PERSONALITY, REJECTION SENSITIVITY AND PERCEPTIONS OF SOCIAL SUPPORT ADEQUACY AS PREDICTORS OF COLLEGE STUDENTS' DEPRESSIVE SYMPTOMS

A thesis presented to the faculty of the Graduate School of Western Carolina University in partial fulfillment of the requirements for the degree of Master of Arts in Clinical Psychology.

By

Jessica Leigh Kelliher

Director: Dr. Kia K. Asberg
Assistant Professor
Psychology Department

Committee Members: Dr. David M. McCord, Psychology
Dr. Erin Myers, Psychology

April 2013

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

ABSTRACT

PERSONALITY, REJECTION SENSITIVITY AND PERCEPTIONS OF SOCIAL

SUPPORT ADEQUACY AS PREDICTORS OF COLLEGE STUDENTS'

DEPRESSIVE SYMPTOMS

Jessica Leigh Kelliher

Western Carolina University (April 2013)

Director: Dr. Kia K. Asberg

Depression is a common and potentially detrimental occurrence among emerging adults (18 to 25-year-olds), especially those enrolled in college. Underlying personality traits may predispose an individual to experience symptoms of depression, especially in the face of perceived rejection or inadequate social support. Contrary, adequate social support may "buffer" against the negative effects of certain personality traits (e.g., neuroticism) and the individual's level of rejection sensitivity. Less is known about the interplay among these variables and the extent to which rejection sensitivity and perceived social support predict depressive symptoms above the more stable personality traits. Thus, the present study explored the role of personality, rejection sensitivity, and perceptions of social support from friends, family, and significant others in the prediction of depressive symptoms, with a specific aim of identifying possible variables for intervention with college students who may be at high risk of depression and its negative consequences.

College students ($N = 234$) from a comprehensive southeastern regional college completed questionnaires pertaining to depression, personality, social support, rejection

sensitivity, and life stress. Results indicated that, for the total sample, perceived social support, rejection sensitivity, perceived life stress, and the personality traits of neuroticism, agreeableness, extraversion, and conscientiousness, were all significantly correlated with depressive symptom scores. A regression equation for the five factor model (FFM) of personality determined that neuroticism and openness to experience contribute significant variance in depressive scores. Further, it was determined that perceived social support and perceived life stress also contribute significant variance to depressive symptom scores after controlling for the influence of personality. Results are suggestive of many targets of intervention in therapeutic settings, aimed at reducing depressive symptoms in college students.

CHAPTER ONE: INTRODUCTION

In any given year, about one third of emerging adults in college (i.e., 18 to 25-year-olds; Arnett, 2000) experience depressive symptoms that interfere with their ability to function (Eiser, 2011). This large statistic is compared to the 6.7% of adults in the general United States population who experience depressive symptoms during any given 12 month period (Kessler, Chium, Demler, & Watters, 2005) and the 17 to 18% that experience a Major Depressive Disorder (MDD) at some point in their life (Craighead, Sheets, Craighead, & Madsen, 2011). In addition, a study by Furr, Westefled, McDonnell, and Jenkins (2011) found that 53% of college students will experience depression at some point during their college career. One large problem with MDD is the high rate of recurrence following successive episodes, especially if the first episode occurs during adolescence (Craighead, 2011), suggesting these students may have future depressive episodes once they have completed college. These alarming rates of depression in the college population highlight a need to identify contributing factors to their depressive symptoms.

A plethora of research also suggests a relationship between personality and depression, hypothesizing that certain personality traits, in particular neuroticism, may provide an underlying vulnerability to Major Depressive Disorder (Kendler & Myers, 2010). Additionally, the diathesis-stress model of depression suggests that personality traits and life stressors interact to predict depressive symptoms in an individual (Bulmash, Harkness, Stewart, & Bagby, 2009). For example, an individual who is high in neuroticism, a personality trait characterized as negative emotionality and the tendency to

perceive and experience the world as threatening and distressing (Kercher & Rapee, 2009), may be particularly vulnerable to stress. In particular, this individual may be vulnerable to chronic stress, which in turn may lead to more severe emotional distress (Brown & Rosellini, 2011). Given the relative stability of personality traits (McCrae & Costa, 1994) and the fact that the various demands (i.e., sources of stress) placed on emerging adults in college are difficult to avoid (Ross, Niebling, & Heckert, 1999), it may be important to identify predictors – or buffers – that decrease the likelihood of depression.

In addition to personality, studies have also examined the effects of more dynamic factors on depression. For example, cognitive variables or vulnerabilities may increase an emerging adult's likelihood of developing depression. Cognitive variables are believed to be amenable to change (DeRubeis, Evans, Hollon, Garvey, Grove, & Tuason, 1990) and are the focus of cognitive therapy (e.g. Beck, 1987). Therefore, if cognitive variables also contribute to the development of depression, beyond personality, these factors can be targeted for prevention and intervention efforts. Two such cognitive vulnerabilities are *rejection sensitivity* (Mellin, 2008; McDonald, Bowker, Rubin, Laursen, & Duchense, 2010; Tops, Riese, Oldehinkel, Rijsdijk, & Orme, 2008) and *social support* (e.g., Stice, Ragan, & Randall, 2004). Although personality (i.e., neuroticism) likely contributes to depressive symptoms (Kendler, 2010) among college students, higher levels of rejection sensitivity and less adequate social support may increase this vulnerability. To our knowledge, however, personality, rejection sensitivity, and perceived social support have not been examined simultaneously among college students.

CHAPTER TWO: LITERATURE REVIEW

College Student Mental Health

College can be a stressful time for emerging adults due to the changes related to the transition from high school and, in many cases, living independently for the first time (Reynolds, MacPherson, Tull, Baruch, & Lejuez, 2011; Skowron, Wester, & Azen, 2004). Specifically, emerging adults in college tend to report excessive levels of stress and stress-related problems (Asberg, Bowers, Renk, & McKinney, 2008; Aselton, 2012). As a result of the stress they experience, college students become vulnerable to psychological and physical health problems, in addition to academic difficulties (Dolbier & Rush, 2012). These negative consequences are likely due to assuming more roles and the increasing life demands placed on students. This trend of compromised health has continued over the years, with the Higher Education Research Institute (2010) reporting that college students' self-reported emotional health is now at an all-time low. In turn, with emotional health at an all-time low, it is not surprising that college students' overall life satisfaction also has decreased (Pryor, Hurtado, DeAngelo, Blake, & Tran, 2010). In general, life satisfaction is positively related to a greater sense of well-being and positive mental health (Rissanen, Viinamaki, Honkalampi, Lehto, Hintikka, Saharinen, & Koivumaa-Honkanen, 2011) and inversely related to neuroticism, particularly the depression facet (Schimmack, Oishi, Furr, & Funder, 2004). Overall, research over the past two decades points to a decrease in well-being (i.e., compromised mental health) among college students (Higher Education Research Institute, 2010).

For example, over the past two decades, there has been an increase in the number of college students seeking treatment for serious mental health problems (Eiser, 2011). It is believed that many factors have contributed to this increase in mental health problems, including the current economic climate (Guo, Wang, Johnson, & Diaz, 2011) and common social and cultural factors, such as divorce, family dysfunction, violence, and early experience with sex and drugs (Kitztow, 2003). Part of the increase in mental health problems seen among college students -compared to prevalence rates among younger adolescents - may also be explained by the emergence of many psychological disorders in young adulthood (Zivin, Eisenberg, Gollust, & Golberstein, 2009). Disorders such as schizophrenia, bipolar disorder, and depression generally have an onset in late adolescence or early adulthood, emerging at a time when many young adults are transitioning to college (Kitzrow, 2003). In addition, new medications have made it possible for students who were previously diagnosed with a severe mental illness to attend college which, without medication, was nearly impossible to do in the past (Kitzrow, 2003).

Although the college student population is often referred to as "high functioning" (i.e., performing at a level greater than the general population), recent studies suggest that college students display higher levels of depressive symptoms compared to the general population (Eiser, 2011). The rate of problems has increased also the need for – and utilization of – mental health services on college campuses (Kitzrow, 2003). For example, the 2010 National Survey of Counseling Center Directors (NSCCD) found that 44% of students seeking services from their campus counseling center had severe psychological problems, an increase from 16% in 2000, with depression being among the

most common (Eiser, 2011). Symptoms of depression include disturbed mood, fatigue, sleeping and eating disturbances, impaired concentration and memory, difficult making decisions, lowered self-esteem, social withdrawal, lack of interest in activities, and in some instance, suicidal or homicidal ideation (APA, 2000, p. 369). The manifestation of these symptoms compromises quality of life of an individual experiencing them. Specifically, college students' mental health issues have a negative effect on their academic performance, retention, and graduation rates, and are associated with higher test anxiety, lower academic self-efficacy, loss of time-management and decreased use of study resources (Deckro, Ballinger, Hoyt, Wilcher, Dusek, et al., 2002; Kitzrow, 2003).

Furthermore, and of importance to the proposed study, the American College Health Association survey (2010) found that 45.6% of *non-treatment seeking* college students reported feeling hopeless, and 30.7% indicated feeling so depressed that it was difficult for them to function within the past 12 months (see Eiser, 2011, for a review). Collectively, these findings point to the importance of identifying predictors of depression among both treatment seeking and non-treatment seeking college students.

In addition, research suggests that when students receive treatment for their psychological problems (i.e., at college campus counseling centers), counseling can have a positive effect on their personal well-being, academic success, and retention (Eiser, 2011; Kitzrow, 2003). For example, a survey conducted by the University of Idaho Student Counseling Center (2000) indicated that 77% of students were more likely to stay in school because of counseling and 90% indicated that counseling helped them meet their goals at the university and reduce stress that was interfering with school work. Unfortunately, research finds that less than half of students with identified mental health

needs (e.g., depression, anxiety) seek or receive treatment for their problems (Zivin, Eisenberg, Gollust, & Golberstein, 2009). Thus, it may be important to educate students about vulnerabilities that may predispose them to depression, the most common mental health issue on college campuses (Eiser, 2011).

The Relationship between Personality and Depression

One vulnerability that may predispose college students to depression is personality. The link between personality and mental health outcomes has received extensive attention in the literature (see Kotov, Gamez, Schmidt, & Watson, 2010, for a review). Specifically, certain personality traits may reflect an underlying vulnerability to the development of Major Depressive Disorder (MDD), with most research emphasizing the link between neuroticism and depression (Kendler, 2010). The tripartite model of anxiety and depression has played a prominent role in shaping the associations between personality and Axis I disorders, stating that both anxiety and depression are defined by high levels of negative affect, a characteristic commonly found in the personality trait of neuroticism (Kotov et al., 2010). Neuroticism is a personality trait which reflects the extent to which individuals perceive and experience the world as threatening or distressing (Hankin, Lakdawalla, Carter, Abela, &Adams, 2007). Individuals high in neuroticism are more likely to feel negative emotions more frequently and intensely, suffer from a wide variety of problems, feel inferior to others, and experience higher levels of stress (Hankin et al., 2007). Research has also suggested that personality pathology, in particular high levels of neuroticism, uniquely predicts MDD *recurrence* (Craighead, 2011).

Further, research has examined the interaction between neuroticism and stressful life events (e.g., adaptation to college) to predict the severity of depressive symptoms (Brown & Rosellini, 2011). To explain this notion that, in some cases, pre-existing vulnerabilities will lead to disorders only when combined with stressors (Eberhart & Hammen, 2010), an introduction of the diathesis-stress model and its 'predecessors,' is warranted. The diathesis-stress model, adapted from Blatt's (1974) personality model of depression vulnerability, proposes that in the face of a stressful life event, individuals who have high levels of a certain personality trait are vulnerable to depression. Blatt proposed that there are two personality traits that make an individual vulnerable to depression: self-criticism and dependency. Self-critical individuals are characterized by excessive personal demands for goal achievement, excessive needs to meet high standards, chronic fears of being viewed as a failure, and a tendency to experience feelings of inferiority and self-guilt. Dependent individuals rely excessively on interpersonal relationships to provide a sense of identity and well-being. According to both Blatt's personality model of depression vulnerability and the diathesis-stress model, demands of the environment, or 'stressors,' may 'trigger' depressive symptoms in an individual who exhibits certain personality traits.

To test this assertion, Brown and Rosellini (2011) conducted a longitudinal study of 826 outpatients with mood and anxiety disorders. Participants were assessed at three points in time over a 1-year period. Findings suggested that neuroticism, chronic stress, and episodic stress were all individually and positively associated with intake depressive symptom severity and the strength of the effect of neuroticism on depression severity increased as chronic stress increased. In addition, results suggested that chronic stress

significantly moderates the relationship between neuroticism and depression symptom improvement (Brown & Rosellini, 2011). These results support the diathesis-stress model of depression, suggesting that an underlying personality vulnerability to depression in concurrence with a stressful life event increases the severity of depressive symptoms experienced by an individual.

In a different study, the diathesis-stress model of response to treatment among currently depressed individuals (N =113; mean age 43-years; 65% females) was examined by Bulmash and colleagues (2009). Participants completed semi-structured interviews and filled out self-reports of their depressive symptoms, personality traits of self-criticism and dependency, and number and severity of stressful life events they had experienced 6 months prior to the onset of their depressive episode and to the end of their acute treatment trial. After completing the self-report measures, participants were randomly assigned to one of three treatment groups (CBT, IPT, or medication) and treated for 16 weeks. Results suggested that individuals high in self-criticism were significantly less likely to respond to treatment if they experienced a stressful life event pre-treatment or during treatment, relative to those who were low in self-criticism. Overall, it can be concluded that both life stressors and personality vulnerabilities contribute to not only the development of Major Depressive Disorder but also treatment response.

In contrast, other studies (e.g., Eberhart & Hammen, 2010) examined an alternative diathesis-stress model, but failed to find support for the notion that interpersonal style interacts with romantic stressors in predicting depressive symptoms. It should be noted, however, that Eberhart and Hammen (2010) focused on romantic stress

and relationships and it is possible that in terms of the romantic domain, the diathesis-stress model may be less applicable than to other areas. Thus, including more general, and presumably stable, personality traits and examining more broadly the effect of interpersonal variables (e.g., rejection sensitivity, social support) may be useful.

In fact, much research suggests that personality traits are relatively stable over time (McCrae & Costa, 1994; Prenoveau, Craske, Zinbarg, Mineka, Rose, & Griffith, 2011) and that having an underlying genetic predisposition (i.e. neuroticism) interacting with a stressor can heighten the risk for developing depression (Bulmash et al., 2009). For example, Farmer and colleagues (2002) examined whether neuroticism and extraversion underlie the vulnerability to respond to adversity by developing depressive symptoms. Specifically, Farmer and colleagues examined the neuroticism and extraversion scores of the siblings of participants to observe the genetic component of personality traits. Participants ($N = 108$; mean age = 39.78 years; 65% females) who met ICD-10 criteria for depression were recruited along with age- and gender-matched subjects for the control group. Results of Farmer and colleagues' (2009) study indicated that male subjects scored significantly lower on neuroticism when compared to females; however, there were no gender differences on extraversion. Both neuroticism and extraversion were correlated across sibling pairs for both the depressed group and the control group, suggesting *a strong genetic component to personality* traits. Further, neuroticism scores were significantly positively correlated with the number of severe and threatening experienced life events during the past year. As expected, there was a high positive correlation between neuroticism and depressive symptoms and a strong negative correlation between extraversion and depressive symptoms. These results add to the body

of research suggesting a correlation between high neuroticism scores and depression. Moreover, the correlation between neuroticism and extraversion across pairs of siblings lends support for the theory that personality traits are genetically determined and therefore are stable over time.

As noted, previous studies (e.g., Beck, 1987; Bulmash et al., 2009; Farmer et al., 2010) suggest consistently that neuroticism is linked to depressive symptoms. Findings regarding the other four personality domains (Openness, Conscientiousness, Extraversion, Agreeableness) are more mixed, with some studies suggesting that they, too, may be linked to the development of depressive symptoms (e.g., Farmer, 2002; Kendler & Myers, 2010). For example, Kendler and Myers (2010) recruited 44,112 volunteers over the internet to examine the relationship between personality, depression, and genetics. Personality was assessed using the Big Five Inventory Personality Test (John & Srivastava, 1999), depression was assessed by a self-report questionnaire, and genetics were examined by comparing results of dizygotic (DZ) and monozygotic (MZ) twins. Results indicated that openness, extraversion, and agreeableness had only small phenotypic association and a small genetic correlation with risk for depression. However, it was found that neuroticism had a strong positive phenotypic association and conscientiousness had a strong negative phenotypic association with risk for depression, with neuroticism and conscientiousness being moderately negatively correlated to one another. In addition, it was found that controlling for neuroticism reduced the genetic correlation between conscientiousness and depression, supporting previous literature indicating that neuroticism is the personality trait that is the most strongly correlated with depression.

Cognitive Variables and Depression

Another area of research has focused on the role of cognitive variables in the risk of developing Major Depressive Disorder (e.g., Ingram, Trenary, Odom, Berry, & Nelson, 2007). Cognitive theories of depression, such as the hopelessness theory (Abramson, Metalsky, & Alloy, 1989) and Beck's cognitive theory (1987), have been used to explain the onset and maintenance of depression (Hankin et al., 2007). For example, depressed individuals have a tendency to process information in a dysfunctional way and these cognitive dysfunctions may contribute to the relapse and recurrence of depression (Craighead, 2011; Ingram et al., 2007). Research has also suggested that dysfunctional attitudes, maladaptive attitudes, beliefs, and assumptions about the self, world, and future, predispose individuals to depression (Sutton et al., 2011). In addition, these cognitive dysfunctions are believed to interact with life stress (Ingram et al., 2007) and personality traits (Sutton, 2011) to increase the risk for developing depression.

Further, Beck's (1987) theory suggests that dysfunctional attitudes – rigid and extreme beliefs about the self and world – serve as cognitive vulnerability factors for depression following the experience of a negative life event. According to Beck, depressed individuals have negative schemas that influence how they interpret situations; in particular, distorted cognitive processes that drive them to attend selectively to negative cues in a situation and exclude the positive aspects to that situation (Beck, 1987). Further, Beck hypothesized that cognitive distortions, such as excessive need for approval from others and high levels of perfectionism, leave individuals more vulnerable to both initial episodes of MDD and its recurrence (Craighead, 2011). Moreover, Beck

suggests that when depressed individuals negatively interpret situations, it reinforces their underlying dysfunctional attitudes (Beck, 1987). Using this cognitive framework, it can be concluded that cognitive variables may not only contribute to the development of depression, but may also contribute to the maintenance of depressive symptoms over time.

Similarly, Abramson and colleagues' (1989) hopelessness theory suggests a negative cognitive style in depressed individuals that includes (1) the tendency to make negative inferences about the cause of negative events, (2) the tendency to make negative inferences about the consequences of negative events, and (3) the tendency to infer negative characteristics about the self, following a negative event. Individuals who express negative cognitive styles are at greater risk for the development of depression after a negative life event. Specifically, the interaction between stressful life events and negative cognitive styles (e.g., "it will never get better" or "the situation is hopeless") is a strong predictor of depression. Using this cognitive framework, it can be inferred that by only focusing on the negative aspects of life an individual is more vulnerable to developing depressive symptoms, especially if this negative outlook occurs after a stressful life event. Overall, these findings have implications for the proposed study, such that college students who only focus on the negative and stressful aspects of their college experience, or who perceive their resources as being inadequate, are more likely to experience depressive symptoms relative to those college students who have less of a negative outlook.

Moreover, in a study conducted by Ingram and colleagues (2007), automatic thinking patterns, various elements of anger, and different coping styles, were examined

as possible risk markers in individuals' vulnerability to developing depression. Participants included 104 undergraduate students who completed the Beck Depression Inventory (BDI; Beck, 1967) and a screening measure of past depressive symptoms at an initial session. The screening measure consisted of the nine criteria symptoms listed in the DSM-III-R for Major Depressive Disorder. Participants were then classified as "high-risk" (i.e., individuals who had experienced depression in the past, endorsing more than five of the nine depressive symptoms for a period of 2 weeks, but were not currently depressed) or "low-risk" (i.e., individuals who had never experienced a major depressive episode and endorsed no more than three of the nine symptoms for a period of two weeks). Participants who were currently depressed were not invited back to the second session of the study. During the second session, participants completed measures of hostility, coping, and automatic thinking, along with the BDI again to ensure that no participant was currently experiencing depressive symptoms. Results of Ingram and colleagues' study indicate that high-risk participants reported more negative thoughts, more physical aggression, more hostility, and more anger than their low-risk counterparts. In terms of coping, the only significant difference that was found between groups was that high-risk individuals reported more other-blame than low-risk individuals. There were also differences between high and low-risk groups, with high-risk participants reporting significantly more self-blame, more "wishful thinking," and more avoidance. Overall, findings indicate that college students who engage in more negative thinking, hostility, or anger are particularly at risk for more severe depression.

Additionally, Sutton and colleagues (2011) conducted a study to examine the degree to which cognitive style and personality-cognitive vulnerabilities make unique

contributions to symptoms of depression/anxiety. Researchers examined the cross sectional relationships among neuroticism, negative inferential style, dysfunctional attitudes, sociotropy, and autonomy, with a wide range of depressive and anxiety symptoms in 550 high school juniors. Results indicated that all five vulnerabilities were related to symptoms of both anxiety and depression. Further, neuroticism accounted for significant unique variance in all symptom outcomes, whereas individual cognitive and personality-cognitive vulnerabilities were less consistently significant across outcomes. However, the significance of the unique contributions was moderately small compared to the overall shared variance of the vulnerabilities. From Sutton and colleagues (2011) it can be concluded that although neuroticism accounts for the majority of the variance in depression, cognitive vulnerabilities also contribute something unique above and beyond neuroticism alone.

Rejection Sensitivity

One such cognitive vulnerability for depressive symptomatology is rejection sensitivity. Rejection sensitivity is defined as the tendency to anxiously or angrily expect rejection from other people and it is associated with internalizing difficulties such as adjustment difficulties, depression, and anxiety (McDonald et al., 2010). Expectations concerning rejection and acceptance in relationships have been deemed vital to people's relationship functioning (Downey, Freitas, Michaelis, & Khouri, 1998). Individuals who score high on measures of rejection sensitivity may experience compromised interpersonal functioning due to their fearful expectations, which, in turn, promote behaviors that may result in actual rejection by important people in their lives (Downey et al., 1998). In addition, individuals high in rejection sensitivity have been found to

perceive ambiguous cues as rejection more readily than individuals low in rejection sensitivity (Downey et al., 1998). For example, "the message of rejection" that the individual experiences as a result of loss may weaken a person's ability to view him- or herself as deserving of love and acceptance, in turn leading to feelings of hopelessness and depression (Ayduk, Downey, & Kim, 2001). Consistent with this view, individuals who experience higher levels of rejection sensitivity often report feelings of intense emotional distress (Nezlek, Kowalski, Leary, Blevins, & Holgate, 1997), and higher levels of rejection sensitivity may contribute to depression among college students (Mellin, 2008).

Theoretical Framework for Rejection Sensitivity. Downey and Feldman's (1996) theory of rejection sensitivity was drawn from Bowlby's attachment theory (1980), which is the most elaborate model of psychological mediators linking early rejection with later interpersonal functioning. Bowlby suggested that, based on caregivers' responses to their children's needs, children develop "mental models" of themselves and of relationships that influence future relationships. At the core of this model are expectations about being rejected or accepted by significant others. If a child's caregiver provides a child with his or her essential needs, the child will grow up believing that others will do the same. However, if the child grows up being rejected by their sole caregiver, he or she will apply that rejection to future relationships. Drawing from Bowlby's attachment model, Downey and Feldman (1996) proposed a model that suggests that children who needs were responded to with rejection, developed a sensitivity to rejection. These individuals expect to face rejection when seeking support

and acceptance and in turn will go out of their way to avoid these rejection evoking situations.

Further, Downey and Feldman (1996) suggest rejection sensitivity may lead people to be unable to maintain supportive and satisfying relationships due to the fact that they readily avoid situations in which rejection is possible. Downey and Feldman's model suggests that people who enter a relationship anxiously expecting rejection are likely to perceive intentional rejection on their partner's insensitive or ambiguous behaviors, feel insecure and unhappy about the relationship, and respond to perceived rejection or threats of rejection by their partner with hostility, diminished support, or jealous, controlling behavior. From these theories, it can be concluded that people high in rejection sensitivity are not only unable to maintain supportive relationships, but due to the lack of quality relationships, may also perceive less social support from those relationships they do have.

Rejection Sensitivity and Depression. According to a study conducted by Mellin (2008), rejection sensitivity is believed to account for approximately 11% of the variance in depression. Additionally, neuroimaging studies have found a significant linear association between increased rejection sensitivity and somatic complaints perceived during depression (Ehnvall, Mitchell, Hadzi-Pavlovic, Malhi, & Parker, 2009), indicating that rejection sensitivity may contribute to how depressive symptoms are experienced. Further, any type of interpersonal loss (e.g., a breakup) that communicates rejection may trigger depressive symptoms.

To test the assertion that perceived rejection has implications for functioning, Mellin (2008) investigated whether rejection sensitivity predicts depression among

college students in general and whether or not there are differing effects among men and women. Participants were 314 undergraduate students from a Midwestern university, 75% women, 93.9% White, and the majority of participants (92%) were between the ages of 18 and 22 years old. Rejection sensitivity was measured using the Rejection Sensitivity Questionnaire (RSQ-18) and depressive symptoms were measured using the Center for Epidemiologic Studies Depression Scale (CES-D). Results indicated no main effects of gender, but the hypothesis that rejection sensitivity would account for some of the variance among college students' depression levels was supported, with rejection sensitivity accounting for approximately 11% of the variance. These results have implications for college counseling centers, suggesting that counselors working with students reporting depressive symptoms should assess for rejection sensitivity among clients. If rejection sensitivity appears to be a contributing factor to the clients' depression, therapy could focus on addressing the issue of rejection sensitivity, as well as other maladaptive cognitions.

A common experience of rejection faced by college students is that of breaking up with a significant other (Ayduk et al., 2001). Research has suggested that college students who enter romantic relationships expecting rejection more freely perceived hurtful intent in their partner's ambiguous behavior (Downey & Feldman, 1996). Further, individuals who are high in rejection sensitivity respond to this perceived rejection, they do so in a very negative manner (Downey & Feldman, 1996). To examine the role of rejection sensitivity and the development of depression in the face of the loss of a romantic relationship, Ayduk and colleagues (2001) conducted a longitudinal study using 223 first-year college undergraduates. Women were specifically targeted for this study due to their

heightened risk for depression and research indicating that interpersonal events are more stressful for young women than young men. The researchers hypothesized that rejection sensitivity would predict higher levels of depressive symptoms in individuals who experienced a partner-initiated breakup, but not following a self- or mutually initiated breakup.

Specifically, Ayduk and colleagues' (2001) longitudinal study included three sets of questionnaires over the period of a year. The first set included the RSQ, the Adult Attachment Questionnaire-Continuous Version (George, Kaplan, & Main, 1984), and a basic demographic questionnaire. The second set included the BDI. The final set at the end of the school year included the BDI, an academic performance questionnaire, and a dating history questionnaire. Results indicated that rejection sensitivity predicted depressive symptoms at the end of the year when controlling for preexisting levels of depression. The experience of a partner-initiated breakup, however, did not predict depressive symptoms at the end of the school year alone. Further, there was a significant interaction between rejection sensitivity and partner-initiated breakup, suggesting that participants high in rejection sensitivity who experienced a partner-initiated break up suffered the highest level of depressive symptoms. Moreover, academic stress (as measured by the academic performance questionnaire) did not produce a difference in depressive symptoms between those high and low in rejection sensitivity. In conclusion, Ayduk and colleagues (2001) found that women high in rejection sensitivity reported a greater increase in depressive symptoms at the end of an academic year if they had experienced a partner-initiated breakup, but not if the breakup was self- or mutually-initiated. These findings indicate that women high in rejection sensitivity are at risk for

depression only when the negative experience they have faced is directly related to their concern with being rejected by others.

Although the literature on rejection sensitivity on the college population in particular is limited, the studies that have been conducted to date suggest a relationship between high levels of rejection sensitivity and depressive symptoms (e.g., Ayduk et al., 2001; Mellin, 2008). Being sensitive to rejection is problematic in-and-of itself, but when individuals high in rejection sensitivity are faced with a stressful situation that is directly related to their fear of rejection, their risk of developing depression increases (Ayduk, 2001). Because college is a time of social adjustment (Gerdes & Mallinckrodt, 1994), there are many opportunities for high rejection sensitive individuals to perceive interactions as a form of rejection.

Perceived Social Support

In addition to rejection sensitivity alone, other variables may influence or moderate the impact of rejection sensitivity on depression. For example, McDonald and colleagues (2010) examined the relationship between rejection sensitivity and social support in 277 adolescents (130 males; *M* age = 14.30 years). Findings indicated that rejection sensitivity is related to depressive symptoms, but only for adolescents reporting *low social support* from friends and family. Further, results indicated that having 'high quality friends' is inversely correlated with anxiety and depression during adolescence. Overall, these findings suggest that, in addition to rejection sensitivity, social support may play a role in the development of depression.

Consistently, social support is recognized as an important factor for mental health and well-being (Clara, Cox, Enns, Murray, & Torgrudc, 2003), as well as a buffer against

stress (Hamdan-Mansour & Dawani, 2008). Social support refers to a range of different aspects of individuals' social relationships, including the quantity of the relationships, the quality of the relationships, or the interpersonal transaction that involves the actual receiving of support (see Asberg et al., 2008, for a review). In general, research has suggests that high levels of perceived social support functions as a protective factor against mental health problems (Brissette, Scheier, & Carver, 2002) and acts as a buffer against the potential negative effects of experiencing high levels of stress (Asberg et al., 2008; Hamdan-Mansour et al., 2008). Higher levels of social support have also been related to lower subsequent depressive symptoms and recovery from a depressive disorder (Stice et al., 2004). Moreover, Hyun, Quinn, Madon, and Lustig (2006) suggest that a lack of social and professional support may be contributing factors in the development of mental health problems in college students and may play a role in the utilization of counseling services. Social support has also been reported to act as a buffer between negative life events and these depressive symptoms (Clara et al., 2003). Further, low levels of social support have been found to be related to higher reported rates of loneliness in college student samples (Clara et al., 2003).

Furthermore, Hyun and colleagues (2006) conducted an online survey to assess the mental health needs, utilization and knowledge of campus services, perceived social support, and relationship with adviser in a large sample ($N = 3,121$) of students enrolled in various graduate programs. Findings indicated that the mental health needs among graduate students is high, with 24 percent of medical students, reporting moderate to severe depression, 40 percent of the entire sample feeling exhausted, and 46 percent feeling overwhelmed. Hyun and colleagues (2006) also found that the biggest source of

support, as well as distress, came from the student's relationship with his or her adviser, finding that strong relationships with an adviser are positively related to an overall positive sense of well-being and utilization of counseling services. It can be concluded from this study that many factors contribute to college stress and depressive symptoms; however, the relationships that students form and the support they perceive from such relationships may increase or exacerbate these mental health problems.

Moreover, research has indicated that a perceived lack of social support increases the risk for developing depression (Stice et al., 2004). In addition, research has suggested that parental support plays a bigger role in preventing depression than peer support, and that there may be gender differences in regards to social support and its relation to depression (Stice et al., 2004). Specifically, Stice and colleagues (2004) conducted a longitudinal study examining the effects of perceived social support on female middle school students' depressive symptoms ($n = 496$). Ages of the participants ranged from 11- to 15 years, with a mean of 13 years, and 68% of participants were White. Participants completed a survey and interview at baseline (T1), and subsequently at the 1 and 2 year follow ups (T2 & T3). Perceived social support was measured with Network of Relationships Inventory and an adaptive version of the Schedule for Affective Disorders and Schizophrenia for School-Age Children, along with the clinical interview, was used to assess depressive symptoms. Overall, Stice and colleagues (2004) noted that perceived parental support and depressive symptoms were more stable over a period of time than perceived peer support, and that deficits in parents support predicted an increase of depressive symptoms and Major Depressive Disorder over time. Perceived peer support, however, had no significant effect on depressive symptoms. From these

findings it can be concluded that low social support increases and individual's risk for depression, but the degree to which depressive symptoms are influenced depends on who the perceived support is coming from (i.e., parents vs. peers).

Further, Asberg and colleagues (2008) examined the role of social support and coping behaviors as potential mediators in the stress-adjustment relationship in emerging adults. Participants consisted of 239 college students (122 males and 117 females) with a mean age of 19.48 years. Participants completed a range of self-report measures including the Perceived Stress Scale (PSS), the Life Experiences Survey (LES), the Multidimensional Scale of Perceived Social Support (MSPSS), the Ways of Coping Questionnaire (WOC), the BDI-II, the Beck Anxiety Inventory (BAI), and the Satisfaction with Life Scale (SWLS). Results of Asberg and colleagues' study suggested many gender differences among measures. It was found that males experienced significantly less perceived global stress than females, but females held significantly greater perceptions of perceived social support than males. Further, females reported significantly more depressive and anxious symptoms relative to males. Higher levels of perceived stress was related to lower perceived social support on all MSPSS subscales (Family, Friends, Significant Other) for females, and lower perceived social support on the Significant Other subscale for males. However, scores on all the MSPSS subscales were significantly and inversely related to BDI-II scores and satisfaction with life scores for both males and females. Overall, it can be concluded that social support is related a multitude of social and psychological factors. High levels of social support have been found to be inversely related to rejection sensitivity, anxiety, perceived stress and depressive symptoms, suggesting that social support plays an important role in having

positive mental health. In a high stress environment (i.e., college), having high perceived social support is essential for reducing perceived stress levels and may in turn reduce negative mental health outcomes, such as depressive symptoms, faced by college students.

Moreover, Dahlem and colleagues (1991) investigated whether the 'buffering hypothesis' (of social support) is a viable explanation for relationships previously demonstrated between stress and depression and aimed to further validate the Multidimensional Scale of Perceived Social Support (MSPSS). The buffering hypothesis states that psychosocial stress will have negative effects on the health and well-being of those with *little or no social support* (Cohen & McKay, 1984). Participants in Dahlem and colleagues' (1991) study were 154 undergraduate students enrolled in either a 2- or 4-year college program at a large urban campus. Specifically, 122 women and 32 men completed the surveys, with ages ranging from 18- to 51-years and a mean age of 26.5 years. The MSPSS was used to measure perceived social support from family, friends, and a significant other. The Beck Depression Inventory (BDI) was used to measure depression, the Life Experiences Survey (LES) was used to measure negative life events, and a version of the Marlowe-Crowne Social Desirability Scale was used to measure the extent to which subject's MSPSS responses reflect socially desirable behavior. Results confirmed previous research examining the reliability and validity of the MSPSS as a measure of perceived social support (e.g., Zimet, Dahlem, Zimet, & Farley, 1988). For example, Dahlem and colleagues found the internal reliability for the total scale was .91, indicating excellent internal reliability and consistent with results from previous studies. Further, their analysis identified that three factors accounted for 83.9% of the variance

and that items loaded very strongly with their designated subscales of Friends, Family, and Significant Other. Additionally, for participants who reported high stress, perceived social support and depression were significantly and negatively correlated, with individuals who perceive less social support displaying more depressive symptoms. Conversely, this trend was not found among participants reporting low stress, supporting the buffering hypothesis.

Thus, it can be concluded that in times of high stress, perceived social support is essential in being a protective factor against the development of depressive symptoms. Also, it has been established that college is a time of heightened stress for students (Skowron et al., 2004), therefore perceptions of social support could be examined when students present to counseling for depressive symptoms to determine if a lack of social support is having an impact on their depressive symptoms.

In another study, Clara and colleagues (2003) assessed the validity of the MSPSS in a clinical versus nonclinical sample and explored the relationship between various facets of perceived social support assessed by the MSPSS and severity of depressive symptom. Participants consisted of 549 first-year university students, who made up the nonclinical sample, with a mean age of 19.62 years, and 156 outpatient clients, making up the clinical sample, who were all referred for mood disorders, with a mean age of 41.50. The MSPSS was used to measure perceived social support and the BDI and IDD were both used to assess for depressive symptoms/disorders. Results of this study indicated significant differences between the two samples on all factors of the MSPSS and global perceived social support. All correlations between perceived social support and depressive symptoms were negative with the largest correlations being with friends

and family. Results of this study support previous literature indicating that perceived social support, especially from friends and family, is strongly associated with psychological well-being. This study also adds to previous literature by using the MSPSS on a clinical sample and comparing results to a nonclinical sample, shedding light on how perceived social support is related to depressive symptoms in individuals who have been diagnosed with a depressive disorder.

Gender Differences

Research has suggested that females have an increased risk for the development of depressive disorders including Major Depressive Disorder, dysthymia, atypical depression, and seasonal affect disorder, but not bipolar disorder (Piccinelli & Wilkinson, 2000). Moreover, higher rates of depression are detected in females who are in mid-puberty through adult life, whereas depressive disorders are more likely seen in males through early adolescence (Piccinelli & Wilkinson, 2000). Gender differences tend to emerge in early adolescence, and by mid-adolescence, reach a female to male ration of 2:1 that is persistent until the end of midlife (Harkness, Alavi, Monroe, Slavich, Gotlib, & Bagby, 2010).

In addition, males and females report manifestations of depression differently, with females more often reporting appetite and sleep disturbances, fatigue, somatic complaints, anxiety, and hypochondriasis (Piccinelli & Wilkinson, 2000). The pathways in which depression develops also tends to differ between males and females, with females experiencing more pre-existing anxiety disorders and males experiencing more externalizing disorders such as alcohol and drug abuse or antisocial personality disorder (Piccinelli & Wilkinson, 2000). Another explanation for the gender differences in

depression is in the framework of the diathesis-stress model. Theorists suggest that women have biological and psychological vulnerabilities that increase their risk for stressful life events and in turn, increase the likelihood of developing a Major Depressive Disorder in the face of this life stress (Harkness et al., 2010).

As previously discussed, poor social support is related to onset and relapse of depression (Stice et al., 2004); however, levels of social support are not reported to contribute to gender differences in depression (Piccinelli & Wilkinson, 2000). Theories have suggested that females have a stronger affiliative style than males, therefore requiring greater social support for their psychological health. Consequently, females may be more vulnerable to events affecting their close emotional ties and in turn may be more likely to develop depression in response to them. However, research has not found this trend, suggesting that reduced social support does not increase females' vulnerability for developing depression compared to their male counterparts (Piccinelli & Wilkinson, 2000). As previously noted, Asberg and colleagues (2008) found that females rated their social supports as being greater (compared to males'), yet females scored significantly higher on a measure of stress, anxiety, and depression. It should be noted, however, that different conceptualizations of social support may influence the positive ('buffering') impact that it has on depression. Nonetheless, given that research has frequently indicated gender differences on measures of depression, and possible differences among other variables, gender may be an important variable to consider in investigations of cognitive vulnerabilities, personality, and depression.

As noted, a variety of research has indicated that in addition to underlying personality vulnerabilities, cognitive variables may have an influence on the development

of depression. In particular rejection sensitivity and perceived social support are two variables that have been studied independent of personality to determine their effect on the development of depressive symptoms. In addition, research has also established a relationship between the variables of rejection sensitivity and social support, suggesting that the more problematic an individual's sensitivity to rejection is, the less adequate their perceived support tends to be. From this multitude of research, it can be concluded that if dynamic factors contribute something unique to the development of depression, outside of personality, these factors can be the focus of treatment of depression on college campuses.

Statement of the Problem

College students face a variety of social and academic challenges that may place them at risk for experiencing negative outcomes (Reynolds et al., 2011). In fact, more than half (53%) of college students will experience depression at some point during their college careers (Furr et al., 2001), which can lead to poor academic performance, or even dropping out (Reynolds, 2011). Given these alarming rates of depression among college students, more research is needed to identify variables that may put young adults at particular risk for experiencing distress. For example, the diathesis-stress model of depression suggests underlying vulnerabilities interact with stressful life events to predict depressive symptoms. With the stress inherent in the college experience, then, it may be useful to examine underlying vulnerabilities (e.g., neuroticism; Brown & Rosellini, 2011) in relation to cognitive variables that are amenable to change (e.g., rejection sensitivity, perceptions of social support) as predictors of college students' depressive symptoms. Further, there is a need for research that identifies potential targets for cognitive-

behavioral therapy (e.g., Bulmash et al., 2009), a modality that has garnered the most support in the treatment of Major Depressive Disorder. Findings may be used to augment treatments commonly implemented in college counseling. To our knowledge however, no study has examined the degree to which rejection sensitivity and social support can predict college students' depressive symptoms above neuroticism.

Present Study

Given the high rates of depressive symptomatology among college students (Eiser, 2011), identifying protective factors are of great importance. Of particular interest to the present study is the examination of predictors that are amenable to change, such as an individual's sensitivity to rejection and their perceptions of social support. Thus, the present study examined the interplay among personality traits (particularly neuroticism), rejection sensitivity, perceived adequacy of social support, and stress as predictors of depressive symptoms in a non-clinical sample of college students.

Research Question

> **Research Question 1**: Above and beyond the underlying vulnerability (e.g., personality), do rejection sensitivity and/or perceived social support contribute something unique to levels of depression?

Hypotheses

> **Testable Hypothesis 1**: Scores on the neuroticism domain will be positively correlated to participants' depressive symptom scores.
>
> **Testable Hypothesis 2:** Scores on the scale of perceived social support adequacy will be inversely related to scores on the measure of depressive symptoms.
>
> **Testable Hypothesis 3:** Scores on the measure of rejection sensitivity will be

positively related to depressive symptoms scores.

Testable Hypothesis 4: Rejection sensitivity and perceived social support will contribute to participants' depressive symptoms above and beyond their neuroticism scores.

Statistical Plan

First, *t*-tests were conducted in order to examine possible group differences between males and females on predictor variables (i.e., personality domains, rejection sensitivity, perceived social support, and perceived life stress) and for the outcome variable (i.e., depressive symptoms). As appropriate, gender was controlled for in the regression analyses among predictor variables that were significantly different. Next, a correlation matrix was constructed in order to examine bivariate relationships among all variables in the present study. As needed, separate correlation analyses were conducted for males, females, and the overall sample (based on *t*-tests). Finally, a regression equation was examined to determine if rejection sensitivity and perceived social support, which are both amenable to change, contribute unique variance to the predictive model beyond personality characteristics. In addition, exploratory analyses in terms of possible interactions between perceived social support and rejection sensitivity were conducted.

CHAPTER THREE: METHOD

Participants

Participants consisted of 255 undergraduate students from a southern regional university. After collecting data, 21 participants were excluded from the study due to not meeting specific inclusion criteria (i.e., one was excluded due to not providing consent, two were under the age of 18, five were over the age of 24, four participants took the survey twice, and nine participants did not complete the majority of the survey). There were 234 remaining participants. Of these participants, 78.6% ($n = 184$) were female and 21.4% ($n = 50$) were male. The ages of participants ranges from 18 to 24 years with a mean age of 19.29 years ($SD = 1.49$). Of the total sample, 54.6% ($n = 127$) were in their freshman year of study, 11.5% ($n = 27$) were sophomores, 17.5% ($n = 41$) were juniors, 15.8% ($n = 37$) were seniors, and 0.9% ($n = 2$) classified their class rank as "other." In terms of racial and ethnic demographics, 91.5% ($n = 214$) of participants identified themselves as White, 5.1% ($n = 12$) as African American, 1.3% ($n = 3$) as Hispanic, and 2.1% ($n = 5$) as "other" racial or ethnic background. All participants read and electronically "signed" the consent form by selecting a box indicating that they agreed to participate. Many participants received class credit or extra credit for participating in the study, and all participants received a debriefing form that provided them with contact information for the experimenter and the student counseling services on campus

Measures

The present study consisted of all self-report questionnaires. A demographic questionnaire was included to obtain information about participants, such as age, sex,

class standing, ethnic and racial background, and relationship status (e.g., married/partnered, single).

Depressive Symptoms. The *Center for Epidemiologic Studies Depression Scale* (CES-D) is a 20-item publically available self-report scale designed to measure depressive symptomology in the general population over the previous week. This scale uses a 4 point Likert-type scale to measure depressive symptoms, with scores ranging from 0 to 60 (high scores indicating higher levels of depressive symptomatology). Items such as "I felt that everything I did was an effort" are rated from 0 to 3, with 0 representing rarely or none of the time (less than one day) and 3 representing most or all of the time (5-7 days). The CES-D has a very high internal consistency and adequate test-retest reliability (Radloff, 1977). The CES-D has been studied within many diverse populations and has been shown to be both reliable and valid across this variety of populations (Radloff, 1977). In previous studies using college students, the Cronbach alpha was noted as .85 (i.e. Daughtry & Kunkel, 1993; Wei, Russell, & Zakalik, 2005). The Cronbach alpha for the present study was .89, indicating good internal consistency.

Personality. The *M5-50* (McCord, 2002) was used to measure personality traits across five domains (with a focus on neuroticism). The M5-50 consists of the 50 items from the International Personality Item Pool (IPIP) item set that measures the five broad domains (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) of the NEO Personality Inventory-Revised (NEO-PI-R) (Socha, Cooper, & McCord, 2010). Costa and McCrae's NEO-PI-R is considered the gold standard of Five Factor Model personality inventories; however, it is under copyright and not available for free use (Hicks, 2011). Nevertheless, the M5-50 has demonstrated to be useful in

comparing personality constructs to other areas of psychology, including mental disorders, and measure the same five domains at the NEO-PI-R (Hicks, 2011). In a study of 760 participants that consisted of university students, faculty, and staff, the M5-50 demonstrated good reliability among all personality domains with Cronbach alphas of .86 (Extraversion), .76 (Agreeableness), .85 (Conscientiousness), .86 (Neuroticism), and .79 (Openness to Experience) (Socha et al., 2010). For the present study, Cronbach alphas were .88 (Extraversion), .70 (Agreeableness), .80 (Conscientiousness), .84 (Neuroticism), and .79 (Openness to Experience).

Rejection Sensitivity. Downey and Feldman's (1996) *Rejection Sensitivity Questionnaire* (RSQ-18) was used to measure rejection sensitivity. The RSQ was developed from open-ended interviews with 20 undergraduates, from which 30 hypothetical situation questions were developed. The questions were selected to represent a broad cross-section of interpersonal situations where rejection would be possible in the lives of young adults. Answers to the hypothetical situations can be responded in two ways: (a) degree of anxiety and concern about the outcome or (b) expectations of acceptance or rejection (Downey & Feldman, 1996).

Downey and Feldman (1996) conducted a study to operationalize and validate the construct of rejection sensitivity and demonstrate its impact on intimate relationships. Participants in this study were 321 female and 263 male undergraduate students, with a mean age of 18.7, and 54% of participants being White. The results suggested good internal consistency of the measure (alpha = .83) and test-retest reliability (alpha = .83, 2- to 3-weeks after initial administration and alpha = .78, 4 months after initial administration). In addition, there was a similar factor structure for both men and women,

indicating that the RSQ-18 is a valid and reliable measure to use when measuring rejection sensitivity. For the present study, the Cronbach alpha was .88, suggesting good internal consistency.

Perceived Social Support. The *Multidimensional Scale of Perceived Social Support* (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) was utilized to measure participants' perceived social support. The MSPSS is a 12-item scale that measures perceived social support on the three domains of family, friends, and a significant other. A total score is also calculated by calculating the sum of the 12 items. This scale uses a 7-point Likert-type scale, ranging from very strongly disagree (1) to very strongly agree (7), with higher scores suggesting greater levels of perceived social support (Zimet, Powell, Farkley, Werkman, & Berkoff, 1990; Edwards, 2004). The initial study describing the development of the MSPSS was conducted in 1988 by Zimet and colleagues, and suggested that the MSPSS is a psychometrically sound instrument for use with college students (Zimet,1988) as well as other groups ($r = .81$ to .94; Zimet, 1990). Also, more recent studies report good internal consistency (alpha = .92) of the MSPSS total score among college students (e.g., Asberg et al., 2008). Overall, it can be concluded that the MSPSS is psychometrically sound across several different subject groups. The Cronbach alpha for the present study (total score) was .94, suggesting excellent internal consistency.

Life Stress. The *Perceived Stress Scale* (PSS; Cohen, 1983) was used to measure participants' current perceived levels of stress. The PSS is a 14-item survey designed to assess the extent to which individuals perceive their current life situation as overloaded, uncontrollable, or unstable. This scale uses a 5 point Likert-type scale, ranging from

never (0) to very often (4), with seven positive items being reversed coded. Higher scores on the PSS indicate a higher level of life stress, and may be indicative of risk factors for specific psychological disorders (Al kalaldeh & Abu Sosha, 2012). The PSS has many advantages included the short length of the measure, the ease of understanding the items, the range of situations it covers, as well as its ability to be used as an outcome variable (Al kalaldeh & Abu Sosha, 2012). In the initial study describing the development of the PSS, Cohen and colleagues (1983) conducted three separate studies, two on college students and one on a smoking cessation group, to determine the internal consistency of the PSS. Cronbach alpha for the three samples were 0.84 and 0.85 in the college student sample and 0.86 in the smoking-cessation sample (Cohen, Kamark, & Mermelstein, 1983). Additionally, the test-retest correlation for the college student sample, taken two days after the initial administration of the PSS, was 0.85 (Cohen et al., 1983). It can be concluded that the PSS is a psychometrically sound instrument across several different subject groups, but is particularly useful for the assessment of stress in college students. For the present study, Cronbach alpha was .71, suggesting adequate internal consistency in this specific college student sample.

Procedure

Participants completed the present study in one of the campus computer labs using Qualtrics, a computer survey program. Participants were given the opportunity to read and sign the informed consent form before data collection began. Although a demographic survey was completed by participants, no identifying information such as their name was collected, allowing participants to remain anonymous. As noted previously (see Participant section), participants were asked to sign electronically the

consent form only if they were over the age of 18-years. After participants read and signed the consent form, they responded to the CES-D, M5-50, RSQ-18, MSPSS, and PSS items and completed the demographic survey. At the conclusion of the study, participants read the debriefing form. Participants were offered an opportunity to ask the researcher any questions they had about the study, both during and after the study took place, and were thanked for their participation.

CHAPTER FOUR: RESULTS

Data were analyzed using IBM SPSS Statistics version 20. Descriptives, means,

and standard deviations were calculated for all study variables. Depression scores among

the total sample (as measured by the CES-D) had a mean of 14.28, $SD = 9.21$, with scores

ranging from 0 to 45. This score is consistent with previous research utilizing similar

populations (Shean & Baldwin, 2008). Rejection sensitivity scores ranged from 1.28 to

20.89 ($M = 9.23$, $SD = 3.69$), and perceived social support scores range from 12.00 to

84.00 ($M = 70.58$, $SD = 14.82$). These scores are similar to previous studies that have

utilized the RSQ (e.g. Fang, Asnaani, Gutner, Cook, Wilhelm, & Hofmann, 2011) and

MSPSS (Asberg et al., 2008), respectively. Perceived life stress scores had a mean of

26.33, $SD = 6.62$, with scores ranging from 7 to 44. These scores are similar to previous

studies that have utilized the 14-item version of the PSS (e.g. Cohen et al., 1983;

Hamdan-Mansour & Dawani, 2008). Among the five personality domains, scores were as

follows: neuroticism ($M = 24.99$, $SD = 7.56$), extraversion ($M = 34.90$, $SD = 8.01$),

openness to experience ($M = 35.90$, $SD = 6.58$), agreeableness ($M = 38.97$, $SD = 4.86$),

and conscientiousness ($M = 37.80$, $SD = 6.12$). Data were checked for normality.

Gender Differences

A series of *t*-tests were conducted in order to examine possible group differences

between males and females on predictor variables (i.e., personality domains, rejection

sensitivity, perceived social support, and perceived life stress) and for the outcome

variable (i.e., depressive symptoms) (See Table 1). No gender differences were found for

the outcome variable of depressive symptoms, or for the predictor variables of rejection

sensitivity, perceived social support, perceived stress, neuroticism, extraversion, and openness to experience. Gender differences were found for agreeableness and conscientiousness, with females scoring higher than males on both variables.

Table 1

Gender Differences on Predictor and Outcome Variables

	Males (N = 50)		Females (N = 184)		
Predictor Variables	M	SD	M	SD	t
Rejection Sensitivity	9.05	3.02	9.27	3.86	-0.39
Perceived Social Support	5.61	1.43	5.95	1.19	-1.74
Perceived Life Stress	26.18	7.53	26.38	6.37	-0.19
Neuroticism	23.80	7.60	25.31	7.54	-1.25
Extraversion	34.12	8.94	35.11	7.76	-0.77
Agreeableness	37.59	4.96	39.34	4.78	-2.28*
Conscientiousness	36.02	6.51	38.28	5.94	-2.34*
Openness to Experience	35.82	6.40	35.93	6.64	-0.10
Outcome Variables	M	SD	M	SD	t
Depression	14.40	9.51	14.25	9.15	0.98

*$p<.05$

Correlations

Next, Pearson correlations were conducted in order to examine bivariate relationships among all variables in the present study (Table 2) for the overall sample and subsamples consisting of males and female, respectively. For the overall sample, depression (as measured by the CES-D) was significantly correlated with all predictor variables except Openness to Experience. Additional correlations were conducted for

males (Table 3) and females (Table 4) due to significant differences between the two

groups on the predictor variables of agreeableness and conscientiousness.

Table 2

Correlations Between All Variables for the Total Sample

	CES-D	RSQ	MSPSS	PSS	N	E	A	C	O
CES-D	1								
RSQ	.29**	1							
MSPSS	-.34**	-.19**	1						
PSS	.68**	.31**	-.26**	1					
Neuroticism	.70**	.37**	-.31**	.68**	1				
Extraversion	-.29**	-.39**	.33**	-.30**	-.42**	1			
Agreeableness	-.38**	-.24**	.30**	-.38**	-.44**	.22**	1		
Conscientious	-.37**	-.29**	.29**	-.37**	-.44**	.22**	.45**	1	
Openness	.11	-.04	-.03	-.01	-.02	.13	.09	.07	1

**p<.01

Table 3

Correlations Between All Variables for Males

	CES-D	RSQ	MSPSS	PSS	N	E	A	C	O
CES-D	1								
RSQ	.24	1							
MSPSS	-.21	-.23	1						
PSS	.78**	.35*	-.21	1					
Neuroticism	.75**	.40**	-.27	.72**	1				
Extraversion	-.25	-.50**	.34*	-.32*	-.42**	1			
Agreeableness	-.46**	-.25	.46**	-.50**	-.44**	.42**	1		
Conscientious	-.46**	-.32*	.44**	-.54**	-.44**	.52**	.52**	1	
Openness	.31*	-.03	-.02	.17	-.02	.09	.15	-.06	1

**p<.01 *p<.05

Table 4

Correlations Between All Variables for Females

	CES-D	RSQ	MSPSS	PSS	N	E	A	C	O
CES-D	1								
RSQ	.31**	1							
MSPSS	-.39**	-.19**	1						
PSS	.65**	.30**	-.29**	1					
Neuroticism	.69**	.36**	-.34**	.67**	1				
Extraversion	-.30**	-.38**	.32**	-.29**	-.42**	1			
Agreeableness	-.36**	-.24**	.23**	-.34**	-.42**	.15*	1		
Conscientious	-.35**	-.29**	.22**	-.31**	-.42**	.12	.41**	1	
Openness	.07	-.04	-.03	-.07	-.05	.18*	.08	.11	1

**p<.01 *p<.05

Multiple Regression Analyses

Multiple regression equations were examined to assess the ability of the independent variables to predict depression scores (as measured by the CES-D). A regression equation was examined to determine which underlying personality traits are predictive of depressive symptoms. Using the framework of the diathesis-stress model of depression, perceived life stress was also included in regression analyses to determine if life stress contributes unique variance to the development of depressive symptoms. Additionally, multiple regression equations were examined to determine if rejection sensitivity and perceived social support, which are both amenable to change, contribute unique variance to the predictive model beyond personality characteristics.

For the first regression equation, the five personality traits of neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness were entered as predictor variables in a standard multiple regression (Table 5). The overall model was significant with the entry of the five predictors, $F (5, 223) = 47.34$, $p <.001$, with 51.5% of the variance in depressive symptoms explained by the model. However, only

neuroticism and openness to experience were significant predictors of depressive

symptoms, with neuroticism recording a higher beta value (*beta* = .63, *p* <.001) than

openness to experience (*beta* = .13, *p* = .006).

Table 5

Predicting Depressive Symptoms with the Five Factor Model of Personality

Step of Analysis/Variable	Beta	*t*	*p*
Predicting Depressive Symptoms			
Step 1.			
Neuroticism	.63	10.87	.00
Extraversion	-.02	-.36	.72
Openness	.13	2.79	.01
Agreeableness	-.09	-1.60	.11
Conscientiousness	-.05	-.89	.38
			Model r^2 = .52**

** *p* < .01

Next, a hierarchical multiple regression was used to assess the ability of rejection

sensitivity and perceived social support to predict depressive symptoms, after controlling

for the influence of neuroticism and openness to experience (Table 6). Neuroticism and

openness to experience were entered in Block 1, explaining 49.3% of the variance in

depressive symptoms. The model was significant, $F(2, 220) = 106.87$, $p < .001$. Next,

perceived stress was entered in Block 2, and the total variance explained by the model as

a whole was 57.8%, *R* square change = .09. The model was significant, $F(3, 219) =$

100.01, $p <.001$, with all three variables contributing significant variance to the overall

model. Rejection sensitivity and perceived social support were entered in Block 3,

increasing the total variance in depressive symptoms to 58.8%, $F(5, 217) = 61.83$, p

<.001, *R* square change = .01. In the final model, neuroticism, openness to experience,

perceived stress, and perceived social support were significant, with neuroticism

recording a higher beta value (*beta* = 0.40, *p* <.001) than openness to experience (*beta* = 0.12, *p* = 0.01), perceived stress (*beta* = .38, *p* <.001), and perceived social support (*beta* = -.10, *p* = 0.03). Rejection sensitivity was no longer a significant predictor of depressive symptoms.

Table 6

Predicting Depressive Symptoms using Neuroticism, Openness, Life Stress, Social Support and Rejection Sensitivity

Step of Analysis/Variable	Beta	*t*	*p*
Predicting Depressive Symptoms			
Step 1.			
Neuroticism	.69	14.40	.00
Openness	.12	2.41	.02
Step 2.			
Neuroticism	.43	7.37	.00
Openness	.12	2.76	.01
Perceived Stress	.39	6.65	.00
Step 3.			
Neuroticism	.40	6.56	.00
Openness	.12	2.66	.01
Perceived Stress	.38	6.50	.00
Social Support	-.10	-2.21	.03
Rejection Sensitivity	.01	.13	.90
			Model r^2 = .59**

** *p* < .01

Moderation Analyses

Although rejection sensitivity failed to contribute significantly to the prediction model of depression in the context of personality variables, results suggested that perceived social support and perceived stress were significant predictors. Therefore, additional analyses were conducted to test specifically the hypothesis that rejection sensitivity and perceived social support may *interact* to contribute to participants'

depressive symptoms above and beyond their neuroticism scores. Specifically, a

moderation analysis was conducted to examine whether the interaction between rejection

sensitivity and perceived social support is a significant predictor of depressive symptoms,

after controlling for the effect of rejection sensitivity and perceived social support. The

interaction terms were created according to the method suggested by Holmbeck (2002).

First, the predictor variables of rejection sensitivity and perceived social support were

centered by subtracting the sample mean of each variable from all individuals' scores on

the variable, thus creating a revised sample mean of zero. Variables were centered to

reduce multicollinearity between the predictor variables and any interaction terms

between them. All centered variables (rejection sensitivity, perceived social support, and

the interaction term between the two) were then entered in a hierarchal multiple

regression equation. Moderation can be inferred when there is a significant interaction.

For the total sample, the overall model was significant, $F(3, 223) = 15.60$, $p < .001$, but

the interaction term (rejection sensitivity x social support) was not a significant predictor

of depressive symptoms after controlling for the influence of rejection sensitivity and

perceived social support (*beta* = -.10, $p = 0.10$).

Additional moderation analyses were conducted separately for each gender due to

differences in bivariate correlations (i.e., rejection sensitivity and perceived social

support were significantly correlated among females, but not among males). The overall

model for males approached significance, $F(3, 44) = 2.38$, $p = 0.08$ and the overall

model for females was significant, $F(3, 175) = 14.47$, $p < .001$. However, similar to the

total sample model, the interaction term among females was not a significant predictor of

depressive symptoms after controlling for the influence of rejection sensitivity and perceived social support (*beta* = -0.03, *p* = .66).

Overall, results provide partial support for hypotheses. As expected, results confirmed bi-variate associations between specific personality traits and depressive symptoms, and between perceived stress, social support, rejection sensitivity and depressive symptoms in the overall sample. When all predictors of depressive symptoms were considered together in a regression equation, only neuroticism, openness to experience, perceived stress, and perceived social support were significant. Rejection sensitivity failed to contribute significantly to the model of depression. Likewise, the interaction between rejection sensitivity and perceived social support did not explain depression scores beyond the two constructs alone. Conclusions, implications, limitations and suggestions for future research will be discussed.

CHAPTER FIVE: DISCUSSION

Depression is a large problem on college campuses, with about one third of emerging adults in college experiencing depressive symptoms in any given year (Eiser, 2011) and over half of students experiencing depressive symptoms in their college career (Furr et al., 2001). Therefore it is important to identify variables that contribute to this high prevalence of depression and that are amenable to change, so that they can be targets for intervention and prevention on college campuses.

Gender Differences

As seen previously in Table 1, there were no differences in males' and females' scores on measures of depressive symptoms, rejection sensitivity, perceived social support, perceived life stress, neuroticism, extraversion, and openness to experience. However, females were more agreeable and conscientious compared to their male counterparts. The lack of a significant gender difference on the measure of depressive symptoms is surprising and inconsistent with previous research that suggests women to experience more depressive symptoms compared to males (Asberg et al., 2008; Piccinelli & Wilkinson, 2000) and to be diagnosed with Major Depressive Disorder at a rate of 2:1 (females to males) from mid adolescence until late adulthood (Harkness et al., 2010).

One explanation for the lack of gender differences may be that the current study examined depressive symptoms, rather than the actual diagnosis of a Major Depressive Disorder. Lindsey and colleagues (2009) report that almost an equivalent percentage of female and male college students report experiencing depression, yet women are more likely to have been diagnosed with Major Depressive Disorder, received counseling for

their depression, and take antidepressants. Additionally, the current study had over three times the number of female participants than male participants, with a wider range of CES-D scores among the females, which may also have contributed to the lack of gender differences. Although, when we examined the CESD cutoff for "significant" or "mild" depressive symptomology (i.e. a score of 16 or greater), 39.58% of males and 31.49% of females scored above this cut off, which is similar to research suggesting that approximately one third of college students will experience depression at some point during their college career (Eiser, 2011). Further research needs to be conducted on depressive symptomology among college students to examine alternative explanations for why the gender gap is disappearing in non-clinical college student populations.

With regards to other variables, the present study found no significant gender differences on rejection sensitivity, which is similar to the findings reported by Mellin (2008). Additionally, no significant gender differences were found on students' perceived social support. This, however, this is contrary to many studies in which females are reported to perceive their overall social support as being more adequate (Asberg et al., 2008; Hamdan-Mansour & Dawani, 2008) and theories which suggest that females have a stronger affiliative style than males (Piccinelli & Wilkinson, 2000). Our findings are somewhat similar to those of Hamdan-Mansour and Dawani (2008), who found that college students did not differ by gender on their perceived social support from family; however, females perceived significantly more social support from friends than males. A similar finding was found by McDonald and colleagues (2010), suggesting females perceive more support from their friends than males, but do not differ on parental support. The current study, utilized total social support, and it is possible that males and

females would differ on specific subscales. Further, the lack of gender differences found on the measure of perceived life stress is similar to findings noted by Hamdan-Mansour and Dawani (2008). Overall, these findings suggest that the gender gap in depressive symptomology may be shrinking, possibly due to the similar levels of high stress perceived by both males and females. Given that stress management self-efficacy partially mediates the association between stress and depression, irrespective of gender, identifying those students with perceived deficits in their ability to manage stress and providing them with appropriate services may be useful (Swatzky, Ratner, Richardson, Washburn, Sudmant, et al., 2012).

Correlations

As seen previously in Table 2, our findings mostly supported the hypotheses. Specifically, the higher the students' scores on the neuroticism and rejection sensitivity scales, respectively, the higher their scores on the measure of depression. Further, findings suggested that more adequate social support (as perceived by the students) was inversely correlated with depressive symptoms. The same trends were seen in the subsample of female participants (Table 4), but not among males (Table 3). For males, specifically, rejection sensitivity and perceived social support, although correlated in the predicted direction, were not significantly associated with depressive symptoms. It is possible that a larger sample of males would have rendered a significant result.

Additional correlations were run among the four other personality facets and perceived life stress in relation to depressive symptoms. With regards to the overall sample, perceived stress was significantly positively correlated with depressive symptoms, as expected based on previous literature (Brown and Rosellini, 2011;

Bulmash et al., 2009). Additionally, extraversion, agreeableness, and conscientiousness were all negatively correlated with depressive symptoms, similar to results found by Hicks (2011). When looking at scores of females alone, once again all correlations followed the same pattern as found in the overall sample, possibly because the overall sample was comprised of mostly females. Among males, however, agreeableness and conscientiousness were significantly inversely related to depressive symptoms, whereas perceived life stress and openness to experience were significantly positively related to depressive symptoms. Although extraversion was negatively correlated with depressive symptoms, this correlation did not prove to be significant.

Multiple Regression Analyses

A multiple regression equation of the FFM of personality was conducted to assess the ability of the five personality facets to predict levels of depressive symptoms. As expected, neuroticism explained most of the variance in depressive symptoms; however, openness to experience was also a significant predictor of depressive symptoms. In contrast, when all five domains were entered together as predictors, extraversion, agreeableness, and conscientiousness were not significant predictors of depressive symptoms. A similar finding was noted in a study by Wolfenstein and Trull (1997), who found that openness to experience scores accounted for a significant proportion of the variance in depression scores, above the variance accounted for by neuroticism, as measured by the Inventory to Diagnose Depression (IDD).

To address the research question and determine if rejection sensitivity and perceived social support contribute something unique to college students' levels of depression, a hierarchical multiple regression was used. Although much research suggests

that the personality trait of neuroticism is the trait that underlies and individual's vulnerability to depression (Farmer et al., 2002; Hankin et al., 2007; Kercher et al., 2009), the present study also found that openness to experience contributed unique variance to depressive symptoms. Therefore, to control for all underlying personality vulnerabilities, both neuroticism and openness to experience were controlled for. Perceived life stress was also entered into the model, in line with the diathesis-stress model of depression, suggesting that underlying vulnerabilities interact with life stress to predict depressive symptoms (Bulmash et al., 2009). Rejection sensitivity and perceived social support were the last predictor variables entered into the model, to determine if these constructs, which are amenable to change, predicted depressive symptoms above and beyond personality. In the final model, neuroticism, openness to experience, perceived stress, and perceived social support were significant predictors of depressive symptoms.

Congruent with other research, and as predicted by the diathesis-stress model of depression, perceived life stress was predictive of depressive symptoms (Brown and Rosellini, 2011; Bulmash et al., 2009). Although rejection sensitivity did not contribute any unique variance to depressive symptoms after controlling for the influence of underlying personality factors, perceived social support did in fact contribute unique variance to the overall model. This suggests that social support is able to predict depressive symptomology above the underlying vulnerability of neuroticism and openness to experience. Therefore, it can be concluded that certain predictor variables that are amenable to change, specifically perceived social support, do contribute something unique to levels of depression in college students. High levels of perceived

social support, therefore, is determined to be a buffer against depressive symptoms, even if the individual is high on the personality trait of neuroticism.

Moderation Analyses

Perceived social support was found to contribute unique variance in depressive symptoms above personality traits, whereas rejection sensitivity did not. Therefore, moderation analyses were conducted to examine whether the interaction between rejection sensitivity and perceived social support is a significant predictor of depressive symptoms, after controlling for the effect of rejection sensitivity and perceived social support. Among the total sample, the overall model was significant, but the interaction term was not a significant predictor of depressive symptoms after controlling for the influence of rejection sensitivity and perceived social support. This suggests that the interaction between rejection sensitivity and perceived social support is not a significant predictor of depressive symptoms, although individually, both variables are significant predictors.

Moderation analyses were also conducted separately among both genders due to the fact that rejection sensitivity and perceived social support were not significantly correlated among males, but were among females. The overall model for males approached significance and the overall model for females was significant. However, similar to the total sample model, the interaction term among females was not a significant predictor of depressive symptoms after controlling for the influence of rejection sensitivity and perceived social support. Therefore, despite being significant predictors of depressive symptoms and correlated with one another, the interaction

between rejection sensitivity and perceived social support did not significantly predict depressive symptoms among females.

Implications

The findings of the present study have several implications. First, findings suggest that many personality traits, as well as constructs that are amenable to change are associated with depressive symptoms. Although personality traits are suggested to be relatively stable (McCrea & Costa, 1994), and therefore, are less appropriate targets of intervention in short-term therapeutic settings (i.e. college counseling centers), an individual's perceptions of rejection, social support, and stress can be such targets of intervention. Our findings suggest also that social support adequacy may be especially important for college students' depressive symptoms, even in the context of their personality traits. In contrast, rejection sensitivity, although correlated with depression, failed to predict outcomes when personality, social support, and stress were accounted for. Despite the failure to predict depression when other variables are accounted for, rejection sensitivity may still be important in a clinical context. For example, if students who are elevated in rejection sensitivity are taught to identify maladaptive cognitions of perceived rejection, these individuals can learn coping skills to counter these cognitions and, in turn, better cope with their depressive symptoms. Similarly, individuals who perceive low social support can be taught to recognize their maladaptive cognitions about lack of support and learn to challenge these negative cognitions. Further, individuals who perceive high levels of stress in their lives can be taught coping and stress reduction techniques to deal more effectively with life stressors, and simultaneously, reduce their depressive symptoms.

Although this study hypothesized that both rejection sensitivity and perceived social support would contribute to participants' depressive symptoms above and beyond their neuroticism scores, it was found that only perceived social support contributed significantly to depressive symptoms after controlling for personality. However, this suggests that despite underlying personality vulnerabilities, the perceived adequacy of an individual's social support is an important contributor to his or her depressive symptoms. More adequate social support can buffer against developing or experiencing depressive symptoms (Asberg et al., 2008), whereas low perceived social support can increase the risk of experiencing depressive symptoms (Stice et al., 2004). Although, it may not be plausible to target the actual *quantity* of supportive relationships an individual has, social support also refers to the perceived quality of the relationships (Asberg et al., 2008). Such cognitive patterns can be challenges in therapy (i.e., if a client under-estimates or under-utilizes existing supports), and skills aimed at identifying and retaining social supports can be practiced.

The present study also found interesting gender differences; most notably, the lack of gender differences on the outcome variable of depressive symptoms and the predictor variable of perceived social support. Previous research indicates that women are more depressed than men, at a ratio of 2:1 (Harkness et al., 2010). Additionally, research also suggests that women perceive more social support, often attributed to their affiliative style (Piccinelli & Wilkinson, 2000).

Limitations and Future Directions

There are several limitations to the present study. First, the sample was overwhelmingly White (91.5%), as well as majority female (78.6%). The large difference

in the number of male and female participants may have contributed to the lack of gender differences in depressive symptoms. Additionally, all measures used in the present study were self-reports. Although participants were asked to answer honestly, told that their data was anonymous, and told that they could withdraw from the study at any point in time, there is still a chance that individuals answered in an attempt to make themselves look more desirable. Further, the present study was correlational in nature, meaning that causality is unable to be drawn from the findings. Moreover, the use of a non-clinical sample of undergraduate students limits the generalization to community samples and clinical samples. However, given that our findings were consistent with recent reports about the prevalence of depression among college students, some important conclusions can still be drawn.

Findings suggest several directions for future studies. First, with regard to gender differences, findings of the present study suggest no significant differences in depressive symptoms among males and females. Future studies may want to examine gender differences in depressive symptoms in a clinical college sample, to examine for a potential reduction in the gender gap in college students who meet criteria for a Major Depressive Disorder. Studies may also want to examine gender differences in perceived social support as predictive of depressive symptoms above personality. Although the current study found no gender differences among perceived social support, many previous studies have found that women perceive greater levels of social support, especially from friends (i.e. Hamdan-Mansour and Dawani, 2008). Thus, more research is clearly needed. Future studies may also consider separating participants into groups based on levels of rejection sensitivity, perceived social support, and neuroticism (i.e. Hi RS,

Lo SS, Hi N; Lo RS, Hi SS, Lo N; etc.), to determine if there are differences in depression between the groups. Finally, longitudinal studies should be conducted among both clinical and non-clinical samples both to monitor the development of depression in relation to the discussed variables, as well as determining interventions that are effective at targeting maladaptive perceptions of rejection, social support, and stress and reducing depression in the long term.

Conclusion

The current research supports the bodies of literature that suggest neuroticism is highly correlated with depressive symptoms (i.e., Kendler & Myers, 2010), high levels of social support buffers the impact and development of depressive symptoms (i.e., Asberg et al., 2008), and high levels of rejection sensitivity is associated with depressive symptoms (i.e. Mellin, 2008). Additionally, the current study adds to the literature about the diathesis-stress model of depression. Certain constructs that are amenable to change (i.e., social support; perceived stress) are able to predict variance in depressive symptoms above the underlying vulnerability of personality. Further, these variables can be targets of intervention to reduce – or prevent – college students' risk for developing depressive symptoms. Also, the unexpected finding of lack of gender differences in depressive symptoms may encourage researchers to further study a potential reduction in the gender gap. It may also be important to examine if these similarities exist in clinical samples as well. Research questions and studies should now turn to the intervention and treatment of college students who exhibit depressive symptoms and also are high in rejection sensitivity, low in perceived social support, perceive a high level of life stress, or a combination of these factors.

REFERENCES

Abramson, L.Y., Metalsky, G.I., & Alloy, L.B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review, 96* (2), 358-372.

Al kalaldeh, M. T. & Abu Shosha, G. M. (2012). Application of the perceived stress scale in health care studies. An analysis of literature. *International Journal of Academic Research Part B, 4* (4), 45-50.

American Psychiatric Association. *Diagnostic and Statistical Manuel of Mental Disorder, Fourth Edition Text Revision (DSM-IV-TR).* Washington DC, APA 2000, p. 369.

Arnett, J.J. (2000). Emerging adulthood: A theory of development from the late teens thought the twenties. *American Psychologist, 55*(5), 469-480. doi: 10.1037//0003-066X.55.5.469.

Asberg K.A., Bowers, C., Renk, K., & McKinney, C. (2008). A structural equation modeling approach to the study of stress and psychological adjustment in emerging adults. *Child Psychology & Human Development, 39*(4), 481-501. doi: 10.1007/s10578-008-0102-0.

Aselton, P. (2012). Sources of stress and coping in American college students who have been diagnosed with depression. *Journal of Child and Adolescent Psychiatric Nursing, 25*(3), 119-123. doi: 10.1111/j.1744-6171.2012.00341.x.

Ayduk, O., Downey, G., & Kim, M. (2001). Rejection sensitivity and depressive symptoms in women. *Personality and Social Psychology Bulletin, 27,* 868-877. doi: 10.1177/0146167201277009.

Beck, A.T. (1987). Cognitive models of depression. *Journal of Cognitive Psychotherapy, An International Quarterly, 1*, 5-37.

Blatt, S.J. (1974). Levels of object representation in anaclitic and introjective depression. *Psychoanalytic Study of the Child, 24,* 107-157.

Brissette, I., Scheier, M.F., & Carver, C.S. (2002). The role of optimism in social network development, coping, psychological adjustment during a life transition. *Journal of Personality and Social Psychology, 82* (1), 102-111. doi: 10.1037//0022-3514.82.1.02.

Brown, T.A. & Rosellini, A.J. (2011). The direct and interactive effects of neuroticism and life stress on the severity and longitudinal course of depressive symptoms. *Journal of Abnormal Psychology, 120* (4), 844-856. doi: 10.1037/a0023035.

Bulmash, E., Harkness, K.L., Stewart, J.G., & Bagby, R.M. (2009). Personality, stressful life events, and treatment response in major depression. *Journal of Consulting and Clinical Psychology, 77*(6), 1067-1077. doi: 10.1037/a0017149.

Clara, I.P., Cox, B.J., Enns, M.W., Murray, L.T., & Torgrudc, L.J. (2003). Confirmatory factor analysis of the multidimensional scale of perceive social support in clinically distressed and student samples. *Journal of Personality Assessment, 81*(3), 265-270.

Cohen, S., Kamarck, T. & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385-396.

Cohen, S. & McKay, G. (1984). Social support, stress, and the buffering hypothesis: A Theoretical Analysis. In A. Baum, S.E. Taylor, & J.E. Singer (Eds.) *Handbook of*

Psychology and Health Volume 4: Social Psychological Aspects of Health, 253-267. Hillsdale, NJ: Lawrence Erlbaum.

Craighead, W.E., Sheets, E.S., Craighead, L.W., & Madsen, J.W. (2011). Recurrence of MDD: A prospective study of personality pathology and cognitive distortions. *Personality Disorders: Theory, Research, and Treatment, 2*(2), 83-97. doi: 10.1037/a0020456.

Dahlem, N.W., Zimet, G.D., & Walker, R.R. (1991). The multidimensional scale of perceived social support: A confirmation study. *Journal of Clinical Psychology, 47*(6), 756-761.

Daughtry, D. & Kunkel, M.A. (1993). Experience of depression in college students: A concept map. *Journal of Counseling Psychology, 40*(3), 316-323.

Deckro, G. R., Ballinger, K. M., Hoyt, M., Wilcher, M., Dusek, J., Myers, P., Greenberg, B., Rosenthal, D. S., & Benson, H. (2002). The evaluation of a mind/body intervention to reduce psychological distress and perceived stress in college students. *Journal of American College Health, 50,* 281-287.

DeRubeis, R.J., Evans, M.D., Hollon, S.D., Garvey, M.J., Grove, W.M., & Tuason, V.B. (1990). How does cognitive therapy work? Cognitive change and symptom change in cognitive therapy and pharmacotherapy for depression. *Journal of Consulting and Clinical Psychology, 58* (6), 862-869.

Dolbier, C. L. & Rush, T. E. (2012). Efficacy of abbreviated progressive muscle relaxation in a high-stress college student sample. *International Journal of Stress Management, 19*(1), 48-68.

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., Freitas, A.L., Michaelis, B., & Khouri, H. (1998).The self-fulfilling

    prophecy in close relationships: Rejection sensitivity and rejection by romantic

    partners. *Journal of Personality and Social Psychology, 75* (2), 545-560.

Eberhart, N. K., & Hammen, C. L. (2010). Interpersonal states, stress, and depression: An

    examination of transactional and diathesis-stress models. *Journal of Social and*

    *Clinical Psychology, 29(*1), 23-38.

Edwards, L. (2004). Measuring perceived social support in Mexican American youth:

    Psychometric properties of the multidimensional scale of perceived social

    support. *Hispanic Journal of Behavioral Sciences, 26*(2), 187-194. doi:

    10.1177/0739986304264374.

Ehnvall, A., Mitchell, P.B., Hadzi-Pavlovic, D., Malhi, G.S., & Parker, G. (2009). Pain

    during depression and relationship to rejection sensitivity. *Acta Psychiatrica*

    Scandinavica, 119, 37-382.

Eiser, A. (2011). The crisis on campus. *American Psychological Association, 42*, 18-19.

Fang, A., Asnaani, A. Gutner, C., Cook, C., Wilhelm, S., & Hofmann, S. G. (2011).

    Rejection sensitivity mediates the relationship between social anxiety and body

    dysmorphic concerns. *Journal of Anxiety Disorders, 25*, 946-949.

Farmer, A., Redman, K., Harris, T., Mahmood, A., Sadler, S., Pickering, A., &

    McGuffin, P. (2002). Neuroticism, extraversion, life events and depression: The

    Cardiff Depression Study. *British Journal of Psychiatry, 181*, 118-122. doi:

    10.1192/bjp.181.2.118.

Furr, R. S., Westefeld, S. J., McConnell, N. G., & Jenkins, M. J. (2001). Suicide and depression among college students: A decade later. Professional Psychology: Research and Practice, 32, 97-100.

Gerdes, H. & Mallinckrodt, B. (1994). Emotional, social, and academic adjustment of college students: A longitudinal study of retention. *Journal of Counseling and Development, 72*(3), 281-288.

Guo, Y. M., Wang, S. C., Johnson, V., & Diaz, M. (2011). College students' stress under current economic downturn. *College Student Journal, 45*(3), 536-543.

Hamdan-Mansour, A. M. & Dawani, H. A. (2008). Social support and stress among university students in Jordan. *International Journal of Mental Health Addiction, 6*(3), 442-450.

Hankin, B., Lakdawalla, Z., Carter, I.L., Abela, J.R.Z., & Adams, P. (2007). Are neuroticism, cognitive vulnerabilities and self-esteem overlapping or distinct risks for depression? Evidence from exploratory and confirmatory factor analyses. *Journal of Social and Clinical Psychology, 26* (1), 29-63

Harkness, K. L., Alavi, N., Monroe, S. M., Slavich, G. M., Gotlib, I. H., & Bagby, R. M. (2010), Gender differences in life events prior to onset of major depressive disorder: The moderating effect of age. *Journal of Abnormal Psychology*, *119*(4), 791-803. doi:10.1037/a0020629.

Hicks, A. (2011). *Nosology of depression: Neuroticism as a higher order factor in a dimensional approach to depression* (Master's thesis). Western Carolina University, Cullowhee, NC.

Holmbeck, G. N. Post-hoc probing of significant moderational and mediational effects in studies of pediatric populations. *Journal of Pediatric Psychology, 27*(1), 87-96.

Hyun, J.K., Quinn, B.C., Madon, T., & Lustig, S. (2006). Graduate Student Mental Health: Needs Assessment and Utilization of Counseling Services. *Journal of College Student Development, 47*, 247-266.

Ingram, R. E., Trenary, L., Odom, M., Berry, L., & Nelson, T. (2007). Cognitive, affective and social mechanisms in depression risk: Cognition, hostility, and coping style. *Cognition and Emotion, 21* (1), 78-94.

Kendler, K. S. & Myers, J. (2010). The genetic and environmental relationship between major depression and the five-factor model of personality. *Psychological Medicine, 40*, 801-806. doi: 10.1017/S0033291709991140

Kercher, A.J., Rapee, R.M., & Schniering, C.A. (2009). Neuroticism, life events and negative thoughts in the development of depression in adolescent girls. *Journal of Abnormal Child Psychology, 37*(7), 903-915.

Kessler, R. C., Chiu, W. T., Demier, O., & Walters, E.E. (2005). Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). *Archives of General Psychiatry, 62*(6), 617-27.

Kitzrow, M. A. (2003). The Mental Health Needs of Today's College Students: Challenges and Recommendations. *NASPA Journal, 41*, 167-181.

Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking "big" personality traits to anxiety, depressive, and substance use disorders: A meta-analysis. *Psychological Bulletin, 136* (5), 768-821. doi: 10.1037/a0020327.

Lindsey, B. J., Fabiano, P., & Stark, C. (2009). The prevalence and correlates of depression among college students. *College Student Journal, 43*(4), 999-1014.

McCord, D.M. (2002). *M5-50 Questionnaire.* (Available from the author by request: mccord@wcu.edu).

McCrae, R.R. & Costa, P.T. (1994). The stability of personality: Observation and evaluations. *Current Directions in Psychological Science, 3*, 173-175.

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 Adolescence, 39*, 563-574.

Mellin, E.A. (2008). Rejection sensitivity and college student depression: Findings and implications for counseling. *Journal of College Counseling, 11*, 32-41.

Nezlek, J.B., Kowalski, R.M., Leary, M.R., Blevins, T. & Holgate, S. (1997). Personality moderators of reactions to rejection: Depression and trait self-esteem. *Personality and Social Psychology Bulletin, 23*, 1235-1244. doi: 10.1177/01461672972312001

Piccinelli, M. & Wilkinson, G. (2000). Gender differences in depression: Critical review. *The British Journal of Psychiatry, 177*, 486-492. doi: 10.1192/bjp.177.6.486

Prenoveau, J. M., Craske, M. G., Zinbarg, R. E., Mineka, S., Rose, R. D., & Griffith, J. W. (2011). Are anxiety and depression just as stable as personality during late adolescence? Results from a three-year longitudinal latent variable study. *Journal of Abnormal Psychology, 120*(4), 832-843.

Pryor, J.H., Hurtado, S., DeAngelo, L., Palucki, B.L., & Tran, S. (2010). *The American freshman: National norms fall 2010.* Los Angeles: Higher Education Research Institute, UCLA.

Radloff, L.S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1,* 385-401.

Reynolds, E.K., MacPherson, L., Tull, M.T., Baruch, D.E., & Lejuez, C.W. (2011). Integration of the brief behavioral activation treatment for depression (BATD) into a college orientation program: Depression and alcohol outcomes. *Journal of Counseling Psychology, 58* (4), 555-564. doi: 10.1037/a0024634

Rissanen, T., Viinamaki, H., Honkalampi, K., Lehto, S.M., Hintikka, J., Saharinen, T., & Koivumaa-Honkanen, H. (2011). Long term life dissatisfaction and subsequent major depressive disorder and poor mental health. *MBC Psychiatry, 11*(140), 1-6.

Ross, S.E., Niebling, B.C., & Heckert, T.M. (1999). Sources of stress among college students. *College Student Journal, 33*, 312-317.

Ruiz, S., Sharkness, J., Kelly, K., DeAngelo, L., & Pryor, J. Findings from the 2009 administration of the 'Your First College Year' (YFCY): National aggregates. Lost Angeles: Higher Education Research Institute, UCLA; 2010.

Schimmack, U., Oishi, S., Furr, R. M., & Funder, D. C. (2004). Personality and life-satisfaction: A facet-level analysis. *Personality and Social Psychology Bulletin, 30*(8), 1062-1075. doi: 0.1177/0146167204264292.

Shean, G. & Baldwin, G. (2008). Sensitivity and specificity of depression questionnaires in a college-age sample. *The Journal of Genetic Psychology, 169*(3), 281-288.

Socha, A., Cooper, C.A., & McCord, D.M. (2010). Confirmatory factor analysis of the M5-50: An implementation of the international personality item pool item set. *Psychological Assessment, 22*(1), 43-49. doi: 10.1037/a0017371.

Skowron, E.A., Wester, S.R., & Azen, R. (2004). Differentiation of self mediates college stress and adjustment. *Journal of Counseling & Development, 82,* 69-82.

Stice, Ragan, & Randall (2004). Prospective relations between social support and depression: Differential direction of effects for parent and peer support? *Journal of Abnormal Psychology, 113*(1), 155-159. doi: 10.1037/0021-843X.113.1.155

Sutton, J.M., Mineka, S., Zinbarg, R.E., Craske, M.G., Griffith, J.W., Rose, R.D., et al. (2011). The relationships of personality and cognitive styles with self-reported symptoms of depression and anxiety. *Cognitive Therapy and Research, 35*, 381-393. doi: 10.1007/s10608-010-9336-9.

Swatzky, R. G., Ratner, P. A., Richardson, C. G., Washburn, C., Sudmant, W., & Mirwaldt, P. (2012). Stress and depression in students: the mediating role of stress management self-efficacy. *Nursing Research, 61*(1), 13-21. doi: 10.1097/NNR.0b013e31823b1440.

Tops, M., Riese, H., Oldehinkel, A.J., Riksdijk, R.V., & Ormel, J. (2008). Rejection sensitivity related to hypocortisolism and depressed mood state in young women. *Psychoneuroendocrinology, 33*, 551-559.

Wei, M., Russell, D.W., & Zakalik, R.A. (2005). Adult attachment, social self-efficacy, self-disclosure, loneliness, and subsequent depression for freshmen college students: A longitudinal study. *Journal of Counseling Psychology, 52*(4), 602-614. doi: 10.1037/0022-0167.52.4.602.

Wolfenstein, M. & Trull, T. J. (1997). Depression and openness to experience. *Journal of Personality Assessment, 69*(3), 614-632.

Zimet, G.D., Dahlem, N.W., Zimet, S.G. & Farley, G.K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 52*, 30-41.

Zimet, G.D., Powell, S.S., Farley, G.K., Werkman, S., & Berkoff, K.A. (1990). Psychometric characteristics of the multidimensional scale of perceived social support. *Journal of Personality Assessment, 55*(3 & 4), 610-617

Zivin, K., Eisenberg, D., Gollust, S. E., & Golberstein, E. (2009). Persistence of mental health problems and needs in a college student population. *Journal of Affective Disorders, 117*(3), 180-185. doi: 10.1016/j.jad.2009.01.001.

APENDIX A

Center for Epidemiologic Studies Depression Scale (CES-D), NIMH
Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

1. I was bothered by things that usually don't bother me.
    o   Rarely or none of the time (<1 day)
    o   Some or a little of the time (1-2 days)
    o   Occasionally or a moderate amount of time (3-4 days)
    o   Most or all of the time (5-7 days)

2. I did not feel like eating; my appetite was poor.
    o   Rarely or none of the time (<1 day)
    o   Some or a little of the time (1-2 days)
    o   Occasionally or a moderate amount of time (3-4 days)
    o   Most or all of the time (5-7 days)

3. I felt that I could not shake off the blues even with the help from my family or friends.
    o   Rarely or none of the time (<1 day)
    o   Some or a little of the time (1-2 days)
    o   Occasionally or a moderate amount of time (3-4 days)
    o   Most or all of the time (5-7 days)

4. I felt I was just as good as other people.
    o   Rarely or none of the time (<1 day)
    o   Some or a little of the time (1-2 days)
    o   Occasionally or a moderate amount of time (3-4 days)
    o   Most or all of the time (5-7 days)

5. I had trouble keeping my mind on what I was doing.
    o   Rarely or none of the time (<1 day)
    o   Some or a little of the time (1-2 days)
    o   Occasionally or a moderate amount of time (3-4 days)
    o   Most or all of the time (5-7 days)

6. I felt depressed.
    o   Rarely or none of the time (<1 day)
    o   Some or a little of the time (1-2 days)
    o   Occasionally or a moderate amount of time (3-4 days)

    o   Most or all of the time (5-7 days)

7. I felt that everything I did was an effort.
   - Rarely or none of the time (<1 day)
   - Some or a little of the time (1-2 days)
   - Occasionally or a moderate amount of time (3-4 days)
   - Most or all of the time (5-7 days)

8. I felt hopeful about the future.
   - Rarely or none of the time (<1 day)
   - Some or a little of the time (1-2 days)
   - Occasionally or a moderate amount of time (3-4 days)
   - Most or all of the time (5-7 days)

9. I thought my life had been a failure.
   - Rarely or none of the time (<1 day)
   - Some or a little of the time (1-2 days)
   - Occasionally or a moderate amount of time (3-4 days)
   - Most or all of the time (5-7 days)

10. I felt fearful.
    - Rarely or none of the time (<1 day)
    - Some or a little of the time (1-2 days)
    - Occasionally or a moderate amount of time (3-4 days)
    - Most or all of the time (5-7 days)

11. My sleep was restless.
    - Rarely or none of the time (<1 day)
    - Some or a little of the time (1-2 days)
    - Occasionally or a moderate amount of time (3-4 days)
    - Most or all of the time (5-7 days)

12. I was happy.
    - Rarely or none of the time (<1 day)
    - Some or a little of the time (1-2 days)
    - Occasionally or a moderate amount of time (3-4 days)
    - Most or all of the time (5-7 days)

13. I talked less than usual.
    - Rarely or none of the time (<1 day)
    - Some or a little of the time (1-2 days)
    - Occasionally or a moderate amount of time (3-4 days)
    - Most or all of the time (5-7 days)

14. I felt lonely.
    - Rarely or none of the time (<1 day)
    - Some or a little of the time (1-2 days)
    - Occasionally or a moderate amount of time (3-4 days)
    - Most or all of the time (5-7 days)

15. People were unfriendly.
    - Rarely or none of the time (<1 day)
    - Some or a little of the time (1-2 days)
    - Occasionally or a moderate amount of time (3-4 days)
    - Most or all of the time (5-7 days)

16. I enjoyed life.
    - Rarely or none of the time (<1 day)
    - Some or a little of the time (1-2 days)
    - Occasionally or a moderate amount of time (3-4 days)
    - Most or all of the time (5-7 days)

17. I had crying spells.
    - Rarely or none of the time (<1 day)
    - Some or a little of the time (1-2 days)
    - Occasionally or a moderate amount of time (3-4 days)
    - Most or all of the time (5-7 days)

18. I felt sad.
    - Rarely or none of the time (<1 day)
    - Some or a little of the time (1-2 days)
    - Occasionally or a moderate amount of time (3-4 days)
    - Most or all of the time (5-7 days)

19. I felt that people disliked me.
    - o Rarely or none of the time (<1 day)
    - o Some or a little of the time (1-2 days)
    - o Occasionally or a moderate amount of time (3-4 days)
    - o Most or all of the time (5-7 days)

20. I could not get "going".
    - o Rarely or none of the time (<1 day)
    - o Some or a little of the time (1-2 days)
    - o Occasionally or a moderate amount of time (3-4 days)
    - o Most or all of the time (5-7 days)

APPENDIX B

Rejection Sensitivity Questionnaire (RSQ-18)

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 <u>concerned or anxious</u> would you be about how the other person would respond?
2) How do you think <u>the other person</u> would be <u>likely to respond</u>?

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 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 professors 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 professors 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 to 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   very unconcerned   very concerned
or not your friend would want to go with you?   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   very unconcerned   very concerned
or not your boyfriend/girlfriend would want to see you?   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   very unconcerned   very concerned
or not your friend would want to loan it to you?   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   very unconcerned   very concerned
or not your parents would want to come?   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   very unconcerned   very concerned
or not your friend would do this favor?   1   2   3   4   5   6

I would expect that he/she would willingly do   very unlikely   very likely
this favor for me.   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 C

Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet & Farley, 1988)

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**
Circle the "2" if you **Strongly Disagree**
Circle the "3" if you **Mildly Disagree**
Circle the "4" if you are **Neutral**
Circle the "5" if you **Mildly Agree**
Circle the "6" if you **Strongly Agree**
Circle the "7" if you **Very Strongly Agree**

1. There is a special person who is around when I   1   2   3   4   5   6   7
   SO
   am in need.
2. There is a special person with whom I can share   1   2   3   4   5   6   7
   SO
   my joys and sorrows.
3. My family really tries to help me.   1   2   3   4   5   6   7
   Fam
4. I get the emotional help and support I need from   1   2   3   4   5   6   7
   Fam
   my family.
5. I have a special person who is a real source of   1   2   3   4   5   6   7
   SO
   comfort to me.
6. My friends really try to help me.   1   2   3   4   5   6   7
   Fri
7. I can count on my friends when things go wrong.   1   2   3   4   5   6   7
   Fri
8. I can talk about my problems with my family.   1   2   3   4   5   6   7
   Fam
9. I have friends with whom I can share my joys   1   2   3   4   5   6   7
   Fri
   and sorrows.
10. There is a special person in my life who cares   1   2   3   4   5   6   7
    SO
    about my feelings.

11. My family is willing to help me make decisions.   1 2 3 4 5 6 7
    Fam

12. I can talk about my problems with my friends.   1 2 3 4 5 6 7
    Fri

The items tended to divide into factor groups relating to the source of the social support, namely family (Fam), friends (Fri) or significant other (SO).

APPENDIX D

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question chose from the following alternatives:

never

almost never

sometimes

fairly often

very often

1. In the last month, how often have you been upset because of something that happened unexpectedly?

0 1 2 3 4

2. In the last month, how often have you felt that you were unable to control the important things in your life?

0 1 2 3 4

3. In the last month, how often have you felt nervous and "stressed"?   0 1 2 3 4

4. In the last month, how often have you dealt successfully with irritating life hassles?   0 1 2 3 4

5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?

0 1 2 3 4

6. In the last month, how often have you felt confident about your ability to handle your   personal problems?

0 1 2 3 4

7. In the last month, how often have you felt that things were going your way?

0 1 2 3 4

8. In the last month, how often have you found that you could not cope with all the things that you had to do?

0 1 2 3 4

9. In the last month, how often have you been able to control irritations in your life?

0 1 2 3 4

10. In the last month, how often have you felt that you were on top of things?

0 1 2 3 4

11. In the last month, how often have you been angered because of things that happened that were outside of your control?

0 1 2 3 4

12. In the last month, how often have you found yourself thinking about things that you have to accomplish?

0 1 2 3 4

13. In the last month, how often have you been able to control the way you spend your time?

0 1 2 3 4

14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

0 1 2 3 4

APPENDIX E

M5-50 Questionnaire

David M. McCord, Ph.D., Western Carolina University

Name: _____   **Age:** _____   **M   F   Date:**
_____

Optional Fields

Phone: _____   **Email:** _____   **Ethnic identity**: _____

Custom Field #1: _____

Custom Field #2: _____

Custom Field #3: _____

This is a personality questionnaire, which should take about 10 minutes. There are no right or wrong answers to these questions; you simply respond with the choice that describes you best.

If you feel that you cannot see the questions appropriately because of sight difficulties, cannot use a pencil well because of hand-motor problems, or know of any other physical, emotional, or environmental issues which would affect your performance on this test, please notify the testing administrator now.

If you feel extremely nervous about this testing process and feel that your nervousness will affect your performance, please notify the testing administrator so that they can answer any questions about this process and alleviate any fears. Please recognize that a degree of nervousness is normal for most testing.

The *M5 Questionnaire* is used primarily for research purposes, though in certain cases individual results may be shared with the test-taker through a professional consultation. In general, results are treated anonymously and are combined with other data in order to develop norms, establish psychometric properties of these scales and items, and to study various theoretical and practical issues within the field of personality psychology.

By proceeding with the process and responding to these questionnaire items, you are expressing your understanding of these terms and your consent for your data to be used for research purposes. You are also agreeing to release and forever discharge *Western Carolina University* and *David M. McCord, Ph.D.,*

- Without spending too much time dwelling on any one item, just give the first reaction that comes to mind.
- In order to score this test accurately, it is very important that you answer *every* item, without skipping any. You may change an answer if you wish.
- It is ultimately in your best interest to respond as honestly as possible. Mark the response that best shows how you really feel or see yourself, not responses that you think might be

---

Turn the page over now

M5-50 Questionnaire		Innacurate	Moderately Innacurate	Neither	Moderately Accurate	Page 2 Accurate
1	Have a vivid imagination	O	O	O	O	O
2	Believe in the importance of art	O	O	O	O	O
3	Seldom feel blue	O	O	O	O	O
4	Have a sharp tongue	O	O	O	O	O
5	Am not interested in abstract ideas	O	O	O	O	O
6	Find it difficult to get down to work	O	O	O	O	O
7	Panic easily	O	O	O	O	O
8	Tend to vote for liberal political candidates	O	O	O	O	O
9	Am not easily bothered by things	O	O	O	O	O
10	Make friends easily	O	O	O	O	O
11	Often feel blue	O	O	O	O	O
12	Get chores done right away	O	O	O	O	O
13	Suspect hidden motives in others	O	O	O	O	O
14	Rarely get irritated	O	O	O	O	O
15	Do not like art	O	O	O	O	O
16	Dislike myself	O	O	O	O	O
17	Keep in the background	O	O	O	O	O
18	Do just enough work to get by	O	O	O	O	O
19	Am always prepared	O	O	O	O	O
20	Tend to vote for conservative political candidates	O	O	O	O	O
21	Feel comfortable with myself	O	O	O	O	O
22	Avoid philosophical discussions	O	O	O	O	O
23	Waste my time	O	O	O	O	O
24	Believe that others have good intentions	O	O	O	O	O
25	Am very pleased with myself	O	O	O	O	O
26	Have little to say	O	O	O	O	O

		Innacurate	Moderately Innacurate	Neither	Moderately Accurate	Accurate
27	Feel comfortable around other people	o	o	o	o	o
28	Am often down in the dumps	o	o	o	o	o
29	Do not enjoy going to art museums	o	o	o	o	o
30	Have frequent mood swings	o	o	o	o	o
31	Don't like to draw attention to myself	o	o	o	o	o
32	Insult people	o	o	o	o	o
33	Have a good word for everyone	o	o	o	o	o
34	Get back at others	o	o	o	o	o
35	Carry out my plans	o	o	o	o	o
36	Would describe my experiences as somewhat dull	o	o	o	o	o
37	Carry the conversation to a higher level	o	o	o	o	o
38	Don't see things through	o	o	o	o	o
39	Am skilled in handling social situations	o	o	o	o	o
40	Respect others	o	o	o	o	o
41	Pay attention to details	o	o	o	o	o
42	Am the life of the party	o	o	o	o	o
43	Enjoy hearing new ideas	o	o	o	o	o
44	Accept people as they are	o	o	o	o	o
45	Don't talk a lot	o	o	o	o	o
46	Cut others to pieces	o	o	o	o	o
47	Make plans and stick to them	o	o	o	o	o
48	Know how to captivate people	o	o	o	o	o
49	Make people feel at ease	o	o	o	o	o
50	Shirk my duties	o	o	o	o	o

APPENDIX F

Demographic Questionnaire

Age: _____

Sex:

- o   Male
- o   Female
- o   Transgender
- o   Prefer not to say

Race/Ethnicity:

- o   White, non-Hispanic
- o   African-American
- o   Hispanic
- o   Asian-Pacific Islander
- o   Native American
- o   Other: _____
- o   Prefer not to say

Relationship status:

- o   Single, Never Married
- o   In a serious, long-term relationship/engaged
- o   Married/Partnered
- o   Divorced
- o   Widowed
- o   Prefer not to say

Class standing:

- o   Freshman
- o   Sophomore
- o   Junior
- o   Senior
- o   Other (please explain) _____

Undergraduate Major: _____

- o   Check here if undecided/undeclared

APPENDIX G

Informed Consent Form

My name is Jessica Kelliher, I am a graduate student in the psychology department at Western Carolina University.
This study is being conducted for data collection for my master's thesis in clinical psychology. I am conducting this research to examine factors that influence college students' depressive symptoms.

Your involvement in this project involves answering a series of questions on social support, rejection sensitivity, personality, life stress, and depressive symptoms. The study should take about 30-45 minutes to complete. You must be 18 years or older to participate.

Some of the questions in this study may deal with topics that are sensitive or elicit negative emotions. If you do not feel comfortable answering a question, feel free to skip it and move on to the next one. Participation in this study is completely voluntary; therefore, if at any point if you feel the need, you may withdraw from the study.

All the information received in the study is anonymous and will be kept confidential. Only summarized data will be presented at conferences or any publications.

 If you have any further questions, please discuss them with me at this time. However, if you would like to discuss the research at another time, you should contact me at jlkelliher@email.wcu.edu or my Thesis Chair, Dr. Kia Asberg, Department of Psychology, Western Carolina University, 828-227-3451. If you have any questions or concerns about your treatment as a participant in this study, you can reach the Chair of the Western Carolina University Institutional Review Board through WCU's Office of Research Administration at 828-227-7212.

Please complete the portion of the consent form below:

☐ I agree to participate in the study described above

☐ I DO NOT consent to participate

APPENDIX F

Debriefing Form

Thank you for participating in this study. Your time and effort are much appreciated. This study examined factors that influence college students' depressive symptoms; in particular, personality, perceived social support, rejection sensitivity, and perceived life stress. The procedure included you answering a series of questions in each of the previously mentioned areas. Some of the questions dealt with topics that may have elicited negative emotions, and therefore at the end of this form there is contact information for the counseling center on campus if you feel as if you need to talk to someone about any emotions that were brought up during this study. We predict that individuals who have high scores in the personality trait of neuroticism, those who perceive less social support, those high in rejection sensitivity, and those who perceive high life stress will display more symptoms of depression. This study has received ethics clearance through the Institutional Review Board. If you have any questions or concerns about your participation in this study, you can contact Jessica Kelliher at jlkelliher@email.wcu.edu or Dr. Kia Asberg at 828-227-3451.

WCU Counseling and Psychological Services
Monday – Friday: 8am – 5pm
225 Bird Building
828-277-7469
http://www.wcu.edu/7946.asp