External-Stable Attrib.	1.73	0.68	1.65	0.59	452	1.35	.06	0.18
5. Internal-Stable Attrib.	1.77	0.64	1.75	0.61	452	0.20	.01	0.84
6. Internal-Unstable Attrib.	2.01	0.72	2.06	0.63	452	-0.70	.03	0.48
7. Neutral Attrib.	3.18	0.66	3.10	0.73	451	1.28	.06	0.20
8. Ruminative Resp.	2.60	0.95	2.19	0.79	446	5.01***	.23	<.001
9. Avoidant Resp.	1.65	0.63	1.62	0.63	451	0.64	.03	0.52
10. Aggressive Resp.	1.35	0.50	1.47	0.56	450	-2.43	.11	0.02
11. Prosocial Resp.	2.61	0.68	2.28	0.64	451	5.19***	.24	<.001

Note: Male, *N*=235; Female, *N*=219
*$p < .05$, **$p < .01$, ***$p < .001$
Bonferroni adjusted alpha level of .0045 per test (.05/11) ***$p < .001$

Data screening: SES and age

To determine whether differences in cybervictimization, rejection sensitivity, or friendship quality existed based on socioeconomic status (SES) and age, one-way analyses of variance (ANOVAs) were conducted. Maternal education was used to estimate SES, and based on a median split (up to high school graduate for low-SES, some college and higher for high-SES), low- and high-SES groups were formed. Results revealed no differences between SES groups in cybervictimization (high SES $M = 1.71$, $SD = .47$; low SES $M = 1.72$, $SD = .47$) [$F(1,448)=0.04$, $p=.84$], rejection sensitivity (high SES $M = 9.51$, $SD = 3.66$; low SES $M = 10.00$, $SD = 3.67$) [$F(1,448)=1.62$, $p=.20$],

or friendship quality (high SES *M* = 3.84, *SD* = .63; low SES *M* = 3.90, *SD* = .63) [*F*(1,448)=0.95, *p*=.33] To examine age, based on a median split (median = 18.79), an older and younger age group were identified. There were no significant differences as a function of age in cybervictimization (older *M* = 1.75, *SD* = .51; younger *M* = 1.68, *SD* = .42) [*F* (1,444)=2.10, *p*=.15], rejection sensitivity (older *M* = 9.82, *SD* = 3.71; younger *M* = 9.43, *SD* = 3.48) [*F*(1,444)=1.29, *p*=.26], or friendship quality (older *M* = 3.83, *SD* = .63; younger *M* = 3.89, *SD* = .63) [*F*(1,444)=.82, *p*=.37]. As no systematic differences were identified for either SES or age, neither was used as a control variable in subsequent analyses.

Hypotheses for the Present Study

Cybervictimization status and psychological adjustment

Hypotheses 1a and 1b. To test hypothesis 1a that cybervictimization would be positively correlated with depression, social anxiety, and loneliness and negatively correlated with self-worth, correlations were calculated between cybervictimization and each of the psychological adjustment variables (i.e., depression, social anxiety, loneliness, self-worth). Correlations were evaluated by high- and low-cybervictimization groups (see Table 14). In the low CV group, only loneliness was significantly and positively correlated with cybervictimization, whereas in the high CV group, loneliness and social anxiety were significantly and positively correlated with cybervictimization, and self-worth was significantly and negatively correlated with cybervictimization. In the high CV group, the positive correlation between cybervictimization and depression was marginally significant (*p* = .07).

To enhance investigation of the outcome variables, correlations were also examined for additional predictor variables: rejection sensitivity, friendship quality, overt victimization, and relational victimization. Rejection sensitivity was significantly and positively correlated with depression, social anxiety, and loneliness and negatively correlated with self-worth for both the low and high CV groups. Friendship quality was significantly and negatively correlated with loneliness for both groups. Overt victimization was significantly and positively correlated with depression for the high CV group and with loneliness for both CV groups. Relational victimization was significantly and positively correlated with social anxiety and loneliness, and negatively correlated with self-worth for both groups and positively correlated with depression only for the high CV group.

Table 14. *Correlations for predictor variables by high- and low-cybervictimization groups*

	1	2	3	4	5	6	7	8	9
1. Cybervictimizaton	-	.17*	-.26***	.49***	.35***	.13+	.21**	.41***	-.21**
2. Rejection Sensitivity	-.05	-	-.24**	.117	.21**	.31***	.40***	.37***	-.30***
3. Friendship Quality	-.06	-.11	-	-.23**	-.00	.01	-.08	-.28***	.05
4. Overt Victimization	.06	.04	-.14*	-	.56***	.19**	.10	.31***	-.12
5. Relational Victimization	.10	.24***	-.12	.54***	-	.38***	.25***	.41***	-.24**
6. Depression	.07	.34***	.04	-.04	.10	-	.34***	.45***	-.51***
7. Social Anxiety	-.06	.47***	-.04	.03	.15*	.38***	-	.57***	-.50***
8. Loneliness	.13*	.39***	-.16*	.15*	.30***	.49***	.45***	-	-.57***
9. Self-worth	-.06	-.35***	.04	-.08	-.14*	-.58***	-.46***	-.53***	-

Note: Correlations above diagonal – High Cybervictimization (High CV), N=250
Correlations below diagonal – Low Cybervictimization (Low CV), N=204
+ $p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$

Differences between the high and low CV groups in psychological adjustment were tested using independent samples t-tests. Significant differences were identified across almost all comparisons (see Table 15). Specifically, compared to those in the low CV group, individuals in the high CV group reported significantly greater depression and

loneliness, as well as lower self-worth. There was no significant difference in social anxiety.

Table 15. *Differences between high- and low-cybervictimization groups for predictor and outcome variables*

	Low CV		High CV					
	Mean	*SD*	Mean	*SD*	*df*	*t*	*r*	*p*
1. Cybervictimizaton	1.39	0.11	2.11	0.45	223	-24.62***	.85	<.001
2. Rejection Sensitivity	8.79	3.44	10.64	3.60	452	-5.60***	.25	<.001
3. Friendship Quality	3.95	0.57	3.75	0.69	393	3.21**	.16	.001
4. Overt Victimization	1.33	0.50	1.88	0.78	329	-8.63***	.43	<.001
5. Relational Victimization	1.73	0.56	2.30	0.69	383	-9.40***	.43	<.001
6. Depression	9.68	8.67	13.16	10.34	396	-3.84***	.19	<.001
7. Social Anxiety	0.76	0.44	0.86	0.36	450	-2.54	.12	.01
8. Loneliness	1.96	0.49	2.17	0.48	445	-4.50***	.21	<.001
9. Self-worth	18.55	4.18	17.25	4.35	424	3.12**	.15	.002

Note: High Cybervictimization (High CV), *N*=250
Low Cybervictimization (Low CV), *N*=204
Bonferroni adjusted alpha level of .0055 per test (.05/9) **p<.0055, ***$p < .001$

To examine hypothesis 1b, which stated that the correlations between cybervictimization experience and psychological adjustment would be stronger for females than for males, correlations were run separately by gender (see Table 16). For both males and females, cybervictimization was significantly and positively correlated with depression and loneliness, and significantly and negatively associated with self-worth. Social anxiety was significantly and positively correlated with cybervictimization only for males. To compare the correlation coefficients, standard score (z) transformations were computed. Contrary to the predictions that correlations between cybervictimization and adjustment would be stronger for females than males, the correlations for depression ($z = .00$, $p = 1.00$), self-worth ($z = -.11$, $p = .91$), and loneliness ($z = 1.68$, $p = .09$) were similar for males and females, and the correlation for social anxiety was stronger for males ($z = 2.10$, $p = .036$).

Table 16. *Correlations for predictor and outcome variables by gender*

	1	2	3	4	5	6	7	8	9
1. Cybervictimizaton	-	.26***	-.29***	.56***	.44***	.22**	.29***	.41***	-.22**
2. Rejection Sensitivity	.27***	-	-.28***	.25***	.35***	.38***	.42***	.38***	-.27***
3. Friendship Quality	-.19**	-.24***	-	-.15*	-.17*	-.16*	-.28***	-.26***	.08
4. Overt Victimization	.53***	.16*	-.12	-	.69***	.16*	.17*	.31***	-.03
5. Relational Victimization	.52***	.27***	-.07	.63***	-	.25***	.26***	.39***	-.22**
6. Depression	.22**	.32***	-.05	.33***	.36***	-	.30***	.36***	-.42***
7. Social Anxiety	.10	.47***	-.09	.19**	.21**	.36***	-	.51***	-.46***
8. Loneliness	.27***	.44***	-.29***	.32***	.41***	.59***	.52***	-	-.50***
9. Self-worth	-.21**	-.40***	.13	-.32***	-.25***	-.62***	-.49***	-.61***	-

Note: Correlations above diagonal – Male, N=235
Correlations below diagonal – Female, N=219
*$p < .05$, **$p < .01$, ***$p < .001$

To further investigate whether differences in levels of depression, social anxiety, loneliness, and self-worth existed based on gender, independent samples t-tests were conducted (see Table 17). A significant difference was found in depression scores, with females endorsing significantly greater levels of depressive symptoms than males. Similarly, compared to males, females reported experiencing greater social anxiety. Gender differences were not found for loneliness or self-worth.

Table 17. *Differences between gender for predictor and outcome variables*

	Female		Male					
	Mean	*SD*	Mean	*SD*	*df*	*t*	*r*	*P*
1. Cybervictimizaton	1.70	0.44	1.74	0.51	452	-0.84	.04	0.40
2. Rejection Sensitivity	9.90	3.74	9.32	3.48	452	1.72	.08	0.09
3. Friendship Quality	4.08	0.54	3.61	0.63	431	8.50***	.38	<.001
4. Overt Victimization	1.38	0.59	1.79	0.73	417	-6.52***	.30	<.001
5. Relational Victimization	1.98	0.71	1.99	0.66	448	-0.08	3.9E3	0.93
6. Depression	13.39	10.41	8.94	8.07	438	5.10***	.24	<.001
7. Social Anxiety	0.88	0.43	0.72	0.37	450	4.14***	.19	<.001
8. Loneliness	2.07	0.50	2.04	0.49	445	.71	.03	0.48
9. Self-worth	17.56	4.67	18.40	18.40	419	-2.02	.10	0.04

Note: Male, *N*=235; Female, *N*=219
Bonferroni adjusted alpha level of .0055 per test (.05/9) **p<.0055, ***$p < .001$

Hypothesis 2. It was predicted that individuals who were cybervictimized would be more apt to interpret hypothetical cybervictimization experiences as taking place on purpose. Results supported this hypothesis. Specifically, purposeful intent was significantly correlated with cybervictimization for both the high and low CV groups (see Table 18). The correlations were not significantly different (z= 1.20, p = .23) for the high CV group as compared to the low CV group; however, the difference in mean scores was statistically significant ($t(449)$= -5.81, $p < .001$, r = 0.28).

Table 18. *Correlations for Intent Attribution by CV*

	1	2	3
1. Cybervictimizaton	-	.24**	-.13
2. Purposeful Intent	.13*	-	.09
3. By Accident	.07	-.04	-

Note: Correlations above diagonal – High Cybervictimization (High CV), *N*=250
Correlations below diagonal – Low Cybervictimization (Low CV), *N*=204
*$p < .05$, **$p < .01$

Influential factors on the relation between the interaction of cybervictimization status and rejection sensitivity and psychological adjustment.

Hypotheses 3a and 3b. It was hypothesized that the interaction between cybervictimization and rejection sensitivity would have a direct effect on depression (Hypothesis 3a) and that the direct effect on depression would be influenced by gender (Hypothesis 3b). A multiple regression model was tested to investigate whether depressive symptoms depend on the amount of reported rejection sensitivity or cybervictimization and if this varied for males and females. After centering rejection sensitivity and computing the interaction terms, the three predictors (i.e., rejection sensitivity, cybervictimization, and gender) and the interactions were entered into a simultaneous regression model. Specifically, the main effects were entered on step one, two-way interactions were entered on step two, and the three-way interaction was entered on step three. Results (see Table 19) indicated that the main effects in step one accounted for 16% of the variance in depression (R-square = .16, $F(3,450)=27.64$, $p<.001$). Results show that as rejection sensitivity increased, depression also increased ($B= .71$, $p < .001$) and as the sample changed from female to male, depression decreased ($B= -.64$, $p < .001$). Cybervictimization was marginally significant suggesting that as the sample changed from the low CV group to the high CV group, depression increased ($B= .26$, p

=.059), though because this finding was marginally significant, it must be interpreted with caution.

The two-way interactions in step two were not significant (Δ*R*-square = .001, $F(3,447)=.25$, $p=.86$) and the three-way interaction in step three was not significant (Δ*R*-square = .001, $F(1,446)=.38$, $p=.54$). Adding the interactions did not significantly increase the amount of variance explained above that explained by the main effects. Therefore, there was no evidence that rejection sensitivity or gender moderated the relationship between cybervictimization and depression. Figure 14 shows a graphical representation of the relationship between rejection sensitivity and depression for the low and high cybervictimization groups.

Table 19. *Summary of multiple regression analysis for variables predicting depression (N = 454)*

	Model 1			Model 2			Model 3		
	B	*SE(B)*	β	*B*	*SE(B)*	β	*B*	*SE(B)*	β
Constant	3.19	0.11		3.15	0.12		3.16	0.12	
CV group	0.26	0.13	.08+	0.31	0.19	.10	0.32	0.19	.11
Rejection Sensitivity	0.71	0.11	.28***	0.66	0.18	.27***	0.72	0.20	.29***
Gender	-0.64	0.13	-.21***	-0.59	0.18	-.20**	-0.61	0.18	-.20**
RS * CV				0.15	0.23	.04	0.01	0.32	.00
CV * Gender				-0.12	0.27	-.03	-0.13	0.27	-.04
RS * Gender				-0.04	0.23	-.01	-0.16	0.30	-.04
RS * CV * Gender							0.28	0.46	.05

Note: Rejection sensitivity (RS) was centered at the mean, for gender 0 = female and 1 = male, for CV 0 = low CV group and 1 = high CV group.
+p<.10, **p<.01, ***p<.001

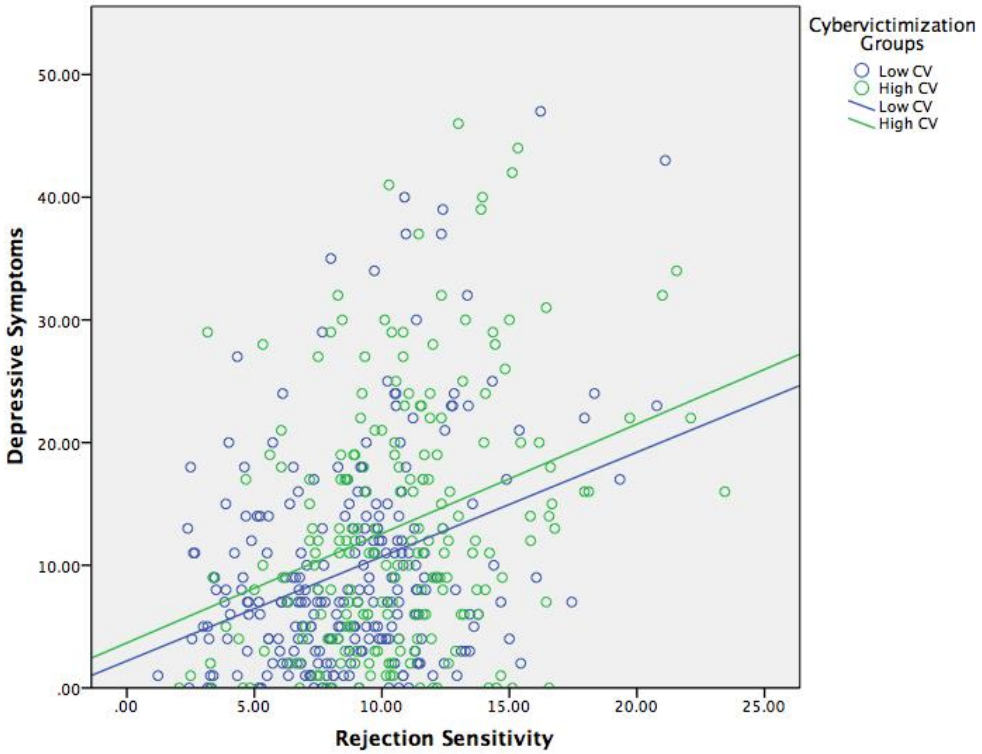


Figure 14. Relationship between cybervictimization and rejection sensitivity and depressive symptoms. R^2 linear for low CV=.114 and high CV=.096.

In sum, hypothesis 3a was partially supported by the results, such that higher levels of rejection sensitivity significantly predicted depression and higher levels of cybervictimization appeared to be approaching a significant prediction of depressive symptoms. It was expected that the interaction of rejection sensitivity and cybervictimization would explain a greater amount of variance in depression, which was not supported. Predictions in hypothesis 3b were likewise not supported. Though moving from female to male increasingly predicted depression, the interaction of rejection sensitivity and cybervictimization was not influenced by gender in the three-way interaction. There was no evidence that rejection sensitivity or gender moderated the relationship between cybervictimization and depression.

Hypotheses 3c-3e. It was hypothesized that the direct effect of the interaction between cybervictimization and rejection sensitivity on depressive symptoms would be due to the mediation of stable-internal attributions (hypothesis 3c). It was further hypothesized that the effects of stable-internal attributions on depression would be due in part to the moderation of ruminative behavioral responses (hypothesis 3d) and that the effects of the moderated mediation analyses would be stronger for females (hypothesis 3e). Although the interaction between cybervictimization and rejection sensitivity did not have an effect on depression in the regression analyses used to address hypothesis 3a, a moderated mediation can occur when no moderator and independent variable interaction is observed, perhaps because the mediator operates at some levels of the moderator but direct effects occur at other levels (James & Brett, 1984). Using Hayes' (2013) PROCESS path analytic framework, direct and indirect effects of internal-stable attributions as a mediator of the relationship between rejection sensitivity and depression were investigated with cybervictimization, gender, and rumination as moderators (see Figure 15 for conceptual model). The significance of the indirect effect was tested with bootstrap estimation of the bias-corrected 95% confidence interval based on 10,000 samples (Preacher & Hayes, 2008). All variables used in analyses were mean centered.

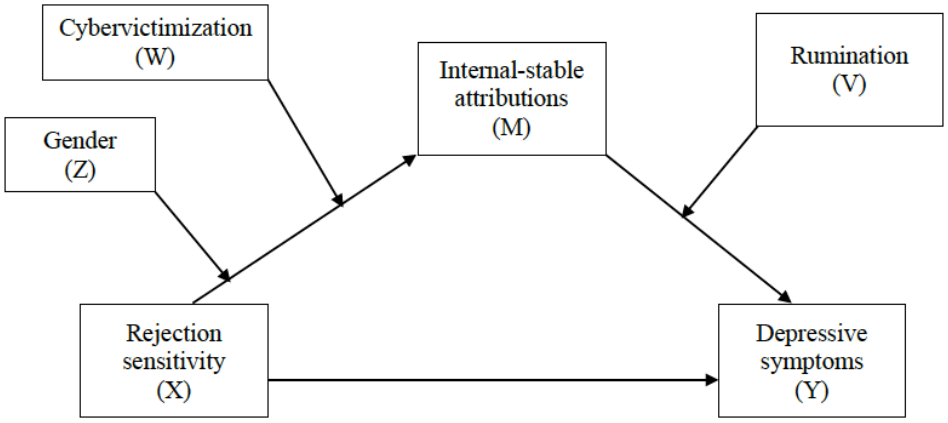


Figure 15. Conceptual PROCESS path model to investigate the direct and indirect effects of rejection sensitivity on depressive symptoms due to the mediation of internal-stable attributions, moderated by cybervictimization, gender, and rumination.

Results revealed that the unconditional indirect pathway through internal-stable attributions significantly mediated the relationship between rejection sensitivity and depression (see Figure 16 and Table 20). The interaction between rejection sensitivity and cybervictimization significantly moderated the relationship, suggesting that the interaction with cybervictimization helps to explain differing values of the relationship (hypothesis 3c). Similarly, the interaction between rejection sensitivity and gender resulted in a marginally significant moderation of the indirect effect, suggesting that the interaction with gender may help to explain some of the effect of the relationship (hypothesis 3e). The interaction between rumination and internal-stable attributions was not a significant contributor to the indirect effect (hypothesis 3d) and rumination was subsequently removed from further analyses (see new model Figure 17 and Table 21). Note that when rumination was removed from the model, the interaction between rejection sensitivity and gender significantly moderated the relationship.

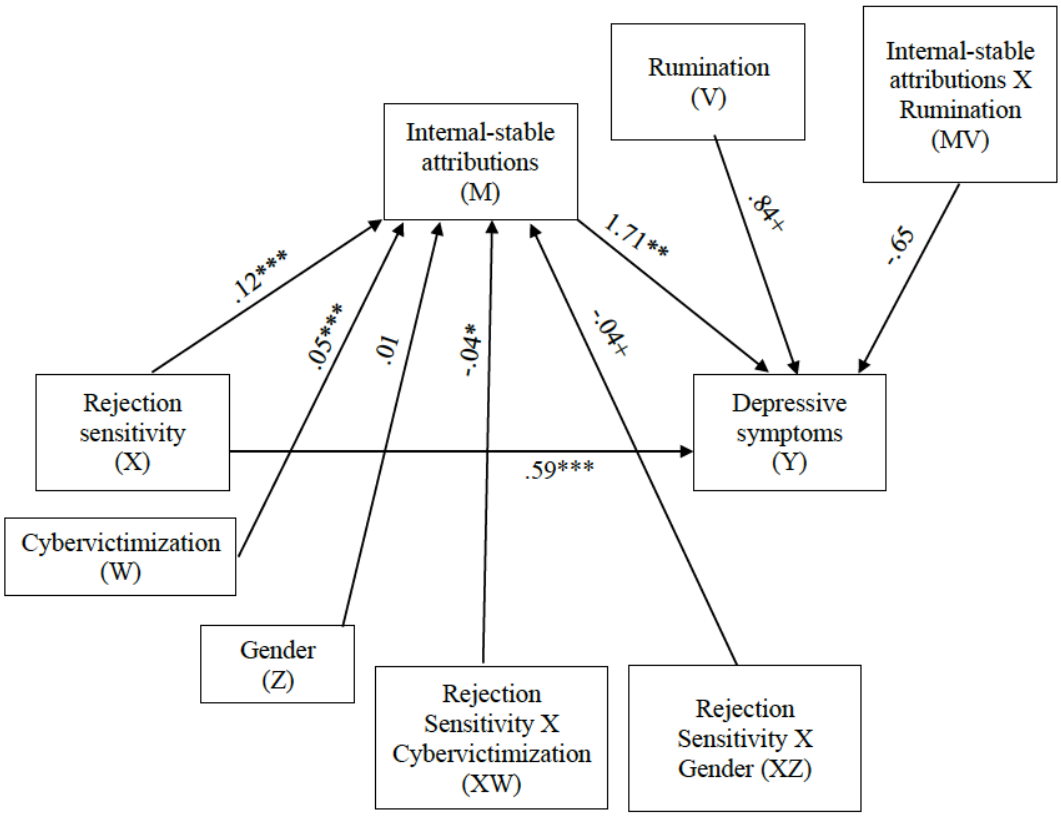


Figure 16. PROCESS path model indicating the direct and indirect effects of rejection sensitivity on depressive symptoms due to the mediation of internal-stable attributions moderated by cybervictimization, gender, and rumination.

Table 20. *Regression coefficients, standard errors, and model summary information for the presumed attribution moderated mediation model depicted in Figure 17.*

		Consequent						
		M (Int-stable attr.)				Y (Dep)		
Antecedent		Coeff.	*SE*	*p*		Coeff.	*SE*	*p*
X (Rej. Sens.)	a_1	.12	.02	<.001	c'	.59	.12	<.001
W (gender)	a_2	.00	.01	.70	—	—	—	—
Z (CV)	a_3	.05	.01	<.001	—	—	—	—
XW Interaction	a_4	-.03	.02	.086	—	—	—	—
XZ Interaction	a_5	-.04	.02	.046				
M (Int-stab. attr.)		—	—	—	b_1	1.71	.57	<.01
V (Rumination)		—	—	—	b_2	.84	.48	.08
MV Interaction		—	—	—	b_3	-.78	2.74	.78
Constant	i_M	-.02	.01	.06	i_y	-.65	2.66	.81
		R^2= 0.19				R^2= 0.15		
		$F(5,448)$= 21.07, p < .001				$F(4,449)$= 19.61, p < .001		

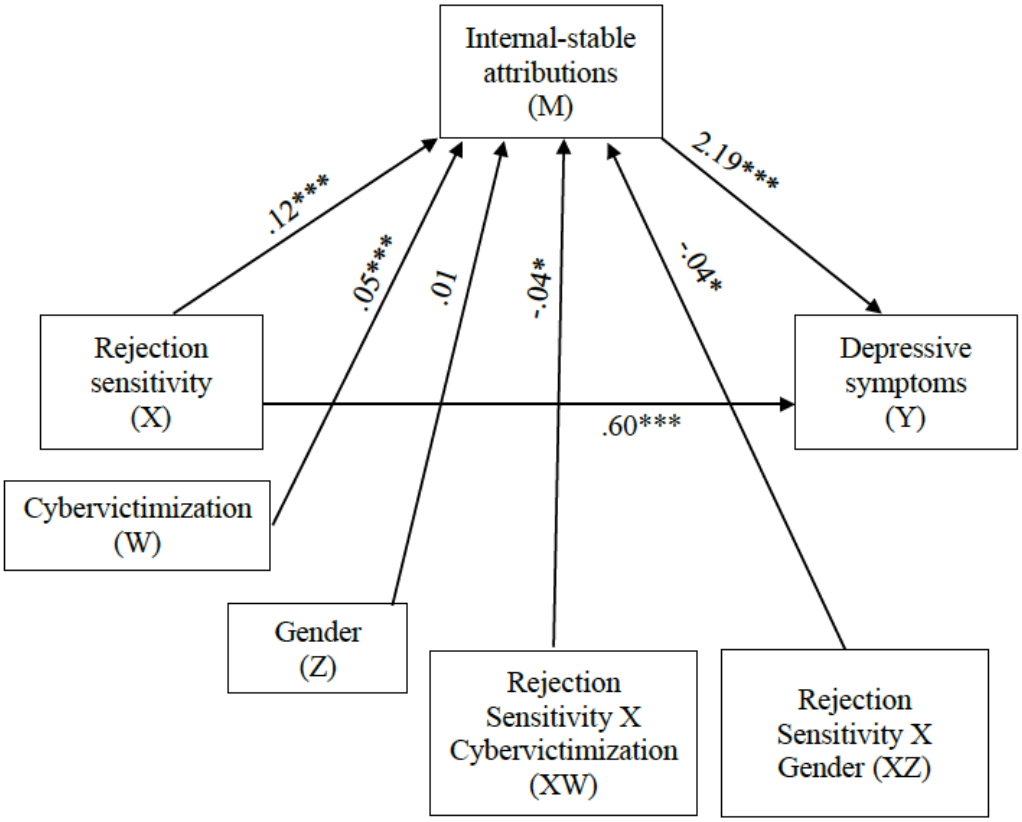


Figure 17. PROCESS path model indicating the direct and indirect effects of rejection sensitivity on depressive symptoms due to the mediation of internal-stable attributions moderated by cybervictimization and gender.

Table 21. *Regression coefficients, standard errors, and model summary information for the presumed attribution moderated mediation model depicted in Figure 18.*

		Consequent						
		M (Int-stable attr.)				Y (Dep)		
Antecedent		Coeff.	*SE*	*p*		Coeff.	*SE*	*p*
X (Rej. Sens.)	a_1	.12	.02	<.001	c'	.60	.12	<.001
W (gender)	a_2	.00	.01	.70	—	—	—	—
Z (CV)	a_3	.05	.01	<.001	—	—	—	—
XW Interaction	a_4	-.03	.02	.086	—	—	—	—
XZ Interaction	a_5	-.04	.02	.046				
M (Int-stab. attr.)		—	—	—	b_1	2.19	.49	<.001
Constant	i_M	-.02	.01	.06	i_y	-.00	.06	.93
		R^2= 0.19				R^2= 0.14		
		$F(5,448)$= 21.07, p < .001				$F(2,451)$= 37.58, p < .001		

To understand the influence of the moderators, the conditional indirect effects were evaluated at different values of cybervictimization and gender (see Table 22). All of the individual paths were significant with some interesting differences. The moderated mediation paths accounted for more of the effect on depression in the low CV group than the high CV group (hypothesis 3c) and the effects were stronger for females than for males (hypothesis 3e).

Table 22. *Conditional indirect effects of internal-stable attributions mediating the relationship between rejection sensitivity and depression at different values and combinations of the moderators.*

Moderators		Conditional Indirect Effects	
Cybervictimization	Gender	*B (SE)*	95% CI
Low	Female	.27 (.07)*	(.14, .42)
	Male	.19 (.06)*	(.09, .31)
High	Female	.17 (.07)*	(.06, .32)
	Male	.09 (.06)*	(.003, .24)

The overall moderated mediation model accounted for 14% of the variance in depression. Specifically, the unconditional indirect pathway from rejection sensitivity to depression was significantly mediated by internal-stable attributions, but the direct effect between rejection sensitivity and depression was still significant. Therefore, though internal-stable attributions do help to explain part of rejection sensitivity's influence on depression, there are other processes that are unaccounted for. In addition, examination of the conditional indirect effects suggests that college students who are more rejection sensitive and blame a negative electronic peer interaction on something they feel they cannot control about themselves have a risk of experiencing depressive symptoms at all levels of cybervictimization, but the risk is even greater at lower levels of

cybervictimization. Further, the risk appears to be almost twice as strong for females than males.

Influential factors on the relation between the interaction of cybervictimization status and friendship quality and psychological adjustment

Hypotheses 4a and 4b. To examine the hypothesis that the interaction between cybervictimization and friendship quality would have a direct effect on depression (Hypothesis 4a) and that the direct effect on depression would be influenced by gender (Hypothesis 4b), A multiple regression model was tested to investigate whether depressive symptoms depend on the amount of reported friendship quality or cybervictimization and if this varied for males and females. After centering friendship quality and computing the interaction terms, the three predictors (i.e., friendship quality, cybervictimization, and gender) and the interactions were entered into a simultaneous regression model. Specifically, the main effects were entered on step one, two-way interactions were entered on step two, and the three-way interaction was entered on step three. Results (see Table 23) indicated that the main effects in step one accounted for 9% of the variance in depression (*R*-square = .09, $F(3,450)=14.05$, $p<.001$). Results showed that as friendship quality increased, there was no significant change in depression ($B= -.56$, $p = .11$). As gender changed from female to male, depression significantly decreased ($B= -.80$, $p < .001$). Changes in cybervictimization from the low CV group to the high CV group significantly increased depression ($B= .44$, $p =.001$).

The two-way interactions in step two were not significant (ΔR-square = .004, $F(3,447)=.63$, $p=.59$) and the three-way interaction in step three was not significant (ΔR-square = .000, $F(1,446)=.21$, $p=.64$). Adding the interactions did not significantly

increase the amount of variance explained above that explained by the main effects. Therefore, there was no evidence that friendship quality or gender moderated the relationship between cybervictimization and depression. Figure 18 shows a graphical representation of the relationship between friendship quality and depression for the low and high cybervictimization groups.

Table 23. *Summary of multiple regression analysis for variables predicting depression (N = 454)*

	Model 1			Model 2			Model 3		
	B	*SE(B)*	β	*B*	*SE(B)*	β	*B*	*SE(B)*	β
Constant	3.19	0.11		3.09	0.14		3.08	0.14	
CV group	0.44	0.14	.15**	0.61	0.20	.20**	0.64	0.21	.21**
Friendship quality	-0.56	0.35	-.08	-0.06	0.63	-.01	0.11	0.74	.02
Gender	-0.80	0.15	-.27***	-0.65	0.19	-.22**	-0.64	0.19	-.21**
FQ * CV				-0.66	0.71	-.07	-0.99	0.99	-.10
CV * Gender				-0.42	0.30	-.04	-0.37	0.30	-.07
FQ * Gender				-0.38	0.71	-.10	-0.74	0.99	-.10
FQ * CV * Gender							0.66	1.41	.05

Note: Friendship quality (FQ) was centered at the mean, for gender 0 = female and 1 = male, for CV 0 = low CV group and 1 = high CV group.
**p<.01, ***p<.001

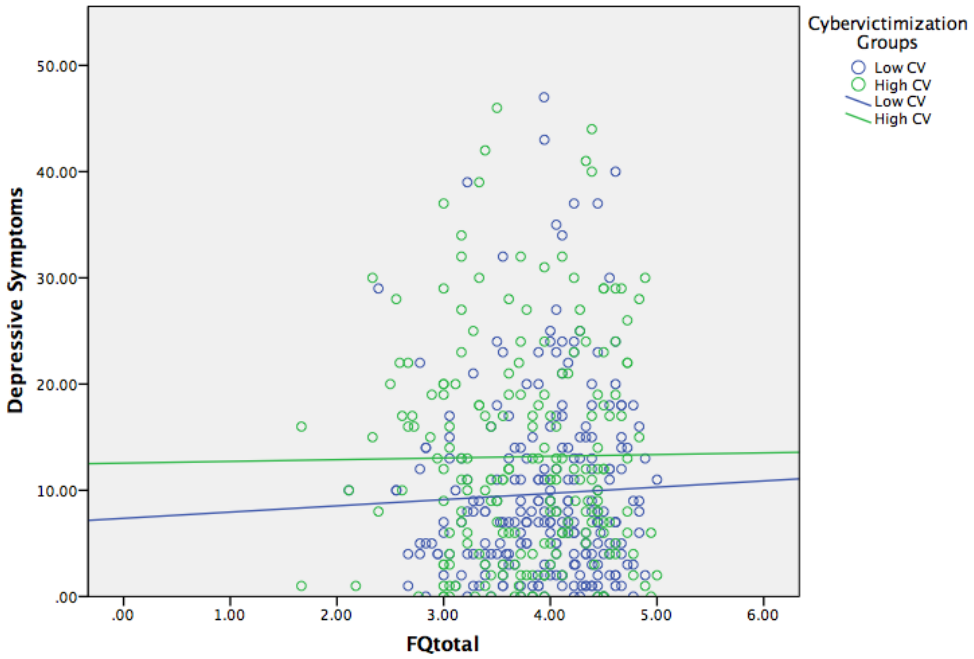


Figure 18. Relationship between cybervictimization and friendship quality and depressive symptoms. R^2 linear for low CV=.001 and high CV=1.137.

In sum, hypothesis 4a was not supported by the results because lower friendship quality did not predict changes in reported depressive symptoms. Higher levels of cybervictimization significantly predicted depression and it was expected that the interaction of friendship quality and cybervictimization would explain a greater amount of variance in depression, which was not supported. Predictions in hypothesis 4b were likewise not supported. Though moving from female to male increases the prediction of depression, the interaction of friendship quality and cybervictimization was not influenced by gender in the three-way interaction. There was no evidence that friendship quality or gender moderated the relationship between cybervictimization and depression.

Hypotheses 4c-4e. It was hypothesized that the direct effect of the interaction between cybervictimization and friendship quality on depressive symptoms would be due

to the mediation of stable-internal attributions (hypothesis 4c). It was further hypothesized that the effects of stable-internal attributions on depression would be due in part to the moderation of ruminative behavioral responses (hypothesis 4d) and that the effects of the moderated mediation analyses would be stronger for females (hypothesis 4e). Although the interaction between cybervictimization and friendship quality did not have an effect on depression in the regression analyses used to address hypothesis 4a, as explained above, moderated mediation can occur at various levels even when an interaction is not observed (James & Brett, 1984). Using Hayes' (2013) PROCESS path analytic framework, direct and indirect effects of internal-stable attributions as a mediator of the relationship between friendship quality and depression were investigated with cybervictimization, gender, and rumination as moderators (see Figure 19 for conceptual model). The significance of the indirect effect was tested with bootstrap estimation of the bias-corrected 95% confidence interval based on 10,000 samples (Preacher & Hayes, 2008). All variables used in analyses were mean centered.

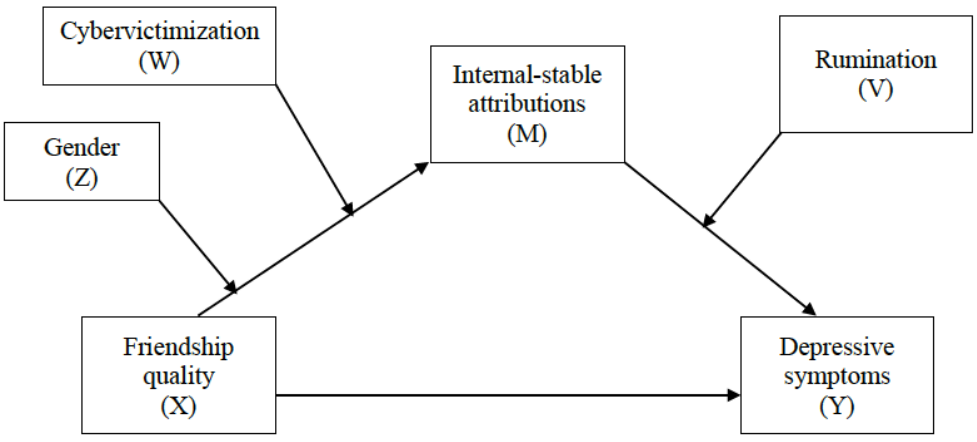


Figure 19. Conceptual PROCESS path model to investigate the direct and indirect effects of friendship quality on depressive symptoms due to the mediation of internal-stable attributions moderated by cybervictimization, gender, and rumination.

Results revealed that the unconditional indirect pathway through internal-stable attributions did not significantly mediate the relationship between friendship quality and depression (see Figure 20 and Table 24). The interaction between friendship quality and cybervictimization was a marginally significant moderator of the relationship, suggesting that the interaction with cybervictimization may help to explain differing values of the relationship (hypothesis 3c). The interaction between friendship quality and gender was not a significant moderator of the indirect effect, suggesting that the interaction with gender does not help to explain the effect of the relationship (hypothesis 3e). The interaction between rumination and internal-stable attributions was not a significant contributor to the indirect effect (hypothesis 3d) and rumination was subsequently removed from further analyses (see new model Figure 21 and Table 25). Substantive changes in the model were not noted after removing rumination.

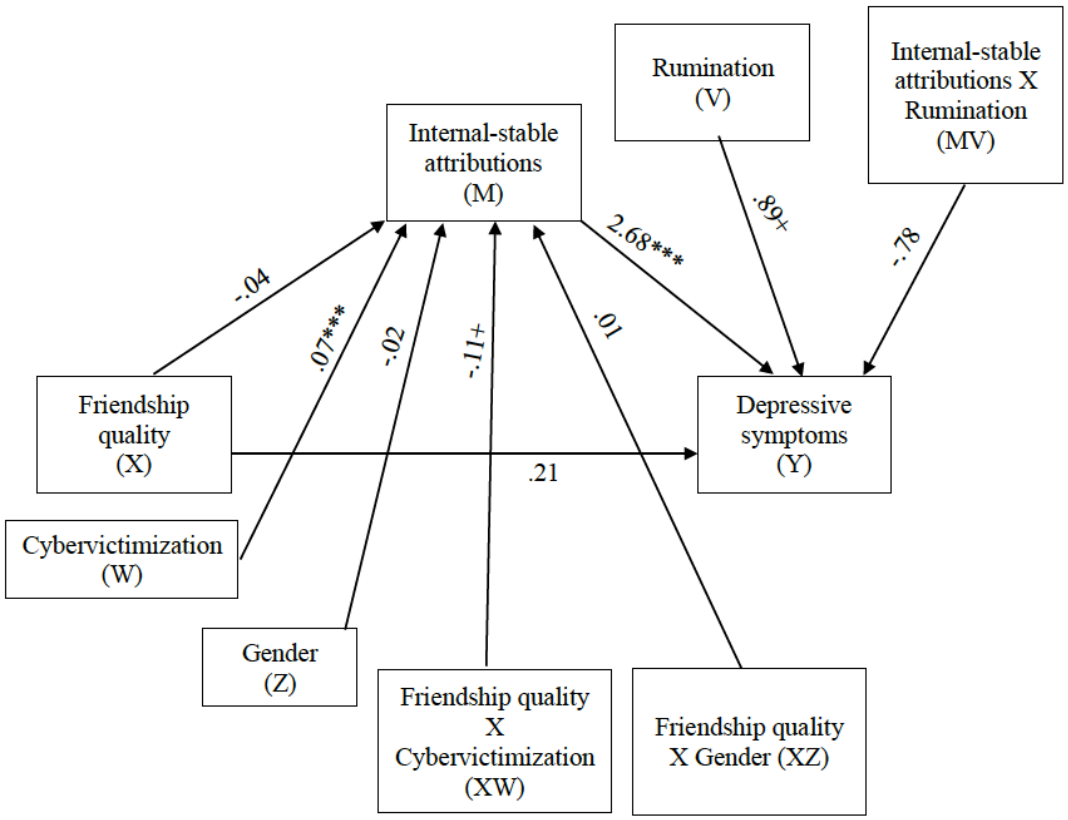


Figure 20. PROCESS path model indicating the direct and indirect effects of friendship quality on depressive symptoms due to the mediation of internal-stable attributions moderated by cybervictimization, gender, and rumination.

Table 24. *Regression coefficients, standard errors, and model summary information for the presumed attribution moderated mediation model depicted in Figure 21.*

		Consequent						
		M (Int-stable attr.)				Y (Dep)		
Antecedent		Coeff.	*SE*	*p*		Coeff.	*SE*	*p*
X (Friendship Q)	a_1	-.04	.06	.44	c'	.21	.33	.52
W (gender)	a_2	-.02	.01	.16	—	—	—	—
Z (CV)	a_3	.07	.01	<.001	—	—	—	—
XW Interaction	a_4	-.11	.06	.08	—	—	—	—
XZ Interaction	a_5	.01	.07	.90				
M (Int-stab. attr.)		—	—	—	b_1	2.68	.57	<.001
V (Rumination)		—	—	—	b_2	.89	.51	.08
MV Interaction		—	—	—	b_3	-.78	2.74	.78
Constant	i_M	-.02	.01	.09	i_y	.00	.08	.94
		R^2= 0.08				R^2= 0.10		
		$F(5,448)$= 8.09, p < .001				$F(4,449)$= 12.86, p < .001		

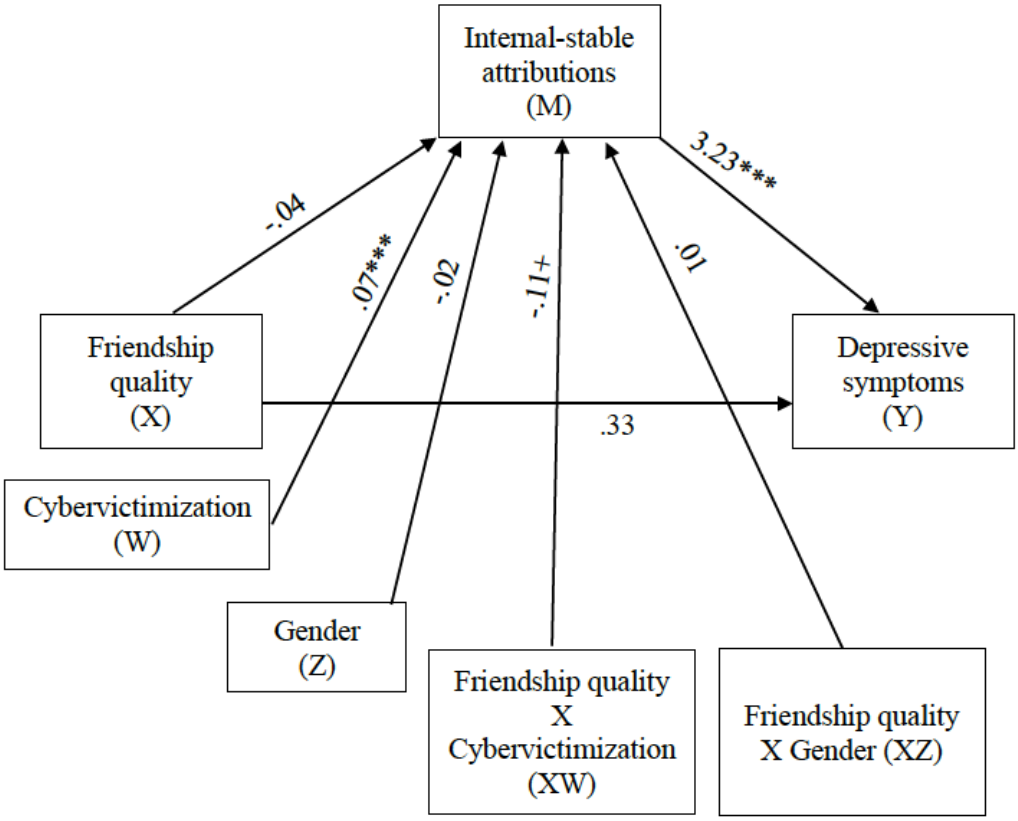


Figure 21. PROCESS path model indicating the direct and indirect effects of friendship quality on depressive symptoms due to the mediation of internal-stable attributions moderated by cybervictimization and gender.

Table 25. *Regression coefficients, standard errors, and model summary information for the presumed attribution moderated mediation model depicted in Figure 22.*

		Consequent						
		M (Int-stable attr.)				Y (Dep)		
Antecedent		Coeff.	*SE*	*p*		Coeff.	*SE*	*p*
X (Friendship Q)	a_1	-.04	.06	.44	c'	.33	.32	.30
W (gender)	a_2	-.02	.01	.16	—	—	—	—
Z (CV)	a_3	.07	.01	<.001	—	—	—	—
XW Interaction	a_4	.01	.07	.08	—	—	—	—
XZ Interaction	a_5	-.11	.06	.90				
M (Int-stab. attr.)		—	—	—	b_1	3.23	.46	<.001
Constant	i_M	-.02	.01	.08	i_y	-.00	.07	.93
		R^2= 0.08				R^2= 0.10		
		$F(5,448)$= 8.09, p < .001				$F(2,451)$= 24.07, p < .001		

Obtaining a significant unconditional indirect effect is not a prerequisite for examining conditional indirect effects and if an interaction with a moderator is significant, probing the indirect effects is warranted (Preacher, Rucker, & Hayes, 2007). Thus, despite the insignificance of the unconditional indirect effect between friendship quality and depression, the indirect effects were probed because the interaction between friendship quality and cybervictimization was marginally significant. Specifically, to understand the influence of the moderators, the conditional indirect effects were evaluated by comparing different values of cybervictimization and gender (see Table 26). Interestingly, the moderated mediation paths were not significant for the low CV group but were significant for the high CV group (hypothesis 4c), accounting for a large effect in the relationship between friendship quality and depression. The effect was somewhat stronger for females than for males (hypothesis 4e).

Table 26. *Conditional indirect effects of internal-stable attributions mediating the relationship between friendship quality and depression at different values and combinations of the moderators.*

Moderators		Conditional Indirect Effects	
Cybervictimization	Gender	*B (SE)*	95% CI
Low	Female	-.15 (.19)	(-.53, .22)
	Male	-.12 (.18)	(-.48, .23)
High	Female	-.50 (.21)*	(-.95, -.11)
	Male	-.47 (.20)*	(-.92, -.13)

The overall moderated mediation model accounted for 10% of the variance in depression. Specifically, the unconditional indirect pathway from friendship quality to

depression was not significantly mediated by internal-stable attributions, but the conditional indirect effects were significant for the high CV group. This suggests that individuals who have lower quality friendships and blame ambiguous electronic peer provocation on something they feel they cannot change about themselves are at greater risk for developing depressive symptoms when they experience higher levels of cybervictimization. This risk may be slightly elevated for females as compared to males.

Chapter 4: DISCUSSION

The purpose of the present study was to examine the relation between cybervictimization experiences and psychological adjustment in a sample of college-aged students. Of particular interest was to investigate factors that may influence these relationships. Thus far, cyberbullying research has consisted mostly of atheoretical inquiries (e.g., Agaston, Kowalski, & Limber, 2007; Madden, Lenhart, Duggan, & Cortesi, 2013), and the few studies that have been based in theory have not tested the same theories (e.g., Hinduja & Patchin, 2008; Mitchell, Ybarra, & Finkelhor, 2007).

To begin building a theoretical foundation, the current study used the well-established Social Information Processing (SIP) model to investigate the role of cognitive attributions and behavioral responses in psychological adjustment (e.g., social anxiety, depressive symptoms) for individuals who have experienced cybervictimization. The SIP model proposes that individuals interpret their interactions based on a culmination of knowledge learned in previous interactions. As such, rejection sensitivity was included to determine if it exacerbates negative outcomes, and friendship quality was examined to ascertain whether it mitigates negative outcomes of cybervictimization experiences. In addition to exploring the influence of these specific factors on the relation between cybervictimization and psychological adjustment, the present study sought to understand whether gender differences exist in these relations.

Recent research has developed various measures to assess cybervictimization, but studies have not been replicated in order to validate measures of cyber experiences in different populations. Therefore, the Social Networking-Peer Experiences Questionnaire (SN-PEQ; Landoll et al., 2013) was evaluated in the current study, as well as a new

measure, the Ambiguous Cyber Situations measure (ACS; Hord & Erdley, 2015), which was developed specifically to investigate cognitive and behavioral responses to potential cybervictimization experiences.

Cybervictimization status and psychological adjustment

Similar to past research showing that victimization experiences are associated with a host of negative outcomes (e.g., Hawker & Boulton, 2000; Prinstein et al., 2001; Reijntjes et al., 2010), students in the present study who experienced greater amounts of cybervictimization were more likely to report experiencing increased social anxiety and loneliness and decreased self-worth. Thus, greater cybervictimization was associated with patterns indicative of poorer adjustment. Unexpectedly, depression was not significantly correlated with cybervictimization, but there was a trend ($p < .07$) toward significance for the high CV group. This suggests that, consistent with previous studies (e.g., Tokunaga, 2010), those who experience higher levels of cybervictimization are more likely to have greater levels of depressive symptoms. Notably, the current sample reported lower levels of cybervictimization than what was expected based on past research, which suggested that 82% of college students experience some form of cybervictimization (Landoll et al., 2013). In the current sample, 65% of college students reported experiencing at least some aversive electronic interactions. Two major differences are apparent between the present sample and the population used in the investigation by Landoll and colleagues (2013). First, participants in the current study attended a university located in a rural geographic area whereas Landoll's study was conducted in an urban location. Second, participants in the present study were primarily Caucasian (90%) compared to a more ethnically diverse sample in Landoll's study (55% non-Hispanic white). Thus, it seems likely that

cybervictimization experiences differ based on geographic population density and ethnicity. Capturing a larger sample of individuals from a variety of ethnic backgrounds and geographic locations would improve the ability to compare studies. Regardless, there was a significant difference in mean depression scores between the low and the high CV groups in the present study, suggesting that students who experience more cybervictimization are more likely to also experience depressive symptoms, at least when compared to individuals who experience less cybervictimization. Overall, results indicate that cybervictimization is associated with worse adjustment outcomes.

Previous research has found that females generally report experiencing greater levels of distress than males (Grills & Ollendick, 2002; Nolen-Hoeksema, 2001). In addition, overall, compared to males, females tend to derive more of their self-worth based on their social relationship experiences (Crick et al., 2006). Based on those findings, it was expected that correlations between cybervictimization and psychological adjustment would be stronger for females than males, but they were not. However, in terms of the mean scores on the outcome measures, females reported higher overall levels of depressive symptoms and loneliness and lower self-worth than males. Though females indicated experiencing greater distress than males, the relation of cybervictimization to depressive symptoms, loneliness, and low self-worth was similar for males and females. Therefore, it seems that the experience of cybervictimization is just as damaging to the emotional well-being of males as females.

Contrary to expectations, cybervictimization was associated with social anxiety for males, but not for females. Social anxiety has been linked to cybervictimization in other studies (Dempsey et al., 2009; Juvoven & Gross, 2008), but gender differences

have not been previously identified. Males may spend more time on the computer than females, and increased screen time has been identified as a vulnerability factor for cybervictimization (Hinduja & Patchin, 2008; Mishna et al., 2012). Further, males who do not seek social support after aversive peer interactions may be more likely to experience heightened anxiety symptoms (Compas, Wagner, Slavin & Vannatta, 1986). Though this finding needs confirmation through study replication, these results suggest that males are at heightened risk for developing social anxiety when they are cybervictims. Females reported higher overall levels of social anxiety and it may be that especially for females, level of social anxiety is impacted by a wide variety of social experiences, including victimization, friendships, and dating relationships. Consequently, perhaps cybervictimization alone is not significantly associated with social anxiety.

Purposeful intent was significantly correlated with cybervictimization for both the high and low CV groups. The correlation was not stronger for the high CV group but the mean scores were significantly different. Specifically, students who endorsed experiencing more cybervictimization were more likely to attribute the perpetrator's intent as purposeful, suggesting a hostile attribution bias (e.g., the tendency to more readily perceive negative intent in ambiguous situations). These results have not been identified in previous research on cybervictimization; however, an extensive body of research on SIP (e.g., Dodge & Frame, 1982; Dodge, Price, Bachorowski, & Newman, 1990; Dodge & Somberg, 1987) has consistently indicated that under conditions of ambiguous provocation (i.e., harm is caused, but the intent of the protagonist is unclear) children and adolescents who are aggressive and rejected are more likely to assume

hostile intent. In sum, similar to research using the SIP model, cybervictimization may contribute to one's negative social experience history and increase the likelihood of demonstrating a hostile attribution bias under circumstances of ambiguous provocation.

The influence of cognitive attributions on adjustment outcomes: Rejection sensitivity

This study fills important gaps in the research literature by identifying mechanisms of change that lead to worse outcomes when individuals are cybervictimized. It has been previously established that individuals who are high in rejection sensitivity (e.g., more likely to interpret others' motives to be negative and spiteful) are less successful at regulating emotional responses to aversive social stimuli (Silvers et al., 2012) and that this leads to heightened risk for the development of internalizing distress (Pearson, Watkins, & Mullan, 2011); however, these concepts have not been applied to investigations of cybervictimization. Results of the present study suggest that when college students are highly rejection sensitive and blame negative peer interactions on something they cannot change about themselves, they have an increased likelihood of suffering from depressive symptoms. To develop an understanding of this process, first the relationships between rejection sensitivity, cybervictimization, gender, and depression were examined using simultaneous regression. When compared together, rejection sensitivity and gender significantly predicted changes in depression, and cybervictimization marginally predicted depression. Interestingly, rejection sensitivity and cybervictimization did not interact to increase the prediction of depression. It has been argued in this paper that the mediation of cognitive attributions is a mechanism through which rejection sensitivity exerts its effect on depression. Thus, it seemed possible that the regression did not result in a significant moderation because the

variables were not being investigated using a statistical method that would illuminate the way these processes were functioning.

Therefore, to gain insight into how rejection sensitivity influences depression, PROCESS path analytic framework (Hayes, 2013) was used to investigate the direct and indirect effects of internal-stable attributions as a mediator of the relationship between rejection sensitivity and depression. Results indicated that internal-stable attributions (i.e., blaming the ambiguous provocation on an internal cause that the individual feels is unchangeable) mediated the relationship between rejection sensitivity and depression. Similar to attribution research regarding face-to-face interactions, those who are rejection sensitive may be more likely to experience feelings of depression if they attribute their negative online interactions to be caused by something they feel they cannot change about themselves (e.g. "I am not good at writing posts") because internal-stable attributions are correlated with decreased self-esteem (Crick & Ladd, 1993) and heightened symptoms of depression (Abramson, Metalsky, & Alloy, 1989). Further, because rejection sensitivity is characterized by a tendency to perceive others' motives as negative, adopting a self-blaming mindset may turn into a vicious cycle that further exacerbates negative outcomes. Even so, internal-stable attributions accounted for only a portion of the variance in depression, suggesting that there are other processes involved that were not included in this analysis. Possible additional processes include attributing the cause as something about the other person that they feel they could not control (i.e., "My friend is being mean") or placing the blame on something the individual feels he or she could change in future interactions (e.g. "I didn't try hard enough to make my post interesting to my friends"). Overall, the mediation analyses provide evidence that

cognitive attributions are involved in outcomes related to interpersonal interactions and that investigations of additional attributions could further our understanding of why some individuals experience worse outcomes.

To identify how outcomes might vary when individuals are victimized during electronic communication, cybervictimization was examined as a moderator. Interestingly, the path analyses revealed that making ability attributions explained a significant effect of rejection sensitivity on depression at all levels of cybervictimization, but there was a larger effect explained for the low CV group than the high CV group. Evidence suggests that for the low CV group, a small amount of cybervictimization makes them doubt themselves; however, if cybervictimization occurs repeatedly, individuals may be more likely to become defensive and blame others, perhaps as a means of self-protection. If this were the case, then as cybervictimization increases, the victim would be more likely to attribute the cause of the event as something about the other person. In fact, cybervictims and bully-victims (i.e., being both a perpetrator and a victim) are more likely than those not involved in cyberbullying to express verbal and/or physical aggression toward peers at school (Mishna et al., 2012) and, thus, perhaps the difference between the low and high CV groups found in this study would be explained by examining additional cognitive attributions and behavioral responses, such as external attributions and aggression.

This study also sought to clarify differences in outcomes for males versus females. Examination of the path analyses indicated that a greater amount of the indirect effect on depression was explained for females than for males. Hence, blaming negative electronic peer interactions on one's own ability appears to play a significant role in

developing depression for females who are rejection sensitive and cybervictimized. One can conclude that the paths explained more of the variance in depression for both the low (1.5 times more than males) and high (2 times more than males) CV females compared to males because, on the whole, females are more likely than males to blame failures on their own lack of ability (Abramson, Metalsky, & Alloy, 1989; Crick & Ladd, 1993), which contributes to depression. Further, females' social goals place higher value on relationships resulting in females being more likely than males to judge their self-worth based on their relationship success (Crick et al., 2006). It is possible that females are more distressed by electronic conflict situations than males because these are quite similar to relationally aggressive actions that threaten to harm relationships.

The influence of cognitive attributions on adjustment outcomes: Friendship quality

In much the same way as for rejection sensitivity, internal-stable attributions were also examined as a possible mediator of the relationship between friendship quality and depression. Previous research has indicated that high friendship quality is associated with better adjustment outcomes, including decreased depression (Nangle, Erdley, Newman, Mason, & Carpenter, 2003; Parker & Asher, 1993). However, in the regression analyses, neither friendship quality nor the interaction between friendship quality and cybervictimization predicted depression. This finding was surprising when compared to the established research literature (Hodges et al., 1999; Prinstein et al., 2001. Traditional bullying research has established "the friendship protection hypothesis," which states that having at least one close mutual friendship buffers the negative outcomes and risk of victimization (Prinstein et al., 2001). In contrast, a large-scale study found that cybervictimization was not associated with number of friends (Wang, Iannotti, & Nansel,

2009); however, this investigation was examining number of friends and not friendship quality, but it does provide some evidence that friendships may not buffer negative outcomes for those who are cybervictims.

Despite the lack of a predictive relationship from friendship quality to depression in the present study, a large body of research has indicated the importance of friendships in mitigating depressive symptoms (Nangle, Erdley, Newman, Mason, & Carpenter, 2003; Parker & Asher, 1993); thus, it still seemed valuable both theoretically and empirically to investigate whether or not cognitive attributions were involved in reported depressive symptoms for those who had lower quality friendships. Additionally, moderated mediation can occur at various levels even when an interaction is not observed (James & Brett, 1984). Thus, to determine if internal-stable attributions play a role the relationship between friendship quality and depression, PROCESS path analytic framework (Hayes, 2013) was used to investigate the direct and indirect effects of internal-stable attributions as a mediator of the relationship between friendship quality and depression. The unconditional mediation model was not significant; however, examination of the path analyses revealed that a significant portion of the variance in depression was explained by internal-stable attributions for individuals in the high CV group who have lower quality friendships. Accordingly, for those college students who have lower quality friendships, placing blame for an ambiguous peer provocation on something that one feels he or she cannot control about the self contributes to poorer emotional outcomes for those who are cybervictimized. This suggests that it may be through the specific mechanisms of cognitive perceptions that cybervictimization leads to worse outcomes such as depression.

To explore gender differences, PROCESS path models were used to investigate whether gender moderates the mediation of internal-stable attributions in the relationship between friendship quality and depression. Results showed that the moderated mediation model was not significant for males or females in the low CV group but was significant for both males and females in the high CV group. The path analyses accounted for a large effect size for both males and females. The variance explained a larger effect for females (B = -.50) than for males (B = -.47) but this difference was quite small. Therefore, for both males and females who have lower friendship quality and report experiencing more cybervictimization, blaming the event on one's own lack of ability seems to play an important role in the development of depressive symptoms. It has been argued in this paper that relational aggression may be more salient for females than males (Dempsey et al., 2009; Hinduja & Patchin, 2007). These results support the notion that cybervictimization may function similarly to other forms of relational aggression for both males and females, especially when they do not have good social support. Previous research has found conflicting results regarding gender differences in the outcomes related to cybervictimization (Hinduja & Patchin, 2008; Huang & Chao, 2010). Because this model was explored by gender, it becomes possible to begin developing an understanding of the mechanisms involved that may lead to some studies identifying gender differences in outcomes (Hinduja & Patchin, 2008; Mishna et al., 2012), whereas other investigations (Huang & Chao, 2010; Smith et al., 2008) have not. It will be important to continue evaluating how males' and females' experiences with cybervictimization differ.

The influence of behavioral responses on adjustment outcomes

To investigate the influence of behavioral responses (i.e., ruminative behaviors) on the relationship between internal-stable attributions and depression, PROCESS path analyses were computed with rumination as a moderator for the rejection sensitivity and friendship quality models. Results were insignificant for both models. There were no systematic significant pathways that included rumination for the friendship quality or rejection sensitivity models. In short, adding rumination to the models did not aid in accounting for the effect of stable-internal attributions on depression. It may be that the model used for the analyses does not include variables that function together as hypothesized. When conducting moderated mediation analyses, the model is tested in causal order at varying levels of the moderator. Based on the Social Information Processing model, the current moderated mediation path model was designed assuming that rejection sensitivity would have a causal effect on internal-stable cognitive attributions, which would be dependent on ruminative behavioral responses to have causal influence on depression. In this way, the indirect effect that rejection sensitivity has on depression would be explained. The path from rejection sensitivity through internal-stable attributions was significant, and the path from rumination to depression was marginally significant, but the path from the interaction of internal-stable attributions and rumination to depression was not, suggesting that the influence of ability attributions on depression does not vary in strength conditional on rumination. Though rumination has been associated with depression across multiple studies (Hankin & Abramson, 2001; Nolen-Hoeksema, 2001), perhaps the path from rejection sensitivity through internal-stable attributions moderated by rumination leads to a different outcome, such as anxiety.

One can easily imagine a person who has become sensitive to rejection, attributing a negative experience to his or her own ability, subsequently ruminating on a lack of skill, and in turn, developing anxiety about his or her ability to perform in social situations.

Measurement of Cybervictimization

As research in cybervictimization is a relatively new area, construct measurement has not been universally well defined. As such, one of the first steps in the current study was to evaluate the Social Networking-Peer Experiences Questionnaire (SN-PEQ). Five of the items were removed due to low endorsement. It is possible that some of these items (e.g., "A peer made me feel bad by not listing me in his/her "Top 8" or "Top Friends" list") were outdated based on changes in technology since the publication of that measure (Landoll et al., 2013). The remaining 12-item SN-PEQ measure yielded good internal consistency with Cronbach's alpha of .85.

A second aim related to the SN-PEQ was to replicate findings from the preliminary investigation (Hord, 2015, Study 1) and contrast the replication with previous research conducted by a separate independent lab. Initial investigation of the SN-PEQ in the present study suggested the presence of more than one factor (i.e., construct), but the developers of the measure produced results indicating the SN-PEQ was comprised of a single factor (Landoll et al., 2013). In the current study, both a single-factor and a three-factor model resulted in acceptable values across all fit indices. Thus, either could be argued as being accurate. However, the revised three-factor model significantly improved the fit with a small change in chi-squared of 10.70 and a small improvement in the akaike information criterion (AIC) of 6.7 points. The AIC is arguably the best fit index to compare when evaluating the difference between two models (Schreiber et al., 2010).

Thus far, research has not identified latent variables in cybervictimization, and it is possible that a better understanding of latent variables' involvement could further the understanding of adjustment outcomes. In a preliminary study by the primary investigator (Hord, 2015, Study 1), the relation of these individual factors to emotional adjustment varied by gender. For example, embarrassment was associated with increased depressive symptoms for both males and females, but harassment and social exclusion were associated with social anxiety only for females. These findings suggest important implications for intervention and prevention research as understanding how various subtypes of cybervictimization impact females versus males could lead to more targeted intervention programs. At this point, there is not an exact understanding of the implications for identifying latent constructs, but one could postulate that specific constructs are viewed in a different light by the recipient and/or the perpetrator and thus lead to a general pattern of differing responses or adjustment outcomes.

A new measure of responses to cybervictimization, the Ambiguous Cyber Situations (ACS) measure, was piloted prior to this study and utilized here to investigate the role of cognitive attributions in individuals' responses to ambiguous cybervictimization situations. The internal consistencies of the subscales in the ACS measure ranged from acceptable to good (α = .63 to .88). Correlational analyses indicated that all of the maladaptive cognitive attributions were significantly and positively correlated with cybervictimization for those individuals who reported experiencing higher levels of cybervictimization. In contrast, for the low CV group, purposeful intent and internal-unstable were the only attributions significantly and positively correlated with cybervictimization. These results are consistent with prior research regarding

traditional victimization where evidence supports that individuals who have been victimized are more likely to perceive ambiguous situations negatively (Schwartz et al., 1998). In addition, correlational analyses suggested that the investigated behavioral responses were not significantly associated with cybervictimization for the low CV group, but avoidant and aggressive response styles were both significantly and positively correlated with cybervictimization for the high CV group. It was not surprising to identify avoidance and aggression as significant responses for those who experience more cybervictimization as research has shown that some individuals who perceive rejection from peers are more likely to avoid facing the peer who enacted the perceived slight (Dodge et al., 2003), whereas others are more apt to respond with hostility (Dodge & Crick, 1990). Interestingly, ruminative response styles were not correlated with cybervictimization in either the low or high CV group. This was an unexpected finding as extensive research has suggested that rumination is often involved in maladaptive processing of perceived negative events (Broderick, 1998; Nolen-Hoeksema, 2001).

Further, evaluation of the mean scores for the subscales of the ACS suggested that compared to students in the low CV group, those in the high CV group are significantly more likely to attribute purposeful intent, blame the negative event on others and themselves, and respond with rumination, avoidance, or aggression. Conversely, individuals in the low CV group were more likely than those in the high CV group to attribute the negative event as occurring by accident and accept a neutral cause for the event. In other words, individuals who experience more cybervictimization are at increased risk for maladaptive response patterns, whereas those who experience less cybervictimization are more likely to respond using prosocial response styles that protect

and maintain their relationships. Unexpectedly, results showed that the high CV group was significantly more likely to respond to the cyber situation with a prosocial response, such as "ask my friend what her or she meant." Given that these scenarios were presented using hypothetical situations, it seems possible that in the heat of the moment of a real situation, response patterns may differ. In other words, participants may have been selecting socially desirable responses while simultaneously reporting that they would respond in negative ways.

The ACS measure was also evaluated for differences between male and female responses. For both genders, cybervictimization was positively associated with each of the maladaptive cognitive attributions and behavioral responses. In other words, males and females both appear likely to adopt maladaptive strategies when they have experienced cybervictimization. Of notable importance, males who experienced more cybervictimization were less likely to assume the incident occurred by accident and to respond with a prosocial behavior. In other words, the more cybervictimization a male experiences, the less likely the perpetrator will be given a "get out of jail free card" or that excuses will be offered that do not place blame for the event. Interestingly, for females cybervictimization was not associated with assuming the ambiguous provocation occurred by accident. These findings suggest that females are less likely than males to offer excuses for others' behavior or to believe events happen by accident, even at low levels of cybervictimization. Evaluation of the mean scores between genders revealed that the only significant difference in the means was that ruminative and prosocial responses were higher for females and aggressive responses were higher for males. It has been established elsewhere that females are more likely to ruminate than males (Nolen-

Hoeksema, 2001) and that males are more likely to respond with aggression (Prinstein et al., 2001), though neither of these has been investigated in the cybervictimization literature. The finding that males are more likely to respond with prosocial behavior than females may be indicative of a problem-solving approach. Previous studies have reported that males tend to use more problem-solving strategies than females (Broderick, 1998; Strauss, Muday, McNall, & Wong, 1997). Futhermore, research (Galen & Underwood, 1997) has shown that females perceive relational aggression as more hurtful than males do, and cybervictimization seems fairly similar to relational victimization as it attacks a person's reputation and sense of belonging. Together, these findings suggest that females are more hurt by cybervictimization experiences than males, so it may be more difficult for them to enact prosocial responses.

In sum, this study evaluated two new measures, one (the SN-PEQ) that assesses the frequency of cybervictimization experiences and the other (the ACS) that measures social-cognitive responses to hypothetical cybervictimization situations. The SN-PEQ was found to be a reliable measure of cybervictimization experiences; however, some items were removed due to low endorsement and factor analysis indicated that the SN-PEQ is comprised of three different factors (contrary to the original identification of one factor by the developers of the measure, Landoll et al., 2013). Thus, not only is it possible for the SN-PEQ to be used in research to identify varying degrees of cybervictimization, but also the further exploration of latent constructs may yield additional findings that aid in understanding how cybervictimization differs among youth. In addition, the new ACS measure was found to be a reliable measure that offers innovative methods for assessing social-cognitive factors that influence adjustment outcomes for individuals who have

experienced cybervictimization. By combining the use of both of these measures, the present study has adopted techniques established in the traditional victimization literature and applied them to cybervictimization research.

Limitations and Directions for Future Research

Limitations

The current study was limited by a number of factors. First and foremost, this sample reported experiencing less cybervictimization than participants in previous studies, which resulted in data that were highly skewed. Consequently, multiple steps had to be undertaken in order to meet the statistical assumptions required to run the analyses. Unfortunately, it became necessary to split the data into high and low cybervictimization groups, which was not an optimal solution as doing so may have limited detection of significant results. The power analyses conducted in preparation for this study indicated that a target sample of 462 would have been an appropriate number and the final inclusion number for this study almost met this goal (N=454). Of course, skewed data is an issue that could not have been foreseen but could be remedied by collecting a larger dataset for future studies. Another possible solution would be to specifically recruit participants who have experienced cybervictimization. Doing so might limit generalizability but may provide meaningful results that could be translated to individuals who are cybervictimized.

Another limitation of the current study is the methods used for data collection. First, all of the measures included were self-report measures that were completed online. As a result, there is potential that a portion of the observed inter-correlations may be due to shared method variance (Campbell & Fiske, 1959). Despite this established issue, the

use of self-report measures is generally well accepted and because this survey was collected electronically, the options were limited to self-report. Collecting data online inherently creates additional limitations, such as no control over the environment in which the survey is completed, no visibility of participants, and no opportunity to ask participants if an item was skipped accidentally. Even with these known limitations, collecting the data online was deemed appropriate for the current study as online collection facilitated obtaining a larger sample size, and the topic under investigation is directly related to the use of the Internet. Even so, future studies could be improved by adding an in-lab component.

Generalizability of the current study is limited by the race of the participants. The participants were primarily Caucasian (90.3%), which is representative of the community from which the sample was taken but not representative of other geographic areas. It would be beneficial to replicate this study in a more ethnically diverse community in order to determine whether cultural or ethnic differences in the relations between cybervictimization and adjustment exist.

Another limitation of the current study is that the population was drawn from the psychology study subject pool at one university. As a result, some of the findings may not generalize to other 18-24 year-olds, especially to those who are not in college. This study did replicate some research findings that were obtained using a college population at another university (e.g., Landoll et al., 2013). However, this investigation also added new methods including a new vignette measure and moderated mediation analyses that have not previously been utilized. For these reasons, it is important that the results of this

study be replicated using more ethnically diverse samples, urban populations, young adults who are not attending a university, and younger adolescents.

Last, a limitation that cannot be overlooked is the speed of ever-changing technology. The quick pace of advances in technology results in frequent new methods of interaction among peers. It can be quite difficult for research to keep up with the evolving language in order for measures to appropriately capture the way that youth are utilizing electronic devices. To address this concern in the present study, the ACS measure was intentionally developed using language that was not specific to a particular software platform. Even so, it will undoubtedly be outdated within a short period of time. Perhaps collaboration across multiple sites could ease some of the burden that often delays research progress by capturing large datasets that include a variety of populations.

Future Directions

The focus of the current analyses was on one specific cognitive attribution (i.e., internal-stable) and one behavioral response (i.e., rumination); however there are several additional combinations that warrant examination. As mentioned in the discussion, it is possible that those who are victimized more frequently externalize blame as a method of self-protection. As such, there is support for running the mediation models using external attributions as the mediator. Moreover, based on the SIP model, several variations of the moderated mediation models investigated in the current study could be computed. For example, external-stable, internal-unstable, and neutral causal attributions could be examined in place of internal-stable attributions. Additionally, avoidance/withdrawn, aggressive, and prosocial behavioral responses could be explored in place of ruminative behavioral responses. Also, social anxiety, loneliness, and self-worth could be

investigated in place of depressive symptoms. In the current study, rumination did not play a significant role, and it may be through different mechanisms of behavioral responses that cybervictimization leads to worse outcomes. Similarly, in the preliminary regression models, depression was not significantly predicted by the interactions, and it is possible that other outcomes, such as loneliness, may be an outcome that is affected.

The present investigation identified three latent factors of cybervictimization in the SN-PEQ. The preliminary study suggested that latent factors might function differently for males and females. Thus, it would be beneficial to replicate that study by investigating how these factors vary by gender in relation to adjustment outcomes. Additionally, it would be interesting to identify whether these latent cybervictimization constructs vary in relation to different cognitive attributions and behavioral responses.

Before replicating the current study with a new sample, it would behoove investigators to consider additional means of measuring friendship quality and depression. The Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985) has been commonly used with adolescents to assess friendship quality and may demonstrate different results. In the current sample, the scores from friendship quality and depression did not always perform as expected. It is possible that the measures used in this study were not accurately capturing these constructs. Conversely, this may have been the true result, but it would increase confidence if multiple measures could be used to establish convergent validity.

Several of the findings in the current study would not have been identified if there had not been specific goals of investigating gender differences. Understanding the ways in which males and females experience cybervictimization differently can help inform

prevention and intervention efforts. Consequently, it will be important for future studies to continue examining gender differences.

Concluding Comments

The current study filled important gaps in the literature on cybervictimization. By taking approaches that have received extensive support within traditional victimization research and applying those to cybervictimization, this study used a strong theoretical and empirical basis to investigate an area that is relatively new within the research domain. First, the results of this study replicate previous work indicating that those who are cybervictimized experience greater negative outcomes. Perhaps the most important contribution, this study went one step further to investigate factors that may contribute to or protect from experiencing heightened distress after negative online interactions. Results suggest that when interactions are interpreted as having an internal cause that the individual feels is unchangeable; the individual will have an increased risk for emotional distress.

Overall, the models accounted for a significant amount of the variance in the high cybervictimization group, suggesting that cognitive attributions contribute to poorer emotional outcomes for those who are cybervictimized. This suggests that it may be through the specific mechanisms of cognitive perceptions that cybervictimization leads to worse outcomes. Indeed, evidence from this study revealed the influence of internal-stable attributions on depression. Previous research has demonstrated that when children ages 8-13 years old who expected to perform poorly in academics were trained to attribute failure to insufficient effort rather than ability, their academic performance improved through an escalation of effort (Dweck, 1975). This suggested a 'learned

helplessness' that could be modified through attribution training to improve success. Further, this same approach was applied to 14-16 year-olds to enhance adolescents' belief in their ability for personal change and increase prosocial responses to problematic peer situations, which simultaneously eliminated the association between peer victimization and depressive symptoms (Yeager, Trzesniewski, & Dweck, 2013). Additional studies have utilized social-information-processing patterns to reduce hostile-attribution biases, increase competent social responses, and decrease aggression (Dodge & Godwin, 2013). Though this research has primarily targeted younger youth and has not been applied to cybervictimization, the current study supplies support for utilizing a similar approach to modify self-blame attributions associated with electronic social communication in order to ameliorate depressive symptoms.

Contrary to expectations, rumination did not explain the effects of internal attributions on depression. Considering this was the first exploration of the influence of behavioral responses on these relationships, it seems likely that a different behavioral response might be involved. Thus, results of the current study support investigating the roles of cognitive attributions and behavioral responses in order to better understand the processes that lead to positive and negative outcomes of cybervictimization.

Developing an understanding of how individuals cognitively process electronic social interactions may shed light on why some individuals are more impacted by cybervictimization while others are not. By applying a well-supported theoretical model to electronic communications, the current study provides a framework for future studies to compare, contrast, and build a knowledge base for understanding the variance in psychological adjustment for those who are cybervictimized. Further elucidating the risks

and protective mechanisms of cybervictimization will inform prevention and intervention programs.

REFERENCES

Abramson, L. Y., Metalsky, G. I., & ALloy, L. B. (1989). Hopelessness depression: A theory based subtype of depression. *Psychological Review, 96*, 358-372.

Adams, R. E., Santo, J., & Bukowski, W. M. (2011). The presence of a best friend buffers the effects of negative experiences. *Developmental Psychology, 47*(6), 1786-1791.

Adrian, M., Zeman, J., Erdley, C., Lisa, L., & Sim, L. (2011). Emotional dysregulation and interpersonal difficulties as risk factors for nonsuicidal self-injury in adolescent girls. *Journal of Abnormal Child Psychology*, *39*(3), 389-400.

Agatston, P. W., Kowalski, R., & Limber, S. (2007). Students' perspectives on cyber bullying. *Journal Of Adolescent Health*, *41*(6,Suppl), S59-S60.

Agliata, A. K., & Renk, K. (2008). College students' adjustment: The role of parent-college student expectation discrepancies and communication reciprocity. *Journal Of Youth And Adolescence*, *37*(8), 967-982.

Alink, L. R. A., Jesman, J., van Zeijl, J., Stolk, M. N., Juffer, F., Koot, H. M., Bakermans, M. J., & van Ijzendoorn, M. H. (2006). The early childhood aggression curve: Development of physical aggression in 10- to 50-month-old children. *Child Development, 77*, 954-966.

Allan, E. J., & Madden, M. (2012). The nature and extent of college student hazing. *International Journal Of Adolescent Medicine And Health*, *24*(1), 83-90.

Ambrosini, P. J., Metz, C., Prabucki, K., & Lee, J. C. (1989). Videotaped reliability of the third revised edition of the K-SADS. *Journal of the American Academy of Child and Adolescent Psychiatry, 28*, 723-728.

Amir, N., Beard, C., & Bower, E. (2005). Interpretation bias and social anxiety. *Cognitive Therapy and Research*, *29*(4), 433-443.

Asher, S. R., Parker, J. G., & Walker, D. L. (1996). Distinguishing friendship from acceptance: Implications for intervention and assessment. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 366-405). New York, NY: Cambridge University Press.

Bagwell, C. L., Newcomb, A. F., & Bukowski, W. M. (1998). Preadolescent friendship and peer rejection as predictors of adult adjustment. *Child Development*, *69*(1), 140-153.

Bagwell, C. L., Schmidt, M. E., & Newcomb, A. F. (2001). Friendship and peer rejection as predictors of adult adjustment. In D. W. Nangle & C. A. Erdley (Eds.*), New directions for child and adolescent development: Friendship and psychological adjustment* (pp. 25-49). San Francisco: Jossey-Bass.

Barchia, K., & Bussey, K. (2010). The psychological impact of peer victimization: Exploring social-cognitive mediators of depression. *Journal of Adolescence, 33*(5), 615-623.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173.

Beck, A. T., & Steer, R. A., (1988). *Manual for the Beck Hopelessness Scale.* San Antonio, TX: The Psychological Corporation.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *BDI-II, Beck Depression Inventory: Manual* (2nd ed.). Boston: Harcourt Brace.

Bennett, D. A. (2001). How can I deal with missing data in my study? *Australian and New Zealand Journal of Public Health, 25,* 464–469.

Bentler, P.M.: 1990, 'Comparative fit indexes in structural equation models', Psychological Bulletin 107, pp. 238–246.

Beran, T. (2009). Correlates of peer victimization and achievement: An exploratory model. *Psychology in the Schools, 46*(4), 348-361.

Berndt, T. (1992). Friendship and friends' influence in adolescence. *Current Directions in Psychological Science, 1*(5), 156-159.

Berndt, T. J. (1998). Exploring the effects of friendship quality on social development. In W. M. Bukowski, A. F. Newcomb, W. W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 346-365). New York, NY US: Cambridge University Press.

Bios, P. (1979). The adolescent passage: Developmental issues. New York: International Universities Press.

Boivin, M., Hymel, S., & Hodges, E. V. E. (2001). Toward a process view of peer rejection and harassment. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 265-289). New York: The Guilford Press.

Boivin, M., Petitclerc, A., Feng, B., & Barker, E. D. (2010). The developmental trajectories of peer victimization in middle to late childhood and the changing nature of their behavioral consequences. *Merrill-Palmer Quarterly, 56*, 231-260.

Bolger, K. E., Patterson, C. J., & Kupersmidt, J. B. (1998). Peer relationships and self-esteem among children who have been maltreated. *Child Development, 69*, 1171-1197.

Bonanno, R. A., & Hymel, S. (2013). Cyber bullying and internalizing difficulties: Above and beyond the impact of traditional forms of bullying. *Journal of Youth and Adolescence*, 1-13.

Bowker, J. C., Thomas, K. K., Norman, K. E., & Spencer, S. V. (2011). Mutual best friendship involvement, best friends' rejection sensitivity, and psychological maladaptation. *Journal Of Youth and Adolescence, 40*(5), 545-555.

Bradshaw, C. P., Waasdorp, T. E., & Johnson, S. L. (2015). Overlapping verbal, relational, physical, and electronic forms of bullying in adolescence: Influence of school context. *Journal Of Clinical Child And Adolescent Psychology, 44*(3), 494-508.

Brazziel, M. E. (1981). *The College Freshman Adjustment Scales: Manual* (2nd ed.). Mansfield Center: Marian Brazziel Associates.

Broderick, P. C. (1998). Early adolescent gender differences in the use of ruminative and distracting coping strategies. *Journal of Early Adolescence, 18(2)*, 173-191.

Bukowski, W. M., & Adams, R. (2005). Peer relationships and psychopathology: Markers, moderators, mediators, mechanisms, and meanings. *Journal of Clinical Child and Adolescent Psychology, 34*(1), 3-10.

Bukowski, W. M., & Hoza, B. (1989). Popularity and friendship: Issues in theory, measurement, and outcome. In T. J. Berndt & G. W. Ladd (Eds.), *Peer relations in child development* (pp. 15-45). New York: Wiley.

Bukowski, W. M., Sippola, L. K., & Hoza, B. (1999). Same and other: Interdependency between participation in same- and other-sex friendships. *Journal of Youth and Adolescence, 28*, 439-459.

Buhrmester, D., & Furman, W. (1987). The development of companionship and intimacy. *Child Development, 58*(4), 1101-1113.

Burgess, K. B., & Younger, A. J. (2006). Self-schemas, anxiety, somatic and depressive symptoms in socially withdrawn children and adolescents. *Journal of Research in Childhood Education, 20*(3), 175-187.

Byrd, D., & McKinney, K. J. (2012). Individual, interpersonal, and institutional level factors associated with the mental health of college students. *Journal Of American College Health*, *60*(3), 185-193.

Calvete, E., Orue, I., Estévez, A., Villardón, L., & Padilla, P. (2010). Cyberbullying in adolescents: Modalities and aggressors' profile. *Computers in Human Behavior, 26*(5), 1128-1135.

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin, 56,* 81-105.

Card, N. A., Stucky, B., Sawalani, G. M., & Little, T. D. (2008). Direct and indirect aggression during childhood and adolescence: A meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. *Child Development, 79,* 1185-1229.

Capaldi, D. M., Shortt, J. W., & Crosby, L. (2003). Physical and psychological aggression in at-risk young couples: Stability and change in young adulthood. Merrill-Palmer Quarterly, 49, 1–27.

Cicchetti, D., & Toth, S. (1998). The development of depression in children and adolescents. *American Psychologist, 52*, 221–241.

Cillessen, A. H., & Mayeux, L. (2004). From censure to reinforcement: Developmental changes in the association between aggression and social status. *Child Development*, *75*(1), 147-163.

Compas, B. E., Davis, G. E., Forsythe, C. J., & Wagner, B.M. (1987). Assessment of major and daily stressful events during adolescence: The adolescent perceived events scale. *Journal of Consulting and Clinical Psychology, 55(4),* 534-541.

Compas, B. E., Wagner, B. M., Slavin, L. A., & Vannatta, K. (1986). A prospective study of life events, social support, and psychological symptomatology during the transition to college. *American Journal of Community Psychology*, *14*,241-257.

Connolly, J., Furman, W., & Konarski, R. (2000). The role of peers in the emergence of heterosexual romantic relationships in adolescence. *Child Development, 71*(5), 1395-1408.

Cooper SE. Counseling and mental health services. In: Benton SA, Benton SL, eds. Student mental health: effective strategies across campus.Washington,DC: National Association of Student Personnel Administrators, 2006.

Coyne, J. C. (1976). Depression and the response of others. *Journal of Abnormal Psychology*, *85*(2), 186.

Crawford, A., & Manassis, K. (2011). Anxiety, social skills, friendship quality, and peer victimization: An integrated model. *Journal of Anxiety Disorders, 25*(7), 924-931.

Crick, N.R., (1995). Relational aggression: The role of intent attributions, feelings of distress, and provocation type. *Development and Psychopathology, 7*, 313-322.

Crick, N.R., Casas, J.F., & Ku, H. (1999). Relational and physical forms of peer victimization in preschool. *Developmental Psychology, 35* (2), 376 – 385.

Crick, N. R., & Dodge, K.A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin, 115*(1), 74-101.

Crick, N. R., & Dodge, K. A. (1996). Social information- processing mechanisms in reactive and proactive aggression. *Child Development*, *67*(3), 993-1002.

Crick, N.R., & Grotpeter, J. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66,* 710 – 722.

Crick, N. R., Grotpeter, J. K., & Bigbee, M. A. (2002). Relationally and physically aggressive children's intent attributions and feelings of distress for relational and instrumental peer provocations. *Child Development*, *73*(4), 1134-1142.

Crick, N. R., & Ladd, G. W. (1990). Children's perceptions of the outcomes of social strategies: Do the ends justify being mean?. *Developmental Psychology*, *26*(4), 612

Crick, N. R., & Ladd, G. W. (1993). Children's perceptions of their peer experiences: Attributions, loneliness, social anxiety, and social avoidance. *Developmental Psychology, 29*(2), 244-254.

Crick, N. R., Ostrov, J. M., Burr, J. E., Cullerton-Sen, C., Jansen-Yeh, E., & Ralston, P. (2006). A longitudinal study of relational and physical aggression in preschool. *Journal of Applied Developmental Psychology*, *27*(3), 254-268.

De Los Reyes, A. & Prinstein, M. J. (2004). Applying depression-distortion hypotheses to the assessment of peer victimization in adolescents. *Journal of Clinical Child and Adolescent Psychology, 33*, 325-335.

Dempsey, A. G., Sulkowski, M. L., Nichols, R., & Storch, E. A. (2009). Differences between peer victimization in cyber and physical settings and associated psychosocial adjustment in early adolescence. *Psychology in the Schools*, *46*(10), 962-972.

Didden, R., Scholte, R. H., Korzilius, H., de Moor, J. M., Vermeulen, A., O'Reilly, M., Lang, R. & Lancioni, G. E. (2009). Cyberbullying among students with

intellectual and developmental disability in special education settings. *Developmental Neurorehabilitation, 12*(3), 146-151.

Dodge, K. A. (2006). Translational science in action: Hostile attributional style and the development of aggressive behavior problems. *Development and Psychopathology, 18*(03), 791-814.

Dodge, K. A., & Coie, J. D. (1987). Social-information-processing factors in reactive and proactive aggression in children's peer groups. *Journal of Personality and Social Psychology*, *53*(6), 1146.

Dodge, K. A., & Crick, N. R. (1990). Social information-processing bases of aggressive behavior in children. *Personality and Social Psychology Bulletin, 16*(1), 8-22.

Dodge, K. A., & Frame, C. L. (1982). Social cognitive biases and deficits in aggressive boys. *Child Development, 53,* 620-635.

Dodge, K. A., & Godwin, J. (2013). Social-information-processing patterns mediate the impact of preventive intervention on adolescent antisocial behavior. *Psychological Science*, *24*(4), 456-465.

Dodge, K. A., Lansford, J. E., Burks, V. S., Bates, J. E., Pettit, G. S., Fontaine, R., & Price, J. M. (2003). Peer rejection and social information- processing factors in the development of aggressive behavior problems in children. *Child Development*, *74*(2), 374-393.

Dodge, K. A., & Newman, J. P. (1981). Biased decision making processes in aggressive boys. *Journal of Abnormal Psychology, 90,* 375- 379.

Dodge, K. A., Price, J. M., Bachorowski, J. A., & Newman, J. P. (1990). Hostile attributional biases in severely aggressive adolescents. *Journal of Abnormal Psychology, 99,* 385-392.

Dodge, K. A., & Somberg, D. R. (1987). Hostile attributional biases among aggressive boys are exacerbated under conditions of threats to the self. *Child Development, 58,* 213-224.

Dodge, K. A., & Tomlin, A. M. (1987). Utilization of self-schemas as a mechanism of interpretational bias in aggressive children. *Social Cognition, 5,* 280-300.

Dooley, J. J., Pyżalski, J., & Cross, D. (2009). Cyberbullying versus face-to-face bullying. *Zeitschrift für Psychologie/Journal of Psychology, 217*(4), 182-188.

Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology, 70*(6), 1327-1343.

Downey, G., Lebolt, A., Rincon, C., & Freitas, A. (1998). Rejection sensitivity and children's interpersonal difficulties. *Child Development, 69*, 1074–1091.

Dozois, D. J. A., & Dobson, K. S. (2001). A longitudinal investigation of information processing and cognitive organization in clinical depression: Stability of schematic interconnectedness. *Journal of Consulting and Clinical Psychology, 69,* 914-925.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, *95*(2), 256-273.

Egan, S. K., & Perry, D. G. (1998). Does low self-regard invite victimization? *Developmental Psychology, 34*(2), 299-309.

Feinstein, B. A., Bhatia, V., & Davila, J. (2014). Rumination mediates the association between cyber-victimization and depressive symptoms. *Journal Of Interpersonal Violence*, *29*(9), 1732-1746.

Field, A. (2005). *Discovering statistics using SPSS (2nd ed.)*. Thousand Oaks, CA, US: Sage Publications, Inc.

Finn, J. (2004). A Survey of Online Harassment at a University Campus. *Journal Of Interpersonal Violence, 19*(4), 468-483.

Feldman, S., & Downey, G. (1994). Rejection sensitivity as a mediator of the impact of childhood exposure to family violence on adult attachment behavior. *Development and Psychopathology*, *6*, 231-247.

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science, 18*(3), 233-239.

Furman, W. (1989). Developmental changes in children's social networks. In D. Belle (Ed.), *Children's social networks and social supports* (pp. 151-172). New York: Wiley.

Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology*, *21*(6), 1016-1024.

Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63*(1), 103-115.

Furman, W., & Shaffer, L. (2003). The role of romantic relationships in adolescent development. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 3-22). Mahwah, NJ: Erlbaum.

Galen, B.R., & Underwood, M.K. (1997). A developmental investigation of social aggression among children. *Developmental Psychology, 33* (4), 589 – 600.

Gauze, C., Bukowski, W. M., Aquan-Assee, J., & Sippola, L. K. (1996). Interactions between family environment and friendship and associations with self-perceived well-being during early adolescence. *Child Development, 67*, 2201-2216.

Ghoul, A., Niwa, E., Boxer, P. (2013) The role of contingent self-worth in the relation between victimization and internalizing problems in adolescents. *Journal of Adolescence, 36*(3), 457-464.

Goldstein, S. E. (2011). Relational aggression in young adults' friendships and romantic relationships. *Personal Relationships, 18*(4), 645-656.

Gradinger, P., Strohmeier, D., & Spiel, C. (2009). Traditional bullying and cyberbullying: Identification of risk groups for adjustment problems. *Zeitschrift für Psychologie/Journal of Psychology, 217*(4), 205-213.

Graham, S., & Juvonen, J. (1998). Self-blame and peer victimization in middle school: An attributional analysis. *Developmental Psychology, 34*(3), 587-538.

Grills, A.E., & Ollendick, T.H. (2002). Peer victimization, global self-worth, and anxiety in middle school children. *Journal of Clinical Child and Adolescent Psychology, 31*(1), 59-68.

Grotevant, H., & Cooper, C. (1985). Patterns of interaction in family relationships and the development of identity exploration in adolescence. Child Development, 56, 425-428.

Gruttadaro, D., & Crudo, D. (2012). National Alliance on Mental Illness. *College students speak: A survey report on mental health*, 1-24.

Hanish, L. D., & Guerra, N. G. (2004). Aggressive victims, passive victims, and bullies: Developmental continuity or developmental change? *Merrill-Palmer Quarterly, 50*(1), 17-38.

Hankin, B. L. (2006). Adolescent depression: Description, causes, and interventions. *Epilepsy & Behavior, 8*(1), 102-114.

Hankin, B. L., & Abramson, L. Y. (2001). Development of gender differences in depression: An elaborated cognitive vulnerability-transactional stress theory. *Psychological Bulletin, 127(6)*, 773-796.

Harrist, A. W., Zaia, A. F., Bates, J. E., Dodge, K. A., & Pettit, G. S. (1997). Subtypes of social withdrawal in early childhood: Sociometric status and social-cognitive

differences across four years. *Child Development, 68*(2), 278-294.

Hartup, W. W. (1996). The company they keep: Friendships and their developmental significance. *Child Development, 67,* 1-13.

Hartup, W., & Stevens, N. (1999). Friendships and adaptation across the lifespan. *Current Directions in Psychological Science, 8,* 76-79.

Hawker, D. S., & Boulton, M. J. (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta- analytic review of cross- sectional studies. *Journal of Child Psychology and Psychiatry, 41*(4), 441-455.

Hays, R. B., & Oxley, D. (1986). Social network development and functioning during a life transition. *Journal Of Personality And Social Psychology, 50*(2), 305-313.

Hinduja, S., & Patchin, J. W. (2007). Offline consequences of online victimization: School violence and delinquency. *Journal of School Violence, 6*(3), 89-112.

Hinduja, S., & Patchin, J. W. (2008). Cyberbullying: An exploratory analysis of factors related to offending and victimization. *Deviant Behavior, 29*(2), 129-156.

Hinduja, S., & Patchin, J. W. (2010). Bullying, cyberbullying, and suicide. *Archives of Suicide Research, 14*(3), 206-221.

Hodges, E. E., Boivin, M., Vitaro, F., & Bukowski, W. M. (1999). The power of friendship: Protection against an escalating cycle of peer victimization. *Developmental Psychology, 35*(1), 94-101.

Hodges, E. V., Malone, M. J., & Perry, D. G. (1997). Individual risk and social risk as interacting determinants of victimization in the peer group. *Developmental Psychology, 33*(6), 1032.

Hodges, E. E., & Perry, D. G. (1999). Personal and interpersonal antecedents and consequences of victimization by peers. *Journal of Personality and Social Psychology, 76*(4), 677-685.

Hoyert, D. L. & Xu, J. (2011). Deaths: Preliminary data for 2011. *National Vital Statistics Reports, 61*(6), 1-65.

Hoyle, R., & Smith, G., 1994. Formulating clinical research hypotheses as structural equation models: A conceptual overview. Journal of Consulting and Clinical Psychology 62(3), 429-440.

Hu, L.-T., & Bentler, P. M. (1999). Cutoff criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation

Modeling, 6, 1–55.

Huang, Y., & Chou, C. (2010). An analysis of multiple factors of cyberbullying among junior high school students in Taiwan. *Computers in Human Behavior, 26*(6), 1581-1590.

James, L. R., & Brett, J. M. (1984). Mediators, moderators, and tests for mediation. Journal of Applied Psychology, 69, 307–321.

Jenkins, S. R., Belanger, A., Connally, M. L., Boals, A., & Durón, K. M. (2013). First- generation undergraduate students' social support, depression, and life satisfaction. *Journal Of College Counseling, 16*(2), 129-142.

Juvonen, J., & Gross, E. F. (2008). Extending the school grounds? Bullying experiences in cyberspace. *Journal of School Health, 78*(9), 496-505.

Katzer, C., Fetchenhauer, D., & Belschak, F. (2009). Cyberbullying: Who are the victims?: A comparison of victimization in internet chatrooms and victimization in school. *Journal of Media Psychology: Theories, Methods, and Applications, 21*(1), 25-36.

Kerr, S., Johnson, V. K., Gans, S. E., & Krumrine, J. (2004). Predicting adjustment during the transition to college: Alexithymia, perceived stress, and psychological symptoms. *Journal of College Student Development, 45*, 593-611.

Kiesner, J., & Pastore, M. (2005). Differences in the relations between antisocial behavior and peer acceptance across contexts and across adolescence. *Child Development, 76*, 1278-1293.

Kochenderfer, B. J., & Ladd, G. W. (1997). Victimized children's responses to peers' aggression: Behaviors associated with reduced versus continued victimization. *Development and Psychopathology, 9*(1), 59-73.

Kochenderfer-Ladd, B. (2003). Identification of aggressive and asocial victims and the stability of their peer victimization. *Merrill-Palmer Quarterly, 49*(4), 401-425.

Kochenderfer-Ladd, B., Ladd, G. W., & Kochel, K. P. (2009). A child and environment framework for studying risk for peer victimization. *Bullying, rejection, and peer victimization: A social cognitive neuroscience perspective,* 27-52.

Kromrey, J. D., & Hines, C. V. (1994). Nonrandomly missing data in multiple regression: An empirical comparison of common missing-data treatments. *Educational and Psychological Measurement, 54*(3), 573-593.

Ladd, G. W., Kochenderfer, B. J., & Coleman, C. C. (1997). Classroom peer acceptance, friendship, and victimization: Distinct relational systems that contribute uniquely to children's school adjustment? *Child Development, 68*(6), 1181-1197.

La Greca, A. M., & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal of Abnormal Child Psychology, 26(2),* 83-94.

Landoll, R. R., La Greca, A. M., & Lai, B. S. (2013). Aversive peer experiences on social networking sites: Development of the Social Networking- Peer Experiences Questionnaire (SN- PEQ). *Journal of Research on Adolescence*. (*), 1-11.

Lansford, J.E., Rabiner, D.L., Miller-Johnson, S., Golonka, M. M., & Hendren, J. (2003). Developmental models of aggression. In Coccaro, E.F. (Ed). *Aggression: Psychiatric assessment and treatment.* New York: Marcel Dekker, Inc.

Lapsley, D., Rice, K., & Shadid, G. (1989). Psychological separation and adjustment to college. *Journal of Counseling Psychology, 36,* 286-294.

Li, Q. (2010). Cyberbullying in high schools: A study of students' behaviors and beliefs about this new phenomenon. *Journal of Aggression, Maltreatment & Trauma, 19*(4), 372-392.

Linder, J. R., Crick, N. R., & Collins, W. A. (2002). Relational aggression and victimization in young adults' romantic relationships: Associations with perceptions of parent, peer, and romantic relationship quality. *Social Development, 11*(1), 69-86.

Litwiller, B. J., & Brausch, A. M. (2013). Cyber bullying and physical bullying in adolescent suicide: The role of violent behavior and substance use. *Journal of Youth and Adolescence,* 1-10.

Locke, B. D., Bieschke, K. J., Castonguay, L. G., & Hayes, J. A. (2012). The center for collegiate mental health: Studying college student mental health through an innovative research infrastructure that brings science and practice together. *Harvard Review Of Psychiatry, 20*(4), 233-245.

London, B., Downey, G., Bonica, C., & Paltin, I. (2007). Social causes and consequences of rejection sensitivity. *Journal of Research on Adolescence, 17*(3), 481-506.

Lopez, C., & DuBois, D. L. (2005). Peer victimization and rejection: Investigation of an integrative model of effects on emotional, behavioral, and academic adjustment in early adolescence. *Journal of Clinical Child and Adolescent Psychology, 34*(1), 25-36.

Loudin, J. L., Loukas, A., & Robinson, S. (2003). Relational Aggression in College Students: Examining the Roles of Social Anxiety and Empathy. *Aggressive Behavior*, *29*(5), 430-439.

Madden, M., Lenhart, A., Duggan, M., Cortesi, S. & Gasser, U. (2013). Teens and technology 2013. Retrieved September 3, 2013, from www.pewinternet.org

Martin, K. M., & Huebner, E. (2007). Peer Victimization and Prosocial Experiences and Emotional Well-Being of Middle School Students. Psychology In The Schools, 44(2), 199-208.

Mesch, G. (2009). Parental mediation, online activities, and cyberbullying. *CyberPsychology & Behavior*, *12*(4), 387-393.

McDonald, K. L., Bowker, J. C., Rubin, K. H., Laursen, B., & Duchene, M. S. (2010). Interactions between rejection sensitivity and supportive relationships in the prediction of adolescents' internalizing difficulties. *Journal of Youth and Adolescence*, *39*(5), 563-574.

McNelles, L. R., & Connolly, J. A. (1999). Intimacy between adolescent friends: Age and gender differences in intimate affect and intimate behaviors. *Journal of Research on Adolescence*, *9*(2), 143-159.

Mishna, F., Khoury-Kassabri, M., Gadalla, T., & Daciuk, J. (2012). Risk factors for involvement in cyber bullying: Victims, bullies and bully–victims. *Children and Youth Services Review*, *34*(1), 63-70.

Mishna, F., Saini, M., & Solomon, S. (2009). Ongoing and online: Children and youth's perceptions of cyber bullying. *Children and Youth Services Review*, *31*(12), 1222-1228.

Mitchell, K. J., Ybarra, M., & Finkelhor, D. (2007). The relative importance of online victimization in understanding depression, delinquency, and substance use. *Child Maltreatment*, *12*(4), 314-324.

Modecki, K. L., Barber, B. L., & Vernon, L. (2012). Mapping developmental precursors of cyber-aggression: Trajectories of risk predict perpetration and victimization. *Journal of Youth and Adolescence*, 1-11.

Nangle, D. W., Erdley, C. A., Newman, J. E., Mason, C. A., & Carpenter, E. M. (2003). Popularity, friendship quantity, and friendship quality: Interactive influences on children's loneliness and depression. *Journal of Clinical Child and Adolescent Psychology, 32(4),* 546-555.

Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with

psychosocial adjustment. *Journal of the American Medical Association, 285*(16), 2094-2100.

Neemann, J., & Harter, S. (2012). *Manual for the Self-Perception Profile for College Students*. University of Denver.

Newcomb, A. F., & Bagwell, C. (1995). Children's friendship relations: A meta-analytic review. *Psychological Bulletin, 117*, 306-347.

Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology, 100*, 569-582.

Nolen-Hoeksema, S. (2001). Gender differences in depression. *Current directions in psychological science, 10*(5), 173-176.

Olweus, D. (1978). *Aggression in the schools: Bullies and whipping boys.* Oxford, England: Hemisphere.

Olweus, D. (1991). Bully/Victim problems among schoolchildren: Basic facts and effects of a school based intervention program. In Pepler, D.J. & Rubin, K.H. (Eds). *The development and treatment of childhood aggression*. Hillsdale, NJ: Lawrence Erlbaum.

Olweus, D. (1995). Bullying or peer abuse at school: Facts and intervention. *Current Directions in Psychological Science, 4*(6), 196-200.

Olweus, D. (2012). Cyberbullying: An overrated phenomenon? *European Journal of Developmental Psychology, 9*(5), 520-538.

Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin, 102*(3), 357-389.

Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology, 29,* 611-621.

Parker, J., Summerfeldt, L., Hogan, M., & Majeski, S. (2004). Emotional intelligence and academic success: Examining the transition from high school to university. *Personality & Individual Differences, 36*(1), 163-172.

Patchin, J. W., & Hinduja, S. (2006). Bullies move beyond the schoolyard: A preliminary look at cyberbullying. *Youth Violence and Juvenile Justice, 4*(2), 148-169.

Pearson, K. A., Watkins, E. R., & Mullan, E. G. (2011). Rejection sensitivity prospectively predicts increased rumination. *Behaviour Research and Therapy, 49*(10), 597-605.

Peets, K., & Kikas, E. (2006). Aggressive strategies and victimization during adolescence: Grade and gender differences, and cross-informant agreement. *Aggressive Behavior, 32*, 68-79.

Perry, D. G., Kusel, S. I., & Perry, L. C. (1988). Victims of peer aggression. *Developmental Psychology, 24*, 807-814

Perry, D. G., Perry, L. C., & Rasmussen, P. (1986). Cognitive social learning mediators of aggression. *Child Development*, 700-711.

Pinder-Amaker, S. (2012). Introduction innovative and collaborative approaches to college student mental health challenges. *Harvard Review Of Psychiatry*, *20*(4), 171-173.

Pittman, L. D., & Richmond, A. (2007). Academic and psychological functioning in late adolescence: The importance of school belonging. *The Journal of Experimental Education, 75*(4), 270-290.

Prather, E., Dahlen, E. R., Nicholson, B. C., & Bullock-Yowell, E. (2012). Relational aggression in college students' dating relationships. *Journal Of Aggression, Maltreatment & Trauma*, *21*(7), 705-720.

Preacher, K. J. & Hayes, A. F. (2008). Asymptotic and resampling methods for estimating and comparing indirect effects. *Behavior Research Methods, 40*, 879-891.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, *42*(1), 185-227.

Prinstein, M. J., Boergers, J., & Vernberg, E. M. (2001). Overt and relational aggression in adolescents: Social-psychological functioning of aggressors and victims. *Journal of Clinical Child Psychology, 30*, 477-489.

Prinstein, M. J., Cheah, C. L., & Guyer, A. E. (2005). Peer victimization, cue interpretation, and internalizing symptoms: Preliminary concurrent and longitudinal findings for children and adolescents. *Journal of Clinical Child and Adolescent Psychology, 34*(1), 11-24.

Reijntjes, A., Kamphuis, J. H., Prinzie, P., & Telch, M. J. (2010). Peer victimization and internalizing problems in children: A meta-analysis of longitudinal studies. *Child Abuse & Neglect, 34*(4), 244-252.

Rigby, K., & Slee, P. (1999). Suicidal ideation among adolescent school children, involvement in bully—victim problems, and perceived social support. *Suicide and Life-Threatening Behavior*, *29*(2), 119-130.

Roland, E. (2002). Bullying, depressive symptoms and suicidal thoughts. *Educational Research*, *44*(1), 55-67.

Romero-Canyas, R., Downey, G., Berenson, K., Ayduk, O., & Kang, N. (2010). Rejection sensitivity and the rejection-hostility link in romantic relationships. *Journal of Personality, 78*(1), 119-148.

Rose, A. J., & Asher, S. R. (2004). Children's strategies and goals in response to help-giving and help-seeking tasks within a friendship. *Child Development*, *75*, 749-763.

Rubin, K. H., Bukowski, W., & Parker, J. (2006). Peer interactions, relationships, and groups. In N. Eisenberg (Ed.), *Handbook of child psychology: Social, emotional, and personality development* (6th ed., pp. 571-645). New York: Wiley.

Rubin, K. H., Burgess, K. B., Kennedy, A. E., Stewart, S. (2003). Social withdrawal in childhood. In E. J. Mash & R. A. Barkley (Eds.), *Child psychopathology* (2nd ed., pp. 372-406). New York: Guilford Publications.

Rubin, K. H., & Mills, R. S. L. (1988). The many faces of social isolation in childhood. *Journal of Consulting and Clinical Psychology, 56*, 916-924.

Rudolph, K. D., Ladd, G., & Dinella, L. (2007). Gender differences in the interpersonal consequences of early-onset depressive symptoms. *Merrill-Palmer Quarterly, 53*(3), 461-488.

Runions, K., Shapka, J. D., Dooley, J., & Modecki, K. (2013). Cyber-aggression and victimization and social information processing: Integrating the medium and the message. *Psychology of Violence*, *3*(1), 9.

Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, *66*(1), 20-40.

Şahin, M. (2012). The relationship between the cyberbullying/cybervictmization and loneliness among adolescents. *Children and Youth Services Review*, *34*(4), 834-837.

Salmivalli, C., & Peets, K. (2009). Bullies, victims, and the bully-victim relationships in middle childhood and early adolescence. In K. H. Rubin, W. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups.* New York: Guilford Press.

Scannell, L., & Gifford, R. (2010). The relation between natural and civic place attachment and pro-environmental behavior. *Journal of Environmental Psychology, 30,* 289-297. doi:10.1016/j.jenvp.2010.01.010

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal Of Happiness Studies*, *3*(1), 71-92.

Schreiber, J. B., Stage, F. K., King, J., Nora, A., & Barlow, E. A. (2006). Reporting Structural Equation Modeling and Confirmatory Factor Analysis Results: A Review. *The Journal Of Educational Research*, *99*(6), 323-337.

Schwartz, D. (2000). Subtypes of victims and aggressors in children's peer groups. *Journal of Abnormal Child Psychology*, *28*(2), 181-192.

Schwartz, D., Dodge, K. A., Coie, J. D., Hubbard, J. A., Cillessen, A. N., Lemerise, E. A., & Bateman, H. (1998). Social-cognitive and behavioral correlates of aggression and victimization in boys' play groups. *Journal of Abnormal Child Psychology*, *26*(6), 431-440.

Schwartz, D., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1997). The early socialization of aggressive victims of bullying. *Child Development*, *68*(4), 665-675.

Schwartz, D., & Proctor, L. J. (2000). Community violence exposure and children's social adjustment roles of emotion regulation and social cognition. *Journal of Consulting and Clinical Psychology, 68,* 670–683.

Schwartz, D., Proctor, L. J, & Chien, D. H. (2001). The aggressive victim of bullying: Emotional and behavioral dysregulation as a pathway to victimization by peers. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 147-174). New York: Guilford Press.

Seiffge-Krenke, I. (2003). Testing theories of romantic development from adolescence to young adulthood: Evidence of a developmental sequence. *International Journal of Behavioral Development, 27,* 519-531.

Siegel, R. S., La Greca, A. M., & Harrison, H. M. (2009). Peer victimization and social anxiety in adolescents: Prospective and reciprocal relationships. *Journal Of Youth And Adolescence*, *38*(8), 1096-1109.

Sijtsema, J. J., Shoulberg, E. K., & Murray-Close, D. (2011). Physiological reactivity and different forms of aggression in girls: Moderating roles of rejection sensitivity and peer rejection. *Biological Psychology*, *86*(3), 181-192.

Silvers, J. A., McRae, K., Gabrieli, J. E., Gross, J. J., Remy, K. A., & Ochsner, K. N. (2012). Age-related differences in emotional reactivity, regulation, and rejection sensitivity in adolescence. *Emotion, 1,* 1-13.

Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: Its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry*, *49*(4), 376-385.

Smyth, C. L., & MacLachlan, M. (2005). Confirmatory factor analysis of the Trinity Inventory of Precursors to Suicide (TIPS) and its relationship to hopelessness and depression. Death Studies, 29, 333–350.

Spears, B., Slee, P., Owens, L., & Johnson, B. (2009). Behind the scenes and screens: Insights into the human dimension of covert and cyberbullying. *Zeitschrift für Psychologie/Journal of Psychology*, *217*(4), 189.

Staebler, K., Helbing, E., Rosenbach, C., & Renneberg, B. (2011). Rejection sensitivity and borderline personality disorder. *Clinical Psychology & Psychotherapy, 18*(4), 275-283.

Steer**,** R. A., Kumar, G., & Ranieri, W. F. (1998). Use of the Beck Depression Inventory-II with adolescent psychiatric outpatients. *Journal of Psychopathology & Behavioral Assessment, 20(2),* 127-137.

Steinberg, L., & Silk, J. (2002). Parenting adolescents. *Handbook of parenting: Vol. 1: Children and parenting (2nd ed.)* (pp. 103-133). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.

Storch, E. A., Masia- Warner, C., Crisp, H., & Klein, R. G. (2005). Peer victimization and social anxiety in adolescence: A prospective study. *Aggressive Behavior, 31*(5), 437-452.

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The Revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. Journal of Family Issues, 17, 283–316.

Strauss, J., Muday, T., McNall, K., & Wong, M. (1997). Response style theory revisited: Gender differences and stereotypes in rumination and distraction. *Sex Roles, 36*(11-12), 771-792.

Sullivan, H. S. (1953). The interpersonal theory of psychiatry. New York: W. W. Norton.

Swenson, L. M., Nordstrom, A., & Hiester, M. (2008). The role of peer relationships in adjustment to college. *Journal Of College Student Development*, *49*(6), 551-567.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics (5th ed.)*. Boston, MA: Allyn & Bacon/Pearson Education.

Toblin, R. L., Schwartz, D., Hopmeyer Gorman, A., & Abou-ezzeddine, T. (2005). Social–cognitive and behavioral attributes of aggressive victims of bullying. *Journal of Applied Developmental Psychology, 26*(3), 329-346.

Toews, M. L., & Yazedjian, A. (2007). College adjustment among freshmen: Predictors for White and Hispanic males and females. *College Student Journal, 41*(4), 1201-1207.

Tokunaga, R. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in Human Behavior, 26*(3), 277-287.

Twyman, K., Saylor, C., Taylor, L., & Comeaux, C. (2010). Comparing children and adolescents engaged in cyberbullying to matched peers. *Cyberpsychology, Behavior, and Social Networking, 13*(2), 195-199.

Varjas, K., Henrich, C., & Meyers, J. (2009). Urban middle school students' perceptions of bullying, cyberbullying, and school safety. *Journal of School Violence, 8*(2), 159-176.

Veenstra, R., Lindenberg, S., Munniksma, A., Dijkstra, J.K. (2010). The complex relation between bullying, victimization,acceptance, and rejection: Giving special attention to status, affection, and sex differences. *Child Development, 81*, 480-486.

Vernberg, E. M., Abwender, D. A., Ewell, K. K., & Beery, S. H. (1992). Social anxiety and peer relationships in early adolescence: A prospective analysis. *Journal of Clinical Child Psychology, 21*(2), 189-196.

Waldrip, A. M., Malcolm, K. T., & Jensen-Campbell, L. (2008). With a little help from your friends: The importance of high-quality friendships on early adolescent adjustment. *Social Development, 17*, 832–852.

Wang, J., Iannotti, R. J., & Nansel, T. R. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber. *Journal of Adolescent Health, 45*(4), 368-375.

Watson, D., & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology, 33*(4), 448-457.

Weiss, B., Weisz, J. R., Politano, M., Carey, M., Nelson, W. M., & Finch, A. J. (1992). Relations among self-reported depressive symptoms in clinic-referred children versus adolescents. *Journal of Abnormal Psychology, 101*, 381-387.

Wentzel, K. R., Filisetti, L., & Looney, L. (2007). Adolescent prosocial behavior: The role of self-processes and contextual cues. *Child Development, 78*, 895-910.

Wichmann, C., Coplan, R. J., & Daniels, T. (2004). The social cognitions of socially withdrawn children. *Social Development*, *13*(3), 377-392.

Williams, S., Connolly, J., & Segal, Z. V. (2001). Intimacy in relationships and cognitive vulnerability to depression in adolescent girls. Cognitive Therapy and Research, 25(4), 477-496.

Wright, M. F., & Li, Y. (2013). The association between cyber victimization and subsequent cyber aggression: The moderating effect of peer rejection. *Journal of Youth and Adolescence*, 1-13.

Yeager, D. S., Trzesniewski, K. H., & Dweck, C. S. (2013). An implicit theories of personality intervention reduces adolescent aggression in response to victimization and exclusion. *Child Development*, *84*(3), 970-988.

Ybarra, M. L. (2004). Linkages between depressive symptomatology and Internet harassment among young regular Internet users. *CyberPsychology & Behavior*, *7*(2), 247-257.

Ybarra, M. L., & Mitchell, K. J. (2004). Online aggressor/targets, aggressors, and targets: A comparison of associated youth characteristics. *Journal of Child Psychology and Psychiatry*, *45*(7), 1308-1316.

Zwierzynska, K., Wolke, D., & Lereya, T. S. (2013). Peer victimization in childhood and internalizing problems in adolescence: A prospective longitudinal study. *Journal of Abnormal Child Psychology*, *41*(2), 309-323.

APPENDIX A
Sona Study Summary

Earn 1 research credit from home! We are interested in the relations among students' peer experiences, their thoughts and behaviors, and their adjustment to college. You must be at least 18 years old to participate in this study. Please fill out our online survey. After completion, you will receive one research credit. You can complete the survey on your own time, in the comfort of your home, but be prepared to take the survey in one sitting as the link cannot be saved for a later time. The survey should take less than one hour to complete.

APPENDIX B
Informed Consent

Exploring Cybervictimization Experiences, Outcomes, and Influential Factors
Consent Form

The purpose of this study is to better understand the personal and peer experiences of college students as they adjust to college. You are invited to participate in this study because you are 18 years of age or older and are a student of the University of Maine, currently enrolled in an undergraduate psychology course. The principal investigators of this study are Melissa Hord, a graduate student in the developmental-clinical psychology program, and Dr. Cynthia Erdley, a professor in the psychology department. Your participation in this study will help further the understanding of the experiences of college students with regard to social and personal adjustment.

What will you be asked to do during this study?

- After reading this form and indicating that you agree to participate in this study, you will be asked to respond to a series of questions. Your responses will be anonymous.
- You will be asked to complete several questionnaires using SurveyMonkey, an online survey format. The questionnaires will ask you a variety of questions about your friendships (e.g. Estimate how many friends you are regularly in contact with) and will also ask about the quality of your closest friendship (e.g. My closest friend sometimes says mean things about me to other peers). You will also be asked questions about the extent to which you have encountered negative peer experiences (e.g., My closest friend and I argue a lot; A peer sent me a mean message on a social networking site). Other questionnaires will ask you about your mood (e.g. I feel sad much of the time), thoughts (e.g. I rarely worry about seeming foolish to others.) and behavior (e.g. I helped another peer when they were having a problem) as well as general demographic (e.g, age, ethnicity) and electronic social communication (e.g. In the past week, how many hours did you spend on Facebook?)
- These questionnaires will take less than one hour to complete.

Risks:

Some questions may make you feel uncomfortable or distressed. You may stop participating at any time during the study. You may contact Dr. Erdley (Cynthia.erdley@umit.maine.edu) if you have any concerns regarding your responses. In addition, referral information for counseling services is included below if you would like to speak with someone about your experiences. If you wish to seek counseling, you may contact any of the following referral sources listed below. As a student at the University of Maine, psychological services are available for free at Counseling Center and it has after hours coverage. The Psychological Services Center provides therapy on a sliding fee scale that is dependent on your income.

Referral List

Counseling Center (free to University of Maine students)	581-4000
Psychological Services Center	581-2034
(operates on sliding fee scale based on income)	

Benefits:

Although there may be no direct benefit to you for participating in this research, your responses will tell us more about the factors involved in adjusting to college with regard to personal and social experiences. This information will help to further research in the area of college adjustment, which could lead to future interventions for those who have difficulty adjusting to college.

Compensation

You will receive one research credit for participating in the survey. Even if you choose to end the survey early, you will still receive one credit for participation.

Confidentiality:

There is a temporary link between the SurveyMonkey website and the Sona website that will ensure that you will receive credit for your participation. There will be no connection between your responses to the questionnaires and any of your identifying information. The SurveyMonkey website is encrypted to protect data during transmission. This website has been established as a secure method for the transmission of private and confidential information in the form of surveys and questionnaires. SurveyMonkey has taken many safety measures to insure security in their software, hardware, network, and physical database in order to keep information confidential; you may view details regarding their security measures at www.surveymonkey.com. After we have finished collecting data (March, 2014), we will download it to a database in Dr. Erdley's locked lab and the data file will be deleted from SurveyMonkey. Your answers to the questionnaires will be kept indefinitely in Dr. Erdley's locked laboratory. If the study is published or presented, only information based upon the entire group of participants will be used.

Questions?

If at any time you have questions or concerns about your participation in this project, you may contact Melissa Hord via first class. You may also contact Dr. Cynthia Erdley at 581-2040 or via first class. If you have any questions about your rights as a research participant, please contact Gayle Jones, Assistant to the University of Maine's Protection of Human Subjects Review Board. Gayle Jones can be reached on FirstClass, (207) 581-1498, or at 114 Alumni Hall, Orono, ME 04469.

If you would like to print the consent form, go to File on your toolbar and click on print.

Voluntary

Your participation in this study is voluntary. You may skip any questions you prefer not to answer. You may choose to withdraw from the study at any point.

Would you like participate in this study?
_____Yes
_____No

APPENDIX C
Thank you

Thank you for your time and participation in our study! Your responses will help us to better understand the social and personal experiences of college students and they are greatly appreciated.

You have earned one credit towards your research participation requirement for your psychology course. We greatly appreciate your participation in our study!

If you are experiencing any distress after completing the questionnaires and would like to seek counseling, we encourage you to contact the Counseling Center or the Psychological Services Center listed below.

Referral List

Counseling Center (free to University of Maine students)	581-4000
Psychological Services Center	581-2034
(operates on sliding fee scale based on income)	

APPENDIX D
Demographic and Online Activity Questionnaire

Please provide the following information about yourself:

1. What is your gender?
    a. Male
    b. Female
2. Please enter your age:
3. Ethnicity
    a. Caucasian
    b. Asian
    c. Hispanic
    d. African American
    e. American Indian
    f. Other (please specify)
4. What year are you at UMaine?
    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior
    e. Non-degree student
5. Please enter the number of semesters have you completed in college:
6. Where do you live
    a. On campus – alone
    b. On campus – with roommates
    c. Off campus - alone
    d. Off campus with relatives
    e. Off campus with nonrelatives
7. What is the highest level of education attained by your mother?
    a. Less than a high school education
    b. High school graduate/GED
    c. Some college
    d. College degree
    e. Graduate/Professional degree
8. What is the highest level of education attained by your father?
    a. Less than a high school education
    b. High school graduate/GED
    c. Some college
    d. College degree
    e. Graduate/Professional degree
9. On a scale from 1(not at all true) to 5(really true) please rate the following:
    a. I am excited about college 1 2 3 4 5
    b. I dread attending college 1 2 3 4 5
    c. I have to just get through college 1 2 3 4 5

10. What are your grades at UMaine mostly like so far?
    a. A's
    b. B's
    c. C's
    d. D's
    e. F's
    f. None yet
11. Do you have the Internet where you currently live?
    a. Yes
    b. No
12. Do you have a cell phone? –Yes –No **If you mark NO, proceed to question 13.**
    a. Does it have a camera? –Yes –No
    b. Do you use it to send text messages? –Yes –No
    c. Do you have unlimited text messaging? –Yes –No
    d. Do you use it to access the Internet and/or applications that use the Internet? –Yes –No
    e. Do you have unlimited data? –Yes –No
13. Please estimate the number of friends you are regularly in contact with (e.g., in person, calling, online, texting):
14. Please enter the number of BEST friends you have:
15. Please estimate how many hours you spend online each **DAY**:
16. In the past **WEEK**, please estimate the number of hours you have spent using the following to communicate with friends, family, and acquaintances?
    a. Facebook:
    b. Instagram:
    c. Tumblr:
    d. Twitter:
    e. Email:
    f. Texting:
    g. Talking on the phone:
    h. If you use a different application to communicate with friends over the Internet (other than Facebook, Instagram, Tumblr, Twitter, or Email), please list each one here:
        i. Please estimate the number of hours you have spent using this or these other forms of communication this week:

APPENDIX E

Social Networking- Peer Experiences Questionnaire

These questions ask about some things that peers do. Please rate how often these things have happened to you in the past year.

Use this scale:
1 = Never 2 = Once or twice 3 = A few times 4 = About once a week 5= A few times a week

1. A peer I wanted to be friends with on a social networking site (e.g., Facebook) ignored my friend request. **1 2 3 4 5**

2. A peer removed me from his/her list of friends on a social networking site **1 2 3 4 5**

3. A peer made me feel bad by not listing me in his/her "Top 8" or "Top Friends" list. **1 2 3 4 5**

4. A peer posted mean things about me on a public portion of a social networking site (SNS) (e.g., a Facebook "wall post", photo comment) **1 2 3 4 5**

5. A peer posted mean things about me anonymously on an Internet site. **1 2 3 4 5**

6. A peer posted pictures of me on a SNS that made me look bad. **1 2 3 4 5**

7. A peer shared embarrassing pictures or videos of me through a SNS, email, or texting. **1 2 3 4 5**

8. A peer tried to get me in trouble with parents, teachers or others by posting pictures or comments about me on a SNS. **1 2 3 4 5**

9. A peer spread rumors about me or revealed secrets I had told them using public posts on a SNS. **1 2 3 4 5**

10. A peer sent me a mean message on a SNS. **1 2 3 4 5**

11. A peer pretended to be me on a SNS and did things to make me look bad/damage my friendships. **1 2 3 4 5**

12. A peer prevented me from joining a group on a SNS that I really wanted to be a part of. **1 2 3 4 5**

13. A peer created a group on a SNS to be mean and hurt my feelings. **1 2 3 4 5**

14. I found out that I was excluded from a party or social event over a SNS (e.g.., Facebook) **1 2 3 4 5**

15. A peer sent me a mean message by text messaging. **1 2 3 4 5**

16. A person I was dating broke up with me using a SNS. **1 2 3 4 5**

17. A peer made me feel jealous by "messing" with my girlfriend/boyfriend on a SNS (e.g.., posting pictures together, writing messages on a Facebook wall, ranking him/her in a "Top 8" or "Top Friends") **1 2 3 4 5**

18. Using the space below, are there any other things that peers have done to you using any form of electronic media (social networking sites, web sites, texting, instant messaging, etc.) that hurt you, made you upset or angry, damaged your relationship with someone, damaged your reputation, or anything else you'd like to share with us?

APPENDIX F

Ambiguous Cyber Situations Questionnaire

The following scenarios describe things that sometimes happen in online communication. Please imagine that each situation has happened to you and answer the questions thinking about how you would feel and respond IN THE MOMENT.

(rating scale for each below A, B, and C sections)
1= not at all likely, 2= a little likely, 3= somewhat likely, 4= pretty likely, 5= really likely

---

1. You notice that many of your friends are online so you post exciting news on a social networking site (e.g., Facebook, Instagram, Twitter, Tumblr) but no one responds.

   A. Which do you think is more likely? (choose one)
      a. You are being ignored on purpose. **1 2 3 4 5**
      b. No one noticed the post. **1 2 3 4 5**

   B. How likely are you to think each of these is a reason no one responded?
      a. My friends are being rude. **1 2 3 4 5**
      b. I am not good at writing posts. **1 2 3 4 5**
      c. I didn't try hard enough to make my post interesting to my friends. **1 2 3 4 5**
      d. My friends were distracted with other things. **1 2 3 4 5**

   C. How likely would you be to do each of the following?
      a. Repeatedly check for a response throughout the day. **1 2 3 4 5**
      b. Purposely not post again for a while. **1 2 3 4 5**
      c. Post a general negative message to everyone. **1 2 3 4 5**
      d. Actively respond to others' posts to encourage responding to mine. **1 2 3 4 5**

   D. Which one are you most likely to do? (choose one)
      a. Repeatedly check for a response throughout the day.
      b. Purposely not post again for a while.
      c. Post a general negative message to everyone.
      d. Actively respond to others' posts to encourage responding to mine.

2. In response to one of your posts, a friend writes a sarcastic comment about you.

   A. Which do you think is more likely? (choose one)
      a. You are being criticized on purpose. **1 2 3 4 5**
      b. It is just friendly teasing. **1 2 3 4 5**

   B. How likely are you to think each of these is a reason you were sent this comment?
      a. My friend is being mean. **1 2 3 4 5**
      b. I do not know how to stick up for myself. **1 2 3 4 5**
      c. If I spent more time working on posts, my posts would be better. **1 2 3 4 5**
      d. My friend was being funny. **1 2 3 4 5**

   C. How likely would you be to do each of the following?
      a. Re-read the post several times. **1 2 3 4 5**
      b. Don't get online again for quite a while. **1 2 3 4 5**
      c. Respond with a negative comment about them **1 2 3 4 5**
      d. Ask my friend what he or she meant. **1 2 3 4 5**

   D. Which one are you most likely to do? (choose one)
      a. Re-read the post several times.
      b. Don't get online again for quite a while.
      c. Respond with a negative comment about them
      d. Ask my friend what he or she meant.

---

3. You are in a picture that someone else posts and you do not like the way you look.

   A. Which do you think is more likely? (choose one)
      a. They are trying to make you look bad on purpose. **1 2 3 4 5**
      b. They did not realize I would not like the picture. **1 2 3 4 5**

   B. How likely are you to think each of these is a reason they posted the picture?
      a. My friend is being mean. **1 2 3 4 5**
      b. I just do not know how to look good in photos. **1 2 3 4 5**
      c. I didn't put enough effort into looking good. **1 2 3 4 5**
      d. They posted it because of the others in the picture, not me. **1 2 3 4 5**

   C. How likely would you be to do each of the following?
      a. Look at the picture several times to scrutinize your image. **1 2 3 4 5**
      b. Purposely stay away from those friends for a while. **1 2 3 4 5**
      c. Post a picture of them in which they look bad **1 2 3 4 5**
      d. I would 'untag' myself from the picture. **1 2 3 4 5**

   D. Which one are you most likely to do? (choose one)
      a. Look at the picture several times to scrutinize your image.
      b. Purposely stay away from those friends for a while.
      c. Post a picture of them in which they look bad
      d. I would 'untag' myself from the picture.

4. You just had lunch with a friend and you were late meeting him/her. When you get home you see that he/she posted a status "had the worst day ever."

   A. Which do you think is more likely? (choose one)
      a. He/she is having a bad day because of your lunch together. **1 2 3 4 5**
      b. It's just a coincidence and not because of me. **1 2 3 4 5**

   B. How likely are you to think each of these is a reason for her post?
      a. He/she is referring to our lunch. **1 2 3 4 5**
      b. I am just not a reliable friend. **1 2 3 4 5**
      c. I should have tried harder to be on time. **1 2 3 4 5**
      d. Something else happened to him/her. **1 2 3 4 5**

   C. How likely would you be to do each of the following?
      a. Repeatedly check several times throughout the day for more explanation. **1 2 3 4 5**
      b. Purposely not communicate with her for a while. **1 2 3 4 5**
      c. Respond to the post with criticism **1 2 3 4 5**
      d. Ask him/her for an explanation. **1 2 3 4 5**

   D. Which one are you most likely to do? (choose one)
      a. Repeatedly check several times throughout the day for more explanation.
      b. Purposely not communicate with her for a while.
      c. Respond to the post with criticism
      d. Ask him/her for an explanation.

5. It's Friday night and you do not have any plans. You see pictures of your friends hanging out or notice that they 'checked in' to a location.

   A. Which do you think is more likely? (choose one)
      a. You were left out on purpose. **1 2 3 4 5**
      b. It was an accident that you were not included. **1 2 3 4 5**

   B. How likely are you to think each of these is a reason you were not invited?
      a. My friends are being mean. **1 2 3 4 5**
      b. I am not entertaining enough in social situations. **1 2 3 4 5**
      c. I have not tried hard enough to be part of the group. **1 2 3 4 5**
      d. They must have forgotten to call me by mistake. **1 2 3 4 5**

   C. How likely would you be to do each of the following?
      a. Repeatedly check for updates all night. **1 2 3 4 5**
      b. Purposely not hang out with those friends for a while. **1 2 3 4 5**
      c. Respond to a friend's post with criticism for being left out **1 2 3 4 5**
      d. Post a positive comment to the picture. **1 2 3 4 5**

   D. Which one are you most likely to do? (choose one)
      a. Repeatedly check for updates all night.
      b. Purposely not hang out with those friends for a while.
      c. Respond to a friend's post with criticism for being left out
      d. Post a positive comment to the picture.

6. It's your birthday and several close family members have wished you well on a social networking site but many of your friends have not.

   A. Which do you think is more likely? (choose one)
      a. You are being ignored on purpose. **1 2 3 4 5**
      b. Your friends have not realized it is your birthday. **1 2 3 4 5**

   B. How likely are you to think each of these is a reason your friends have not posted a message to you?
      a. My friends are being mean. **1 2 3 4 5**
      b. I am not good at letting others know what I need. **1 2 3 4 5**
      c. I haven't tried hard enough to connect with my friends lately. **1 2 3 4 5**
      d. My friends haven't been online yet today. **1 2 3 4 5**

   C. How likely would you be to do each of the following?
      a. Repeatedly check for messages throughout the day. **1 2 3 4 5**
      b. Purposely not post again for a while. **1 2 3 4 5**
      c. Post a public message thanking your family for being your only support **1 2 3 4 5**
      d. Remind people that it is my birthday today. **1 2 3 4 5**

   D. Which one are you most likely to do? (choose one)
      a. Repeatedly check for messages throughout the day.
      b. Purposely not post again for a while.
      c. Post a public message thanking your family for being your only support
      d. Remind people that it is my birthday today.

---

7. You send a group text message to your friends inviting them to come over for a party. After a few hours, no one has responded.

   A. Which do you think is more likely? (choose one)
      a. Your friends ignored you on purpose. **1 2 3 4 5**
      b. They have not read the text message yet. **1 2 3 4 5**

   B. How likely are you to think each of these is a reason for your friends not responding?
      a. Your friends don't like you. **1 2 3 4 5**
      b. I am not good at writing text messages. **1 2 3 4 5**
      c. I should have tried harder to contact them in person. **1 2 3 4 5**
      d. My friends have not responded because they are just busy. **1 2 3 4 5**

   C. How likely would you be to do each of the following?
      a. Keep thinking about what happened. **1 2 3 4 5**
      b. Purposely not talk to these friends for a while. **1 2 3 4 5**
      c. Send these friends hurtful text messages. **1 2 3 4 5**
      d. Ask these friends to hang out another time. **1 2 3 4 5**

   D. Which one are you most likely to do? (choose one)
      a. Keep thinking about what happened.
      b. Purposely not talk to these friends for a while.
      c. Send these friends hurtful text messages.
      d. Ask these friends to hang out another time.

8. You search for a friend's Facebook page but discover they have 'unfriended' you.

A. Which do you think is more likely? (choose one)

a. They deleted you on purpose. **1 2 3 4 5**

b. They did not intend to offend you. **1 2 3 4 5**

B. How likely are you to think each of these is a reason for your friend deleting you on Facebook?

a. My friend is being mean. **1 2 3 4 5**

b. I am not a good friend to this person. **1 2 3 4 5**

c. I was not friendly enough to them. **1 2 3 4 5**

d. We just grew apart. **1 2 3 4 5**

C. How likely would you be to do each of the following?

a. Keep thinking about what happened. **1 2 3 4 5**

b. Purposely not talk to this friend for a while. **1 2 3 4 5**

c. Send this friend a mean message on Facebook. **1 2 3 4 5**

d. Send this person a friend request. **1 2 3 4 5**

D. Which one are you most likely to do? (choose one)

a. Keep thinking about what happened.

b. Purposely not talk to this friend for a while.

c. Send this friend a mean message on Facebook.

d. Send this person a friend request.

APPENDIX G
Beck Depression Inventory-II

Instructions: This questionnaire consists of 20 groups of statements. Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. If several statements in the group seem to apply equally well, choose the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1. Sadness
 0 I do not feel sad.
 1 I feel sad much of the time.
 2 I am sad all the time.
 3 I am so sad or unhappy that I can't stand it.

2. Pessimism
 0 I am not discouraged about my future.
 1 I feel more discouraged about my future than I used to be.
 2 I do not expect things to work out for me.
 3 I feel my future is hopeless and will only get worse.

3. Past Failure
 0 I do not feel like a failure.
 1 I have failed more than I should have.
 2 As I look back, I see a lot of failures.
 3 I feel I am a total failure as a person.

4. Loss of Pleasure
 0 I get as much pleasure as I ever did from the things I enjoy.
 1 I don't enjoy things as much as I used to.
 2 I get very little pleasure from the things I used to enjoy.
 3 I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings
 0 I don't feel particularly guilty.
 1 I feel guilty over many things I have done or should have done.
 2 I feel quite guilty most of the time.
 3 I feel guilty all of the time.

6. Punishment Feelings
 0 I don't feel I am being punished.
 1 I feel I may be punished.
 2 I expect to be punished.
 3 I feel I am being punished.

7. Self-Dislike
 0 I feel the same about myself as ever.
 1 I have lost confidence in myself.
 2 I am disappointed in myself.
 3 I dislike myself.

8. Self-Criticalness
 0 I don't criticize or blame myself more than usual.
 1 I am more critical of myself than I used to be.
 2 I criticize myself for all of my faults.
 3 I blame myself for everything bad that happens.

9. Crying
 0 I don't cry anymore than I used to.
 1 I cry more than I used to.
 2 I cry over every little thing.
 3 I feel like crying, but I can't.

10. Agitation
 0 I am no more restless or wound up than usual.
 1 I feel more restless or wound up than usual.
 2 I am so restless or agitated that it's hard to stay still.
 3 I am so restless or agitated that I have to keep moving or doing something.

11. Loss of Interest
 0 I have not lost interest in other people or activities.
 1 I am less interested in other people or things than before.
 2 I have lost most of my interest in other people or things.
 3 It's hard to get interested in anything.

12. Indecisiveness
 0 I make decisions about as well as ever.
 1 I find it more difficult to make decisions than usual.
 2 I have much greater difficulty in making decisions than I used to.
 3 I have trouble making any decisions.

13. Worthlessness
 0 I do not feel I am worthless.
 1 I don't consider myself as worthwhile and useful as I used to.
 2 I feel more worthless as compared to other people.
 3 I feel utterly worthless

14. Loss of Energy
 0 I have as much energy as ever.
 1 I have less energy than I used to have.
 2 I don't have enough energy to do very much.
 3 I don't have enough energy to do anything.

15. Changes in Sleeping Pattern
 0 I have not experienced any change in my sleeping pattern.
 1a I sleep somewhat more than usual.
 1b I sleep somewhat less than usual.
 2a I sleep a lot more than usual.
 2b I sleep a lot less than usual
 3a I sleep most of the day.
 3b I wake up 1-2 hours early and can't get back to sleep.

16. Irritability
 0 I am no more irritable than usual.
 1 I am more irritable than usual.
 2 I am much more irritable than usual.
 3 I am irritable all the time.

17. Changes in Appetite
 0 I have not experienced any change in my appetite.
 1a My appetite is somewhat less than usual.
 1b My appetite is somewhat greater than usual.
 2a My appetite is much less than before.
 2b My appetite is much greater than usual.
 3a I have no appetite at all.
 3b I crave food all the time.

18. Concentration Difficulty
 0 I can concentrate as well as ever.
 1 I can't concentrate as well as usual.
 2 It's hard to keep my mind on anything for very long.
 3 I find I can't concentrate on anything.

19. Tiredness or Fatigue
 0 I am no more tired or fatigued than usual.
 1 I get more tired or fatigued more easily than usual.
 2 I am too tired or fatigued to do a lot of the things I used to do.
 3 I am too tired or fatigued to do most of the things I used to do.

20. Loss of Interest in Sex
 0 I have not noticed any recent change in my interest in sex.
 1 I am less interested in sex than I used to be.
 2 I am much less interested in sex now.
 3 I have lost interest in sex completely.

APPENDIX H
Friendship Quality Questionnaire

On the line below each question, please choose the word that you think best answers the question. For the following questions, please think about your *closest friend*.

Please enter the name of your closest friend: (the name entered will be inserted into each question below)

1. **_____ makes me feel good about my ideas.**

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

2. **_____ and I make up easily when we have a fight.**

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

3. **_____ and I argue a lot.**

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

4. **_____ helps me so I can accomplish tasks faster.**

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

5. **_____ and I always eat together.**

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

6. **_____ and I always tell each other our problems.**

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

7. **_____ tells me I am good at things.**

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

8. _____ and I get over our arguments really quickly.

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

9. _____ and I fight a lot.

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

10. _____ and I help each other with school work a lot.

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

11. _____ and I always pick each other as partners for things.

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

12. _____ and I talk about the things that make us sad.

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

13. _____and I make each other feel important and special.

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

14. _____ and I talk about how to get over being mad at each other.

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

15. _____ and I get mad a lot.

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

16. _____ and I give advice when figuring things out.

I1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

17. _____ and I always hang out together.

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

18. I talk to _____ when I'm mad about something that happened to me.

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all true a little true somewhat true pretty true really true

APPENDIX I
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?

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

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? very unconcerned very concerned 1 2 3 4 5 6

I would expect that the person would willingly give me his/her notes. very unlikely very likely 1 2 3 4 5 6

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? very unconcerned very concerned 1 2 3 4 5 6

I would expect that he/she would want to move in with me. very unlikely very likely 1 2 3 4 5 6

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? very unconcerned very concerned 1 2 3 4 5 6

I would expect that they would want to help me. very unlikely very likely 1 2 3 4 5 6

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? very unconcerned very concerned 1 2 3 4 5 6

I would expect that the person would want to go out with me. very unlikely very likely 1 2 3 4 5 6

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? very unconcerned very concerned 1 2 3 4 5 6

I would expect that the person would willingly choose to stay in. very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that my parents would not mind helping me out.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that my professor would want to help me out.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that he/she would want to talk with me to try to work things out.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that the person would want to go with me.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect I would be welcome at home.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that he/she would want to go with me.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that he/she would want to see me.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that he/she would willingly loan me it.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that my parents would want to come.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that he/she would willingly do this favor for me.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that he/she would answer yes sincerely.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that he/she would want to dance with me.	very unlikely very likely 1 2 3 4 5 6

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?	very unconcerned very concerned 1 2 3 4 5 6
I would expect that he/she would want to meet my parents.	very unlikely very likely 1 2 3 4 5 6

APPENDIX J
Social Avoidance and Distress (SAD) Scale

Instructions: The following statements describe how people sometimes feel. If the statement describes the way you usually feel, mark your response as "True." If the statement does not describe the way you usually feel, mark it as "False."

1. I feel relaxed even in unfamiliar social situations……..____
2. I try to avoid situations which force me to be very sociable……..____
3. It is easy for me to relax when I am with strangers..……...____
4. I have no particular desire to avoid people……..____
5. I often find social occasions upsetting……____
6. I usually feel calm and comfortable at social occasions……..____
7. I am usually at ease when talking to someone of the opposite sex……..____
8. I try to avoid talking to people unless I know them well……____
9. If the chance comes to meet new people, I often take it……..____
10. I often feel nervous or tense in casual get-togethers in which both sexes are present__
11. I am usually nervous with people unless I know them well……....____
12. I usually feel relaxed when I am with a group of people…….____
13. I often want to get away from people…….....____
14. I usually feel uncomfortable when I am in a group of people I don't know…….....____
15. I usually feel relaxed when I meet someone for the first time…….....____
16. Being introduced to people makes me tense and nervous…….....____
17. Even though a room is full of strangers, I may enter it anyway……..…____
18. I would avoid walking up and joining a large group of people……...____
19. When my superiors want to talk with me, I talk willingly…….....____
20. I often feel on edge when I am with a group of people…….....____
21. I tend to withdraw from people…….....____
22. I don't mind talking to people at parties or social gatherings……..…____
23. I am seldom at ease in a large group of people…….……...____
24. I often think up excuses in order to avoid social engagements……....____
25. I sometimes take the responsibility for introducing people to each other…….....____
26. I try to avoid formal social occasions……..…____
27. I usually go to whatever social engagements I have…….....____
28. I find it easy to relax with other people…….....____

APPENDIX K
Fear of Negative Evaluation (FNE)

Instructions: The following statements describe how people sometimes feel. If the statement describes the way you usually feel, mark your response as "True." If the statement does not describe the way you usually feel, mark it as "False."

1. I rarely worry about seeming foolish to others…….....____

2. I worry about what people will think of me even when I know it doesn't make any difference…….____

3. I become tense and jittery if I know someone is sizing me up……..____

4. I am unconcerned even if I know people are forming an unfavorable impression of me…….____
5. I feel very upset when I commit some social error…… ____

6. The opinions that important people have of me cause me little concern…….____

7. I am often afraid that I may look ridiculous or make a fool of myself…….……...____

8. I react very little when other people disapprove of me……..…….....____

9. I am frequently afraid of other people noticing my shortcomings…….....____

10. The disapproval of others would have little effect on me……____

11. If someone is evaluating me I tend to expect the worst……..…..…..____

12. I rarely worry about what kind of impression I am making on someone…….....____

13. I am afraid that others will not approve of me…….....____

14. I am afraid that people will find fault with me……..…….....____

15. Other people's opinions of me do not bother me……..….....____

16. I am not necessarily upset if I do not please someone……..…….....____

17. When I am talking to someone, I worry about what they may be thinking about me…….…….____

18. I feel that you can't help making social errors sometimes, so why worry about it..____

19. I am usually worried about what kind of impression I make…….....____

20. I worry a lot about what my superiors think of me……...…….____

21. If I know someone is judging me, it has little effect on me…….....____

22. I worry that others will think I am not worthwhile……..…..……....____

23. I worry very little about what others may think of me…….....____

24. Sometimes I think I am too concerned with what other people think of me…….____

25. I often worry that I will say or do the wrong things……..____

26. I am often indifferent to the opinions others have of me…….....____

27. I am usually confident that others will have a favorable impression of me…....____

28. I often worry that people who are important to me won't think very much of me____

29. I brood about the opinions my friends have about me…….....____

30. I become tense and jittery if I know I am being judged by my superiors……..____

APPENDIX L
UCLA Loneliness Scale, Version 3

Instructions: The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by writing a number in the space provided.
Here is an example:

How often do you feel happy?

If you never felt happy, you would respond "never"; if you always feel happy, you would respond "always."

NEVER	RARELY	SOMETIMES	ALWAYS
1	2	3	4

1. How often do you feel that you are "in tune" with the people around you? _____
2. How often do you feel that you lack companionship? _____
3. How often do you feel that there is no one you can turn to? _____
4. How often do you feel alone? _____
5. How often do you feel part of a group of friends? _____
6. How often do you feel that you have a lot in common with the people around you? _____
7. How often do you feel that you are no longer close to anyone? _____
8. How often do you feel that your interests and ideas are not shared by those around you? _____
9. How often do you feel outgoing and friendly? _____
10. How often do you feel close to people? _____
11. How often do you feel left out? _____
12. How often do you feel that your relationships with others are not meaningful? _____
13. How often do you feel that no one really knows you well? _____
14. How often do you feel isolated from others? _____

15. How often do you feel you can find companionship when you want it? _____

16. How often do you feel that there are people who really understand you? _____

17. How often do you feel shy? _____

18. How often do you feel that people are around you but not with you? _____

19. How often do you feel that there are people you can talk to? _____

20. How often do you feel that there are people you can turn to? _____

APPENDIX M
Revised Peer Experiences Questionnaire

These questions ask about some things that often happen between peers*. Please rate how often you have done these things to others and how often these things have happened to you in the past year.
***Peer= someone of about your age**

How often have you done this to another peer?	**How often has this happened to you?**
1. I left another peer out of an activity or conversation that they really wanted to be included in.	Some peers left me out of an activity or conversation that I really wanted to be included in.
1. Never 2. Once or twice 3. A few times 4. About once a week 5. A few times a week	1. Never 2. Once or twice 3. A few times 4. About once a week 5. A few times a week
2. I chased a peer like I was really trying to hurt him or her	A peer chased me like he or she was really trying to hurt me
1. Never 2. Once or twice 3. A few times 4. About once a week 5. A few times a week	1. Never 2. Once or twice 3. A few times 4. About once a week 5. A few times a week
3. I helped another peer when they were having a problem	Another peer helped me when I was having a problem
1. Never 2. Once or twice 3. A few times 4. About once a week 5. A few times a week	1. Never 2. Once or twice 3. A few times 4. About once a week 5. A few times a week
4. I would not sit near another peer who wanted to be with me at lunch or in class	A peer I wanted to be with would not sit near me at lunch or in class
1. Never 2. Once or twice 3. A few times 4. About once a week 5. A few times a week	1. Never 2. Once or twice 3. A few times 4. About once a week 5. A few times a week

5. I tried to damage another peers' social reputation by spreading rumors about them

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

A peer tried to damage my social reputation by spreading rumors about me

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

6. I was nice and friendly to a peer when they needed help

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

Another peer was nice and friendly to me when I needed help

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

7. I did not invite a peer to a party or other social event even though I knew the peer wanted to go.

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

A peer did not invite me to a party or social event even though they knew that I wanted to go.

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

8. I left another peer out of what I was doing

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

A peer left me out of what they were doing

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

9. I told another peer that I would not be friends with them anymore to get back at them

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

To get back at me, another peer told me that s/he would not be friends with me anymore

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

10. I stuck-up for a peer who was being picked on or excluded

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

Another peer stuck-up for me when I was being picked on or excluded

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

11. I gossiped about another peer so others would not

Another peer gossiped about me so others

like him/her

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

would not like me

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

12. I threatened to hurt or beat up another peer

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

A peer threatened to hurt or beat me up

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

13. I gave another peer the silent treatment
(did not talk to the peer on purpose)

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

A peer gave me the silent treatment
(did not talk to me on purpose)

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

14. I said mean things about a peer so that people would that people would think s/he was a loser

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

Another peer said mean things about me so people would think I was a loser

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

15. I helped a peer join into a group or conversation conversation

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

A peer helped me join into a group or

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

16. I hit, kicked, or pushed another peer in a mean way.

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

A peer hit, kicked, or pushed me in a mean way

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

17. I teased another peer in a mean way, by saying rude things or calling him or her bad names.

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

A peer teased me in a mean way, by saying rude things or calling me bad names.

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

18. I spent time with a peer when they had no one else to hang out with

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

A peer spent time with me when I had no one else to hang out with

1. Never
2. Once or twice
3. A few times
4. About once a week
5. A few times a week

APPENDIX N

Self-Perception Profile for College Students

What I Am Like

The following are statements that allow college students to describe themselves. There are no right or wrong answers since students differ markedly. Think about what you are like in the college environment as you read and answer each one.

1. a. Please choose which answer applies to you more.
   - ◊ Some students like the kind of person they are
   - ◊ Other students wish that they were different

   b. Please choose how strongly you feel about your previous answer.
   - ◊ Really true for me
   - ◊ Sort of true for me

2. a. Please choose which answer applies to you more.
   - ◊ Some students are not very proud of the work they do on their job
   - ◊ Other students are very proud of the work they do on their job

   b. Please choose how strongly you feel about your previous answer.
   - ◊ Really true for me
   - ◊ Sort of true for me

3. a. Please choose which answer applies to you more.
   - ◊ Some students feel confident they are mastering their coursework
   - ◊ Other students do not feel so confident

   b. Please choose how strongly you feel about your previous answer.
   - ◊ Really true for me
   - ◊ Sort of true for me

4. a. Please choose which answer applies to you more.
   - ◊ Some students are not satisfied with their social skills
   - ◊ Other students think their social skills are just fine

   b. Please choose how strongly you feel about your previous answer.
   - ◊ Really true for me
   - ◊ Sort of true for me

5. a. Please choose which answer applies to you more.
   - ◊ Some students are not happy with the way they look
   - ◊ Other students are happy with the way they look

   b. Please choose how strongly you feel about your previous answer.
   - ◊ Really true for me
   - ◊ Sort of true for me

6. a. Please choose which answer applies to you more.
   - ◊ Some students like the way they act when they are around their parents
   - ◊ Other students wish they acted differently around their parents

   b. Please choose how strongly you feel about your previous answer.
   - ◊ Really true for me
   - ◊ Sort of true for me

7. a. Please choose which answer applies to you more.
   - ◊ Some students get kind of lonely because they don't really have a close friend to share things with
   - ◊ Other students don't usually get too lonely because they do have a close friend to share things with

   b. Please choose how strongly you feel about your previous answer.
   - ◊ Really true for me
   - ◊ Sort of true for me

8. a. Please choose which answer applies to you more.
   - ◊ Some students feel like they are just as smart or smarter than other students
   - ◊ Other students wonder if they are as smart

   b. Please choose how strongly you feel about your previous answer.
   - ◊ Really true for me
   - ◊ Sort of true for me

9. a. Please choose which answer applies to you more.
   - ◊ Some students often question the morality of their behavior
   - ◊ Other students feel their behavior is usually moral

   b. Please choose how strongly you feel about your previous answer.
   - ◊ Really true for me
   - ◊ Sort of true for me

10. a. Please choose which answer applies to you more.
   - ◊ Some students feel that people they like romantically will be attracted to them
   - ◊ Other students worry about whether people they like romantically will be attracted to them

   b. Please choose how strongly you feel about your previous answer.
   - ◊ Really true for me
   - ◊ Sort of true for me

11. a. Please choose which answer apples to you more
    - ◊ When some students do something sort of stupid that later appears very funny, they find it hard to laugh at themselves
    - ◊ When other students do something sort of stupid that later appears very funny, they can easily laugh at themselves

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

12. a. Please choose which answer applies to you more
    - ◊ Some students feel they are just as creative or even more so than other students
    - ◊ Other students wonder if they are as creative

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

13. a. Please choose which answer applies to you more.
    - ◊ Some students feel they could do well at just about any new athletic activity they haven't tried before
    - ◊ Other students are afraid they might not do well at athletic activities they haven't ever tried

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

14. a. Please choose which answer applies to you more.
    - ◊ Some students are often disappointed with themselves
    - ◊ Other students are usually quite pleased with themselves

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

15. a. Please choose which answer applies to you more.
    - ◊ Some students feel they are very good at their job
    - ◊ Other students worry about whether they can do their job

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

16. a. Please choose which answer applies to you more.
    - ◊ Some students do very well at their studies
    - ◊ Other students don't do very well at their studies

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

17. a. Please choose which answer applies to you more.
    - ◊ Some students find it hard to make new friends
    - ◊ Other students are able to make new friends easily

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

18. a. Please choose which answer applies to you more.
    - ◊ Some students are happy with their height and weight
    - ◊ Other students wish their height or weight was different

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

19. a. Please choose which answer applies to you more.
    - ◊ Some students find it hard to act naturally when they are around their parents
    - ◊ Other students find it easy to act naturally around their parents

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

20. a. Please choose which answer applies to you more
    - ◊ Some students are able to make close friends they can really trust
    - ◊ Other students find it hard to make close friends they can really trust

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

21. a. Please choose which answer applies to you more
    - ◊ Some students do not feel they are very mentally able
    - ◊ Other students feel they are very mentally able

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

22. a. Please choose which answer applies to you more
    - ◊ Some students usually do what is morally right
    - ◊ Other students sometimes don't do what they know is morally right

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

23. a. Please choose which answer applies to you more
    - ◊ Some students find it hard to establish romantic relationships
    - ◊ Other students don't have difficulty establishing romantic relationships

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

24. a. Please choose which answer applies to you more
    - ◊ Some students don't mind being kidded by their friends
    - ◊ Other students are bothered when friends kid them

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

25. a. Please choose which answer applies to you more
    - ◊ Some students worry that they are not as creative or inventive as other people
    - ◊ Other students feel they are very creative and inventive

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

26. a. Please choose which answer applies to you more
    - ◊ Some students don't feel that they are very athletic
    - ◊ Other students do feel they are athletic

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

27. a. Please choose which answer applies to you more
    - ◊ Some students usually like themselves as a person
    - ◊ Other students often don't like themselves as a person

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

28. a. Please choose which answer applies to you more
    - ◊ Some students feel confident about their ability to do a new job
    - ◊ Other students worry about whether they can do a new job they haven't tried before

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

29. a. Please choose which answer applies to you more
    - ◊ Some students have trouble figuring out homework assignments
    - ◊ Other students rarely have trouble with their homework assignments

b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

30. a. Please choose which answer applies to you more
    - ◊ Some students like the way they interact with other people
    - ◊ Other students wish their interactions with other people were different

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

31. a. Please choose which answer applies to you more
    - ◊ Some students wish their body was different
    - ◊ Other students like their body the way it is

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

32. a. Please choose which answer applies to you more
    - ◊ Some students feel comfortable being themselves around their parents
    - ◊ Other students have difficulty being themselves around their parents

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

33. a. Please choose which answer applies to you more
    - ◊ Some students don't have a close friend they can share their personal thoughts and feelings with
    - ◊ Other students do have a friend who is close enough for them to share thoughts that are really personal

    b. Please choose how strongly you feel about your previous answer.

◊ Really true for me
◊ Sort of true for me

34. a. Please choose which answer applies to you more
◊ Some students feel they are just as bright or brighter than most people
◊ Other students wonder if they are as bright

b. Please choose how strongly you feel about your previous answer.
◊ Really true for me
◊ Sort of true for me

35. a. Please choose which answer applies to you more
◊ Some students would like to be a better person morally
◊ Other students think they are quite moral

b. Please choose how strongly you feel about your previous answer.
◊ Really true for me
◊ Sort of true for me

36. a. Please choose which answer applies to you more
◊ Some students have the ability to develop romantic relationships
◊ Other students do not find it easy to develop romantic relationships

b. Please choose how strongly you feel about your previous answer.
◊ Really true for me
◊ Sort of true for me

37. a. Please choose which answer applies to you more
◊ Some students have a hard time laughing at the ridiculous or silly things they do
◊ Other students find it easy to laugh at themselves

b. Please choose how strongly you feel about your previous answer.
◊ Really true for me
◊ Sort of true for me

38. a. Please choose which answer applies to you more
◊ Some students do not feel they are very inventive
◊ Other students feel that they are very inventive

b. Please choose how strongly you feel about your previous answer.
◊ Really true for me
◊ Sort of true for me

39. a. Please choose which answer applies to you more
◊ Some students feel that they are better than others at sports
◊ Other students don't feel they can play as well

b. Please choose how strongly you feel about your previous answer.
◊ Really true for me

◊ Sort of true for me

40. a. Please choose which answer applies to you more
    ◊ Some students really like the way they are leading their lives
    ◊ Other students often don't like the way they are leading their lives

    b. Please choose how strongly you feel about your previous answer.
    ◊ Really true for me
    ◊ Sort of true for me

41. a. Please choose which answer applies to you more
    ◊ Some students are not satisfied with the way they do their job
    ◊ Other students are quite satisfied with the way they do their job

    b. Please choose how strongly you feel about your previous answer.
    ◊ Really true for me
    ◊ Sort of true for me

42. a. Please choose which answer applies to you more
    ◊ Some students sometimes do not feel intellectually competent at their studies
    ◊ Other students usually do feel intellectually competent at their studies

    b. Please choose how strongly you feel about your previous answer.
    ◊ Really true for me
    ◊ Sort of true for me

43. a. Please choose which answer applies to you more
    ◊ Some students feel that they are socially accepted by many people
    ◊ Other students wish more people accepted them

    b. Please choose how strongly you feel about your previous answer.
    ◊ Really true for me
    ◊ Sort of true for me

44. a. Please choose which answer applies to you more
    ◊ Some students like their physical appearance the way it is
    ◊ Other students do not like their physical appearance

    b. Please choose how strongly you feel about your previous answer.
    ◊ Really true for me
    ◊ Sort of true for me

45. a. Please choose which answer applies to you more
    ◊ Some students find they are unable to get along with their parents
    ◊ Other students get along with their parents quite well

    b. Please choose how strongly you feel about your previous answer.
    ◊ Really true for me
    ◊ Sort of true for me

46. a. Please choose which answer applies to you more
    - ◊ Some students are able to make really close friends
    - ◊ Other students find it hard to make really close friends

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

47. a. Please choose which answer applies to you more
    - ◊ Some students would really rather be different
    - ◊ Other students are very happy being the way they are

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

48. a. Please choose which answer applies to you more
    - ◊ Some students question whether they are very intelligent
    - ◊ Other students feel they are intelligent

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

49. a. Please choose which answer applies to you more
    - ◊ Some students live up to their own moral standards
    - ◊ Other students have trouble living up to their moral standards

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

50. a. Please choose which answer applies to you more
    - ◊ Some students worry that when they like someone romantically, that person won't like them back
    - ◊ Other students feel that when they are romantically interested in someone, that person will like them back

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

51. a. Please choose which answer applies to you more
    - ◊ Some students can really laugh at certain things they do
    - ◊ Other students have a hard time laughing at themselves

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

52. a. Please choose which answer applies to you more
    - ◊ Some students feel they have a lot of original ideas
    - ◊ Other students question whether their ideas are very original

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

53. a. Please choose which answer applies to you more
    - ◊ Some students don't do well at activities requiring physical skill
    - ◊ Other students are good at activities requiring physical skill

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

54. a. Please choose which answer applies to you more
    - ◊ Some students are often dissatisfied with themselves
    - ◊ Other students are usually satisfied with themselves

    b. Please choose how strongly you feel about your previous answer.
    - ◊ Really true for me
    - ◊ Sort of true for me

BIOGRAPHY OF THE AUTHOR

Melissa Hord was born in Harrisburg, Pennsylvania on July 1, 1974. She was raised in Plano, Texas and graduated from Plano East Senior High School in 1992. She spent 10 years working as a project manager at an information technology company before transitioning into the field of psychology. She graduated from The University of Missouri in 2008 with a Bachelor's degree in Psychology. She entered the developmental-clinical track of the doctoral training program in Clinical Psychology at The University of Maine in 2009 and completed a clinical internship at Indiana University School of Medicine. After receiving her degree, Melissa will be completing the Medical Psychology Fellowship in Clinical Child Psychology at The Mayo Clinic in Rochester, Minnesota. Melissa is a candidate for the Doctor of Philosophy degree in Psychology from The University of Maine in December 2015, with degree requirements complete as of September 1, 2015.