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Gender Differences in Depressive Symptoms: The Interaction of Cognitive Avoidance Coping and Specific Stressor Domains During Freshmen Adaptation to College

Daniel Dickson
Loyola University Chicago

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LOYOLA UNIVERSITY CHICAGO

GENDER DIFFERENCES IN DEPRESSIVE SYMPTOMS: THE INTERACTION OF
COGNITIVE AVOIDANCE COPING AND SPECIFIC STRESSOR DOMAINS
DURING FRESHMEN ADAPTATION TO COLLEGE

A THESIS SUBMITTED
TO THE FACULTY OF THE GRADUATE SCHOOL
FOR CANDIDACY FOR THE DEGREE OF
MASTER OF ARTS
PROGRAM IN CLINICAL PSYCHOLOGY

BY

DANIEL A. DICKSON

CHICAGO, IL

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ABSTRACT

The first year of college can be a stressful experience that can lead to depressive symptoms in emerging adults. Due to the significant impairments that are associated with depressive symptoms across the lifespan, it is important to understand the elements of the first-year college experience that contribute to depressive affect. The goals of the current prospective study are to examine sex differences in the relationship between life stressors (i.e., social and achievement stressors) and cognitive avoidance coping in the development of depressive symptoms in first-year college students. The findings suggest that although cognitive avoidance is predictive of more depression, there are no significant differences in the effect of cognitive avoidance between genders. Additionally, cognitive avoidance does not moderate the relationship between social and achievement stressors for males or females. Future research may aim to determine how cognitive avoidance contributes to negative affect and how cognitive styles have a role in the cognitive avoidance to depression relationship.

CHAPTER ONE

INTRODUCTION

The transition to college is a period that can be stressful as individuals are transitioning from adolescence to adulthood (Andrews & Wilding, 2004; Arnett, 2000; Edwards, Herschberger, Russell, & Markert, 2001; Fisher & Hood, 1987). In particular, first-year college students typically face a host of new challenges and stressors in academic, family and social domains, which in turn heighten general feelings of stress (Brougham, Zail, Mendoza & Miller, 2009; Dyson & Renk, 2006). Heightened stress – both in terms of stressful experiences and feelings of perceived stress – predicts internalizing symptoms such as depressive affect (Arthur, 1998; Dyson & Renk, 2006; Furr, Westefeld, McConnell, & Jenkins, 2001). Over the course of college, depressive affect is associated with lower academic performance and school dropouts (Hysenbegasi, Hass, & Rowland, 2005) and negative outcomes in adulthood (e.g., poor work performance, more burnout, increased likelihood of divorce; Kessler, Akiskal, et al., 2006; Kessler, Walters, & Forthofer, 1998; Salmela-Aro, Aunola, & Nurmi, 2008). Although stress is predictive of negative affect, not all individuals who face life stress experience depressive affect. Previous research suggests coping strategies (Carver & Connor-Smith, 2010; Connor-Smith & Compas, 2002; Dyson & Renk, 2006), types of stressor (Bolger, DeLongis, Kessler & Schilling, 1989), and gender (Ben-Zur & Zeidner, 1996; Blalock & Joiner, 2000; Howerton & Van Gundy, 2009) as factors that moderate

the effect of stress on depressive affect, yet research has not examined these factors in concert.

During the transition to college, there are significant changes in social support systems that increase the demand on the individual's resources to adapt to stress (Arnett, 2000; Arthur, 1998). Without effective means of adapting to stressors, individuals are left vulnerable to deleterious effects of stress, such as depression (Asberg, Bowers, Renk, & McKinney, 2008). Prior studies on coping strategies have shown that both cognitive and behavioral efforts to adapt to stress are important to reduce the negative effects of stressful experiences (Compas, 1987). There are many conceptualizations of coping, but there is currently no consensus on a singular model of coping processes. Moos and Schaefer (1993) propose a multidimensional conceptualization of coping that effectively integrates two aspects of coping: (1) the *focus* of coping, such as the individual's actions in response to stressors, categorized as either approach or avoidance coping, and (2) the *method* of coping strategies, categorized as either cognitive or behavioral efforts. Thus according to this model, coping strategies include cognitive approach, cognitive avoidance, behavioral approach and behavioral avoidance (Blalock & Joiner, 2000; Holahan, Moos, Holahan, Brennan, & Schutte, 2005).

A substantial research literature has suggested that in response to life stress, avoidance coping strategies have a deleterious effect on psychological outcomes. Most research on avoidance coping has studied avoidance as a singular construct (Dyson & Renk, 2006; Howerton & Van Gundy, 2009), although recent findings support the two-factor model of avoidance proposed by Moos and Schaefer (Blalock & Joiner, 2000; Ottenbreit & Dobson, 2004). Interestingly, in response to stressful experiences, cognitive

avoidance coping predicts increases in depressive symptoms for female but not for males, even though there are no gender differences in life stress or cognitive avoidance coping. These findings suggest that there may be other factors that influence the relationships among gender, stress and cognitive avoidance coping strategies.

Previous research suggests that stressor domains (e.g., social versus achievement stressors) also affect psychological outcomes (Almeida & Kessler, 1998; Bolger et al., 1989; Stroud, Salovey, & Epel, 2002). For example, interpersonal stressors, in comparison to other stressor domains, are the strongest predictors of negative affect (Almeida, Wethington, & Kessler, 2002; Bolger et al., 1989). Significant gender differences also have been found in response to stressor domains. In particular, females report greater negative affect in response to social stressors (Almeida et al., 2002; Bolger et al., 1989), whereas males report greater negative affect in response to achievement stress (experimentally manipulated; Stroud et al., 2002), work stress and financial hassles (Almeida & Kessler, 1998). These findings may explain the variability of outcomes found in the coping literature, as many research studies focus on stress as a singular construct across multiple stressor domains (Asberg et al., 2008; Blalock & Joiner, 2000; Howerton & Van Gundy, 2009).

To date there has been little research on gender differences in the interaction of stressor domains and cognitive avoidance coping. Building on previous findings, the present study will assess the relationships among gender, cognitive avoidance coping and specific stressor types in predicting depressive symptoms. Specifically, this study will test the differential effects of cognitive avoidance coping – and how the effects of this

strategy might differ by gender – in response to interpersonal versus achievement stressors.

CHAPTER TWO

REVIEW OF RELEVANT LITERATURE

The Transition to College

As defined by Lazarus and Folkman (1984), stress is “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (p. 19). Stress can be understood as a psychological experience (e.g., perceived stress), as episodic stressful events (e.g., death of a loved one), or as daily hassles (e.g., family conflict, difficulties with school), and all three are associated with negative affect (Almeida & Kessler, 1998; Dyson & Renk, 2006; Kessler, 1997).

The adaptation to college is a significant period of stress for young adults, as this transition typically entails new experiences, expectations and demands (Arnett, 2004; Schulenberg, Sameroff & Cicchetti, 2004). During the transition to college, students face an array of stress such as time constraints (Nonis, Hudson, Logan, & Ford, 1998), financial issues (Ross, Niebling, & Heckert, 1999), academic challenges (Towbes & Cohen, 1996), and developing interpersonal relationships (Edwards et al., 2001). Notably, first-year college students report higher levels of distress in comparison to non-student samples (Adlaf, Gliksman, Demers & Newton-Taylor, 2001), and higher levels of perceived stress, depression and anxiety in comparison to more advanced college students (Abouserie, 1994; Bayram & Bilgel, 2008; Edwards et al., 2001; Fisher & Hood, 1987). The high level of perceived stress is linked to poor adjustment both academically and

interpersonally (Dyson & Renk, 2006). Additionally, stress predicts depressive affect in first-year college students (Dyson & Renk, 2006; Furr et al., 2001).

Due to the abundance of new stressors experienced during the transition to college, students must find ways to adapt effectively to the university environment. Without effective strategies to adapt to new challenges, college students are at an increased risk of developmental disadvantage and psychiatric disorders, which are becoming a significant issue in colleges and universities (Aro, 1994; Benton, Robertson, Tseng, Newton, & Benton, 2003; Fiske & Chiriboga, 1990).

Over the past few decades, psychological difficulties have been steadily increasing in college mental health centers (Benton et al., 2003). With approximately 70% of students going on to college directly after high school graduation (United States Department of Labor, Bureau of Labor Statistics, 2010), the college student population is growing significantly and there has been an increasing demand on college counseling centers to address the rising problems of college students (Benton et al., 2003). More than 50% of college students report experiencing significant depression since the start of college, making depressive symptoms one of the most common Axis I symptoms experienced on college campuses (Furr et al., 2001). Additionally, half of all lifetime cases of mood disorders start by the age of 14 and three fourths start by the age of 24, suggesting a significant increase in the amount of psychological disturbance over the course of adolescence and into early adulthood (Kessler et al., 2005). In particular, one survey of college students reports up to 41% of students met criteria for at least one or more Axis I disorder (Svanum & Zody, 2001). These findings suggest significantly

higher rates of mental disorders in comparison to the general population (Robins, Helzer, Weissman et al., 1984).

Depressive symptoms are associated with impairment in many areas of functioning (Rapaport, Clary, Fayyad, & Endicott, 2005). During the transition to college, depressive symptoms are associated with poor educational outcomes such as decreased grade point averages and significant increases in the likelihood of student dropouts (DeBerard, Spielmans, & Julka, 2004; DeRoma, Leach, & Leverett, 2009; Fazio & Palm, 1998). The negative effects of depression also extend to decreases in life satisfaction, difficulties with social and family relationships, and poor academic performance (Galindo, Moreno, & Munoz, 2009; Hysenbegasi et al., 2005; Rapaport et al., 2005).

Depression is associated not only with difficulties during college, but also with continued impairments over the lifespan. These impairments include reduced work performance (Kessler, et al., 2006), poor marital quality and increased likelihood of divorce (Kessler et al., 1998), a significant increase in suicidal behavior (Skodol, Schwarz, Dohrenwend, Levav, & Shrout, 1994), and a greater likelihood of comorbid disorders or symptoms (Kessler, 1995). Also, individuals who indicate high levels of depression during college report more burnout and fewer earnings over the course of their careers in comparison to non-depressed students (Salmela-Aro et al., 2008). Additionally, depressive symptoms during the transition to adulthood increase the risk of persistence and recurrence of depressive symptoms later in adulthood (Rao et al., 1995).

Life Stress, Distress, and Sex Differences

Stress can be characterized as perceived stress or as life stressors such as daily

hassles or major life events (Almeida, 2005; Arthur, 1998; DeLongis, Folkman, & Lazarus, 1988; Dyson & Renk, 2006; Furr et al., 2001). Major life stressors are defined by events such as divorce or a death of a loved one, while daily hassles are characterized by routine challenges in daily living such as conflicts with family and friends, work stress, and time demands (Almeida, 2005; Brown & Harris, 1988). Previous research on stress has found a relationship between major life events and negative affect (Hammen, 2005; Kessing, Agerbo, & Mortensen, 2003), but recent work suggests that daily hassles more strongly predict negative affect (Almeida, 2005). Notably, during the transition to college, daily hassles occur at a greater frequency in comparison to older adulthood (Stawski, Sliwinski, Almeida & Smyth, 2008; Towbes & Cohen, 1996).

Two forms of daily hassles that are prominent during the transition to college are interpersonal and achievement stressors (Hankin, Mermelstein, & Roesch, 2007; Osman, Barrios, Longnecker, & Osman, 1994; Ross et al., 1999). Interpersonal stressors are characterized by arguments, conflicts or changes in relationships with significant others, friends or parents, which are the most frequently reported stressful experiences from adolescence to middle adulthood (Birditt, Fingerman, & Almeida, 2005; Hankin et al., 2007; Ross et al., 1999). Achievement stressors in college include increases in class workload, lower grades, and finding courses too demanding (Osman et al., 1994; Ross et al., 1999). Both social and achievement stressors are associated with depression over the course of adolescence, but social stress has shown the strongest link to negative affect (Almeida et al., 2002; Hankin et al., 2007).

Research has supported the link from interpersonal and achievement stress to negative affect, but a large body of work suggests that emotional outcomes vary as a

function of gender and stressor domains (Almeida et al., 2002; Almeida & Kessler, 1998; Bolger et al., 1989; Hankin et al., 2007; Nezu & Nezu, 1987; Powell, 1982).

Interpersonal conflicts have been found to have the strongest association with negative affect across genders, but females report greater emotional distress in response to these stressors than do males (Almeida et al., 2002; Bolger et al., 1989; Hankin et al., 2007).

Interpersonal stressors of all types, including family stressors, peer stressors and romantic stressors, have been associated with increases in depressive symptoms for adolescent females (Hankin et al., 2007). This relationship has been supported in experimental research, such that females show greater stress reactivity immediately following a social stress manipulation, than do males (Stroud et al., 2002). Conversely, males show greater negative mood in response to achievement-related stressors (Almeida et al., 2002; Bolger et al., 1989; Stroud et al., 2002). This finding has been supported in multiple naturalistic studies that have found that men report greater negative mood in response to time pressures in the workplace, workload issues, school overload, and mistakes at work or school (Almeida & Kessler, 1998; Almeida et al., 2002). These findings have been supported in experimental research, as males who achieved lower scores on performance-related tasks showed more negative affect and greater cortisol reactions than do females (Stroud et al., 2002). During college, social stressors may be particularly problematic as females report more social stressors than males (Brougham et al., 2009; Darling, McWey, Howard, & Olmstead, 2007). On the other hand, gender differences have not been found in frequency of achievement stressors (Brougham et al., 2009).

The observed gender differences in stress reactivity may be due to gender socialization that emphasizes what is important to an individual's self-worth (Ruble,

Greulich, Pomerantz, & Gochberg, 1993). In Western cultures, males are socialized to be autonomous, which emphasizes an independent sense of self and personal achievement (Dedovic, Wadiwalla, Engert, & Pruessner, 2009). Conversely, females have been socialized to engage in dependent behavior and nurturing play (Ruble et al., 1993). These socialization differences may contribute to females valuing interdependence above independence, while in general males are more likely to emphasize their personal achievement (Dedovic et al., 2009; Feingold, 1994). These socialization differences may account for the differences in reactivity to specific stressor types.

Coping with Stress

As students transition to college, they experience significant changes in their support networks, work toward individuating from their family, and take on new roles; these changes in support systems can place greater demands on students' coping strategies to adapt to stressful experiences (Hays & Oxley, 1986; Henton, Lamke, Murphy & Haynes 1980).

During the past thirty years, there has been considerable research on the effects of coping strategies in the relationship between stressful life events and psychological well-being (Aldwin & Revenson, 1987; Blalock & Joiner, 2000; Clarke, 2006; Penley, Tomaka, & Wiebe, 2002). There are many proposed models of coping, and across these conceptualizations three common forms of coping strategies appear: problem-focused versus emotion-focused, approach versus avoidance, and cognitive versus behavioral (Billings & Moos, 1981; Cronkite & Moos, 1995; Lazarus & Folkman, 1984; Suls & Fletcher, 1985). Each of these coping conceptualizations propose coping strategies that fall on a single dimension. Problem-focused coping strategies are actions to directly alter

the situation, such as seeking out assistance from friends or making plans to resolve the stressor. Conversely, emotion-focused coping strategies are actions to minimize emotional distress triggered by the stressor; examples include seeking others for emotional support or finding positives in the situation (Carver, Scheier, & Weintraub, 1989; Lazarus & Folkman, 1984). The approach-avoidance conceptualization emphasizes the focus of coping: specifically, the individual can approach the stressor (e.g., direct action to get around the problem or acceptance of the situation) or seek to avoid the stressor (e.g., refusing to believe it has happened; Cronkite & Moos, 1995).

One criticism of one-dimensional coping conceptualizations (e.g., approach versus avoidance) is that these models may be an oversimplification of coping processes (Carver et al., 1989; Ptacek, Smith, Espe, & Raffety, 1994). To illustrate, findings suggest greater heterogeneity of responses within the avoidance construct (e.g., behavioral avoidance, denial, emotional venting) compared to other forms of coping (e.g., problem-focused coping). By grouping diverse coping responses along a single dimension, researchers may not be accounting for the complex nature of coping strategies (Ptacek et al., 1994). These findings suggest a need for a multidimensional conceptualization of coping strategies that integrates the multiple facets of coping (e.g., cognitive-behavioral and approach-avoidance; Carver et al., 1989; Folkman, 1992; Wills, 1997).

The proposed model by Moos and Schaefer (1993) integrates the foci of coping (i.e., approach and avoidance), and the methods of coping (i.e., cognitive and behavioral), to create a multidimensional conceptualization of coping. *Approach coping* includes strategies that aim to address the stressor directly, such as developing problem-solving

strategies to resolve the stressor or seeking support from others (Carver & Connor-Smith, 2010; Cronkite & Moos, 1995; Moos & Schaefer, 1993). Approach coping also includes emotion-focused strategies such as emotion regulation and cognitive restructuring (Carver & Connor-Smith, 2010; Cronkite & Moos, 1995; Moos & Schaefer, 1993).

Alternatively, *avoidance coping* strategies include actions that actively avoid the stressor and its associated emotions or thoughts, such as denial, wishful thinking and substance use (Blalock & Joiner, 2000; Cronkite & Moos, 1995). These two coping foci combine with the two methods of coping (i.e., cognitive and behavioral), to yield four categories of coping strategies:

- 1) *Behavioral approach* is characterized by “taking concrete action to deal directly with a situation or its aftermath” (Moos & Schaefer, 1993, p. 243). This form of coping includes actions such as seeking guidance and support or making plans to resolve the stressor.
- 2) *Cognitive approach* is characterized by “accepting the reality of a situation but restructuring it to find something favorable” (Moos & Schaefer, 1993, p. 243). This form of coping includes strategies such as logical analysis, mental rehearsal of problem resolution, and restructuring cognitions to find positives from the experience.
- 3) *Behavioral avoidance* is characterized by engaging in behaviors aimed to reduce negative affect in response to the stressor. These strategies include behaviors such as substance use and seeking new activities to find sources of relief or satisfaction.

- 4) *Cognitive avoidance* is characterized by denial of the crisis or “deciding that the basic circumstances cannot be altered” (Moos & Schaefer, 1993, p. 243).

To date, little research has tested the four-factor model proposed by Moos and Schaefer (1993), although recent empirical work has found, in comparison to the one-factor model, the two-factor model of avoidance to be an improved conceptualization for the construct of avoidance (Blalock & Joiner, 2000; Ottenbreit & Dobson, 2004).

The Impact of Avoidance Coping Strategies on Depression

A large body of research suggests a relationship between avoidance coping strategies and depression across the lifespan (Dyson & Renk, 2006; Holahan & Moos, 1987; Howerton & Van Gundy, 2009; Ottenbreit & Dobson, 2004; Suls & Fletcher, 1985). Specifically during the transition to college, avoidance coping strategies have been shown to have beneficial effects in the short term, but are associated with depressive symptoms over time (Nolen-Hoeksema & Morrow, 1993; Robbins & Tanck, 1992). Longitudinal research found that adolescents who used avoidance coping strategies at any time were more likely to have depression at the end of a four-year period than those who used approach-oriented coping strategies (Seiffge-Krenke & Klessinger, 2000). Additionally, within clinically depressed samples, those who have higher levels of depression report more avoidance coping than do those with lower levels of depression (Chan, 1995). Furthermore, depressed individuals use more avoidance strategies in comparison to non-depressed individuals (Penland, Masten, Zelhart, Fournet, & Callahan, 2000). Within clinically depressed samples, those who have higher levels of depression report more avoidance coping than do those with lower levels of depression (Chan,

1995). Also, avoidance strategies are associated with poor treatment outcomes (Krantz & Moos, 1988).

Avoidance coping not only predicts depressive symptoms, but also maintains depressive symptoms over time (Holahan et al., 2005; Krantz & Moos, 1988). Furthermore, avoidance coping strategies predict more chronic and episodic life stressors over time, which in turn also lead to increases in depressive symptoms (Holahan et al., 2005). These findings suggest that avoidance coping is a significant predictor of depressive symptoms, but also is associated with the maintenance of depressive symptoms over time.

Gender Differences in Coping

Epidemiological studies have found that females are more likely than males to become depressed (Kessler, McGonagle, Swartz, Blazer, & Nelson, 1993). One potential explanation for gender differences in depressive affect is the gender difference in coping strategy use (Ben-Zur & Zeidner, 1996; Brougham et al., 2009; Ptacek, Smith, & Dodge, 1994; Vingerhoets & Van Heck, 1990). In general, males use more approach coping strategies, which are associated with less depression for both males and females (Ben-Zur & Zeidner, 1996; Howerton & Van Gundy, 2009; Penley et al., 2002; Stone & Neale, 1984; Vingerhoets & van Heck, 1990). Other research suggests females tend to use more emotion-focused coping than do males, but the relationship between emotion-focused coping and depression have been mixed (Brougham et al., 2009; Howerton & Van Gundy, 2009; Kelly, Tyrka, Price, & Carpenter, 2008).

While gender differences in problem-focused and emotion-focused coping have been widely researched, less research has assessed gender differences in avoidance

coping strategies. Past research has supported the role of avoidance coping in depressive symptomatology and some theorists posit that gender differences in avoidance coping may explain the observed differences in depression rates (Kelly et al., 2008; Mazure & Maciejewski, 2003; Pearlin & Schooler, 1978). Yet the research that has assessed gender differences in avoidance coping strategies has yet to determine consistent gender differences in avoidance coping (Dyson & Renk, 2006; Felston, 1998; Ptacek, Smith, & Zanas, 1992; Sigmon, Stanton, & Snyder, 1995).

The inconsistent findings for gender differences in avoidance coping may be because, until recently, avoidance coping has been measured as a singular construct. Researchers noted the significant heterogeneity within the construct of avoidance in comparison to other coping strategies (e.g., problem-focused coping; Ben-Zur & Zeidner, 1996; Ptacek et al., 1994). Recently, the work of Blalock and Joiner (2000) and Ottenbreit and Dobson (2004) provide evidence that suggests that avoidance is a two-factor construct.

Furthermore, evidence suggests that there may be gender differences in utilizing cognitive avoidance strategies (Ben-Zur & Zeidner, 1996; Blalock & Joiner, 2000; Carver et al., 1989; Ottenbreit & Dobson, 2004; Ptacek et al., 1994; Vingerhoets & Van Heck, 1990). More specifically, research has found gender differences in the effectiveness of both cognitive and behavioral avoidance coping strategies (Blalock & Joiner, 2000; Ottenbreit & Dobson, 2004). Specifically, researchers have supported the link between cognitive avoidance coping and depression for females, but the same relationship has not been supported consistently for males (Blalock & Joiner, 2000; Holahan et al., 2005; Ottenbreit & Dobson, 2004). Additionally, behavioral avoidance

has not been found to be associated with depression for males or females (Blalock & Joiner, 2000), although some research suggests that avoiding situations, not necessarily avoiding coping with stressors, is associated with depression in females (Ottenbreit & Dobson, 2004).

Cognitive Avoidance Strategies, Rumination and Thought Suppression

One way avoidance strategies are associated with depressive symptoms is through rumination (Moulds, Kandris, Starr, & Wong, 2007). In particular, cognitive avoidance strategies, which aim to avoid thoughts related to stressors, lead to increases in intrusive thoughts associated with the stressor (Cribb, Moulds, & Carter, 2006; Moulds et al., 2007; Watkins, 2004; Wenzlaff & Wegner, 2000). The ruminative effect of cognitive avoidance contributes to increases in depression through increases in negative thinking, impaired problem solving, and decreases in social supports (Nolen-Hoeksema, 2000; Nolen-Hoeksema, Wisco, & Lyubromisky, 2008).

Cognitive avoidance and rumination are linked through the iatrogenic effects of thought suppression. Research has found that thought suppression, which is characterized by attempts to avoid thoughts related to a stressor, shares a strong association with cognitive avoidance strategies such as denial (Cribb et al., 2006; Moulds et al., 2007; Wenzlaff & Wegner, 2000). Interestingly, research on thought suppression suggests that this strategy suppresses thoughts in the short term, but leads to resurgence in thoughts over time (Conway, Howell, & Giannopoulos, 1991; Watkins, 2004; Wenzlaff & Wegner, 2000). The surprising findings of thought suppression suggest that an attempt to remove thoughts associated with the stressor increases rumination and leads to depressive symptoms (Beevers, Wenzlaff, Hayes, & Scott, 1999; Conway et al., 1991; Cribb et al.,

2006; Nolen-Hoeksema, 1991; Watkins, 2004). Furthermore, the relationship between rumination and depression may explain the gender differences found in depression, as females ruminate more than males (Burwell & Shirk, 2007; Treynor, Gonzalez, & Nolen-Hoeksema, 2003). Taken together, these findings suggest that cognitive avoidance contributes to depressive symptoms through increases in negative thoughts, and that gender differences in rumination may explain differences in depression.

The Current Study

The transition to college is a period of time characterized by stress, which can significantly contribute to depressive affect. Research has demonstrated that depressive affect is associated with significant impairments not only during college (e.g., poor academic performance), but also across the lifespan (e.g., work impairments; Rao et al., 1995). Recent findings suggest that gender, cognitive avoidance coping, and life stress (i.e., interpersonal and achievement stressors) each significantly influence depressive affect (Blalock & Joiner, 2000; Dyson & Renk, 2006). The current study aims to answer the following questions:

- 1) Is the relationship between cognitive avoidance and depression dependent upon gender and stressor type?
- 2) Specifically, for males, does cognitive avoidance moderate the relationship between achievement stress and depression?
- 3) For females, does cognitive avoidance moderate the relationship between social stress and depression?

Research Overview: Model and Hypotheses

The purpose of this study is to examine the moderating effects of gender and

stressor types (i.e., social and achievement stressors) in the relationship between cognitive avoidance coping and depressive symptomatology. Specifically, the following hypotheses will be assessed both at one timepoint and longitudinally, over the course of the first year of college:

Hypothesis 1: Males and females will report similar levels of cognitive avoidance at each timepoint.

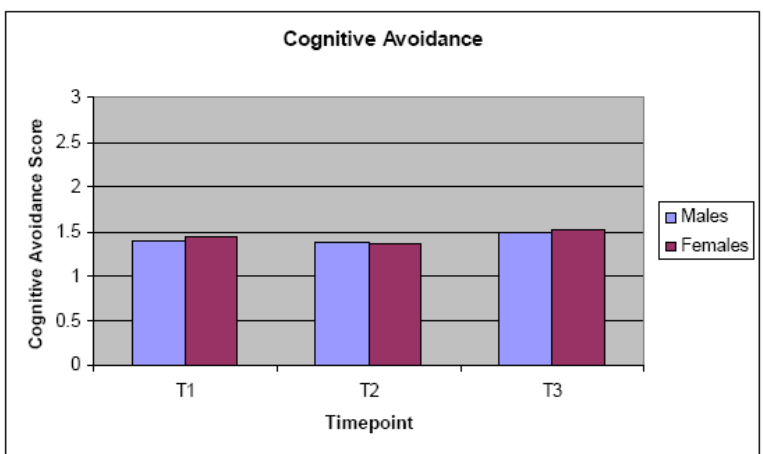


Figure 1. Cognitive avoidance for males and females over time.

Hypothesis 2: Females will report higher levels of depressive symptomatology at each timepoint.

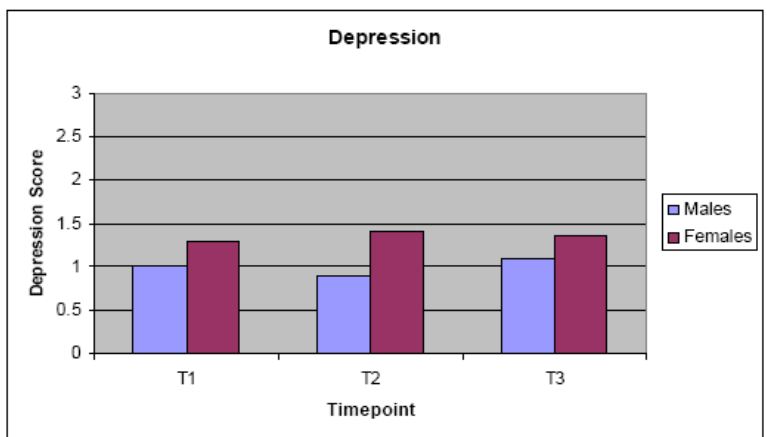


Figure 2. Depression in males and females over time.

Hypothesis 3: Cognitive avoidance at Time 2 will predict depressive symptomatology over time for females, but not for males.

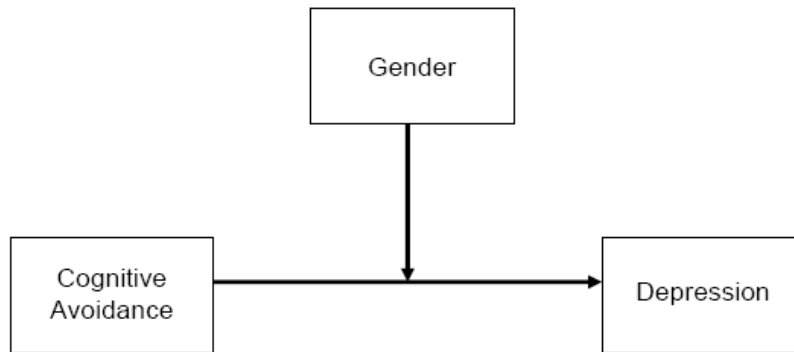


Figure 3. Gender moderating the relationship between cognitive avoidance and depression.

Hypothesis 4a: Social stress will predict depressive symptomatology for both males and females. The regression slope between social stress and depressive symptomatology will be stronger for females in comparison to males.

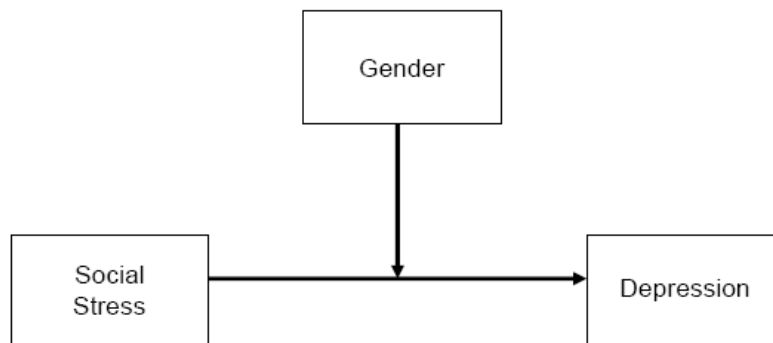


Figure 4. Gender moderating the relationship between social stress and depression.

Hypothesis 4b: Higher levels of achievement stress will predict higher levels of depressive symptomatology for both males and females. The regression slope between

achievement stress and depressive symptomatology will be stronger for males in comparison to females.

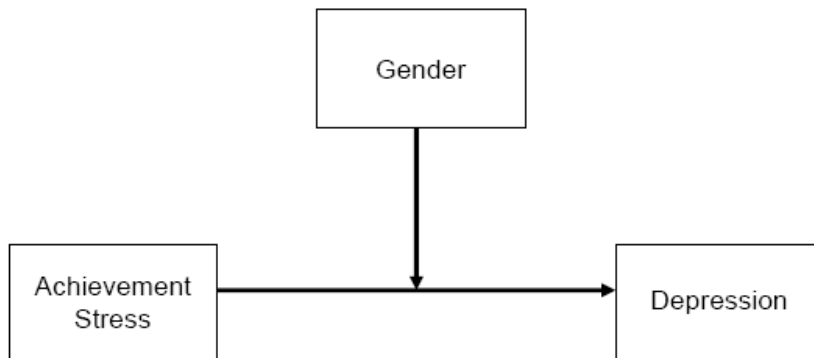


Figure 5. Gender moderating the relationship between achievement stress and depression.

Hypothesis 5a: For males and females, cognitive avoidance will moderate the relationship between social stress and depressive symptomatology. Specifically, females who report higher levels of social stress and utilize more cognitive avoidance will report greater depressive symptomatology than males. Conversely, individuals who report higher levels of social stress and utilize less cognitive avoidance will report lower levels of depressive symptomatology, regardless of gender.

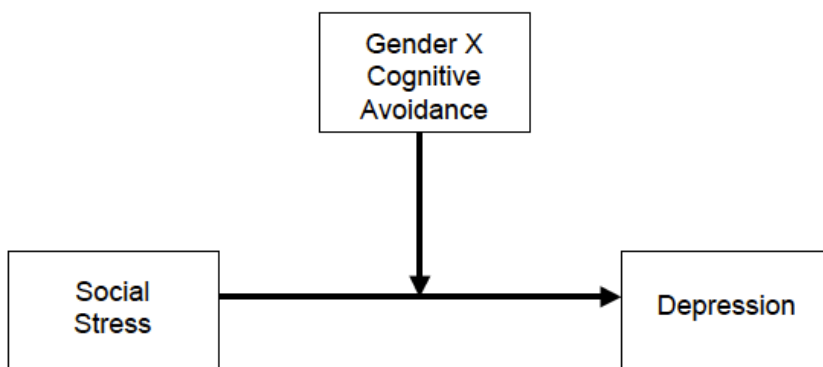


Figure 6. Cognitive avoidance moderating the relationship between social stress and depression for females.

Hypothesis 5b: For males and females, cognitive avoidance will moderate the relationship between achievement stress and depressive symptomatology. Specifically, males who report higher levels of achievement stress and utilize more cognitive avoidance will report greater depressive symptomatology than females. Conversely, individuals who report higher levels of achievement stress and utilize less cognitive avoidance will report lower levels of depressive symptomatology, regardless of gender.

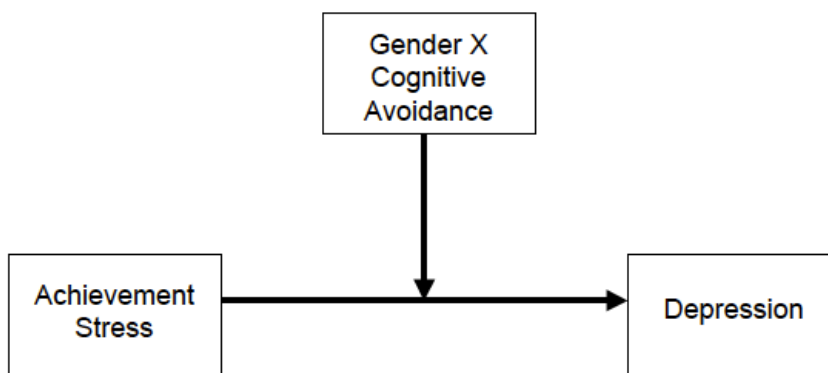


Figure 7. Cognitive avoidance moderating the relationship between achievement stress and depression for males.

CHAPTER THREE

METHOD

Participants

This research is part of a multi-wave longitudinal investigation of the adaptation to college, including 4,052 first-year students at Loyola University Chicago. Selected students had relevant data on measures of coping, life stress events and depression at all three data collection points yielded a subsample of 938 (M age = 18.52, SD = .44, range = 17.1-24.1, 72.0% female, 72.3% White, 11.7% Asian-American, 7.8% Hispanic or Latino, 2.1% African American, 6.1% other). Participants were offered entries into prize drawings and course credit for participation at each time point.

At Time 1, incoming first-year students were invited to complete the survey one week before the start of the fall semester. In total, 4,052 incoming first-year students were invited to complete the survey over the course of two years, yielding two cohorts. Of the 4,052 potential participants invited to the survey, 2,803 (64%) completed the survey at Time 1. At Time 2, participants who completed Time 1 and were still enrolled at the university ($n = 2,705$) were invited to participate at the next round of the survey during the final two weeks of the fall semester. One thousand eight hundred and three ($n = 1,803$; 67%) completed the survey. At Time 3, during the final two weeks of the spring semester, 2,690 participants who completed Time 1 and were still enrolled in the

university were invited to complete the final round of the survey. One thousand four hundred and sixty six completed the survey at Time 3 ($n = 1,466$; 54%).

The final sample included 938 participants (23% of those invited at Time 1) who completed all 3 waves, and completed relevant measures at each timepoint. Study participants did not differ from nonparticipants in ethnicity/race, $\chi^2(1) = 2.59, p = .107$ and age, $M = 18.48, t(2041) = .471, p = .638$. Study participants, compared to nonparticipants, were more likely to be female, $\chi^2(1) = 4.709, p = .030$, report higher high school GPA, $t(2015) = 5.01, p < .001$, higher ranking in graduating high school class, $t(1261) = 4.54, p = .005$, and higher ACT scores, $t(2042) = 7.05, p < .001$.

Procedure

The longitudinal study consisted of three data collection points. All data were collected online via Opinio survey software. One week prior to the start of the fall semester (Time 1), all incoming first-year students were emailed a hyperlink to the survey. The survey was available for two weeks (i.e., until the end of the first week of classes). At the end of the fall semester (Time 2; 15 weeks after Time 1), participants who completed the survey at Time 1 were emailed a hyperlink to the survey. At the end of the Spring Semester (Time 3; 35 weeks after Time 1), participants who previously completed the survey at Time 1, regardless of completion at Time 2, were once again emailed a hyperlink to complete the survey. At each timepoint, the survey was available from ten to fourteen days. Participants completed measures of coping and depression at all timepoints, and an assessment of stressful experiences at Time 2 and Time 3.

Measures

Depressive symptoms. Responding to the 7-item depression subscale from the

Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995), participants reported the extent to which they experienced depressive symptoms (e.g., “I felt downhearted and blue”) on a scale from 0 (*did not apply to me at all*) to 3 (*applied to me very much, or most of the time*); thus, higher scores reflect higher levels of depression. This scale evidenced strong internal consistency at all three timepoints (α s = .88-.92), consistent with previous research (Antony, Bieling, Cox, Enns, & Swinson, 1998; Crawford & Henry, 2005).

College stressors. The Inventory of College Students’ Recent Life Experiences (ICSRLE; Kohn, Lafrenier, & Gurevich, 1990) is a 49-item measure of the exposure to college-related stressful events. Participants indicated the extent to which they had experienced stressful college events over the past month (e.g., “Struggling to meet your own academic standards”) on a scale of 0 (*not at all part of my life*) to 3 (*very much part of my life*). Higher scores on the ICSRLE indicate higher levels of stress. The ICSRLE is correlated with other measures of daily hassles and college stress (Osman, Barrios, Longnecker, & Osman, 1994) and previous studies have reported an internal consistency of .89 (Kohn et al., 1991). The internal consistency for the ICSRLE in the current sample ranged from .94-.95.

The ICSRLE includes seven subscales, based on a factor analysis of the original 49-item scale: Developmental Challenges, Time Pressures, Academic Alienation, Romantic Problems, Assorted Annoyances, General Social Mistreatment, and Friendship Problems (α = .54-.80; Osman et al., 1990). In the present study the “social” and “achievement” stress factors are calculated based upon the work of Barker (2007). The social stress composite includes the Romantic Problems (e.g., “Conflicts with

boyfriend/girlfriend/spouse”), General Social Mistreatment (e.g., “Social rejection”) and Friendship Problems (e.g., “Having your trust betrayed by a friend”) subscales. This composite scale demonstrated high internal consistency in the current sample ($\alpha = .88$), in line with previous research noting strong correlations among these three subscales ($\alpha = .69-.80$; Osman et al., 1994). To assess the effect of achievement stressors, the achievement stress composite includes the Developmental Challenge (e.g., “Lower grades than you hoped for”) and Academic Alienation (e.g. “Dissatisfaction with school”) subscales ($\alpha = .88$ for the current sample). The strong internal consistencies in the present study sample are consistent with previous research, which has found significant correlations amongst the Romantic Problems, General Social Mistreatment, and Friendship Problem ($r = .40-.73$; Osman et al., 1994) subscales as well as strong correlations between the Developmental Challenges and Academic Alienation subscales ($r = .72$; Osman et al., 1994).

Avoidance Coping. The Brief COPE (Carver, 1997) was used to assess coping strategies. The Brief COPE is a 28 item scale, including 14 subscales consisting of 2 items each. Participants indicated the intensity of utilizing each coping strategy on a 4-point Likert scale from 1 (*I usually don't do this at all*) to 4 (*I usually do this a lot*), with higher scores indicating greater utilization of the coping strategy. Based upon conceptual and empirical literature describing the avoidance coping strategies previously summarized, this research focused on cognitive avoidance (Blalock & Joiner, 2000; Moos & Schaefer, 1993). The cognitive avoidance subscale consists of the two items from the denial subscale (e.g., “I refuse to believe that it has happened”) and the behavioral disengagement subscale (e.g., “I give up the attempt to cope”). The

behavioral disengagement subscale will be used because of the similarity the acceptance/resignation conceptualized in Blalock and Joiner (2000). The resulting subscale demonstrates high internal consistency for the current sample ($\alpha = .79$).

Demographics. At Time 1, participants reported their age, sexual orientation, height and weight. Additional demographic information was collected by Loyola University Chicago Office of Institutional Research. These variables included: ethnicity, citizenship, high school GPA, graduating high school class rank and ACT scores.

CHAPTER FOUR

RESULTS

Data Analysis Strategy

Baseline Analyses. Descriptive analyses, including means and standard deviations as well as correlations were conducted to determine baseline differences between study participants and nonparticipants on study variables.

Analysis of variance. To test for significant mean differences over time between males and females, two multivariate analysis of variance (MANOVA) models were conducted using Time (i.e., Time 1, Time 2, and Time 3) and gender as independent variables and cognitive avoidance (Model 1) and depression (Model 2) as dependent variables.

Multiple regression analyses. The inclusive plan for analyses is based on Baron and Kenny's (1986) guidelines for using multiple regression to test moderation hypotheses. To test these hypotheses, first, the continuous variables in the analyses were centered to create interaction terms for each of the independent variables (Aiken & West, 1991).

For each hypothesis, depression at Time 1 and Time 2 were entered in the model, followed by the main effect(s) (e.g., cognitive avoidance coping), the moderator (i.e., gender), and the respective interaction terms of these variables (e.g., gender X cognitive avoidance). If the interaction term accounts for significant unique variance, a

moderational hypothesis is supported. One regression equation was performed for the outcome variables. In the case of significant interactions, following the guidelines of Aiken and West (1991), simple slopes analyses were conducted to determine the nature of the interactions.

Descriptive Analysis

The means and standard deviations of all variables are presented in Table 1.

Table 1. *Mean Scores and Standard Deviations of Study Variables by Gender.*

	Males		Females	
	Mean	SD	Mean	SD
DASS-21 Depression Subscale Time 1	.31	.467	.33	.408
DASS-21 Depression Subscale Time 2	.57	.603	.51	.566
DASS-21 Depression Subscale Time 3	.54	.578	.54	.582
ICSRLE Achievement Stress Time 2	2.03	.586	2.17	.578
ICSRLE Social Stress Time 2	1.68	.532	1.75	.557
Brief COPE Cognitive Avoidance Time 2	1.49	.605	1.52	.567

Note. DASS-21 = Depression Anxiety Stress Scale - 21 item version; ICSRLE = Inventory of College Students' Recent Life Experiences

Correlational Analysis

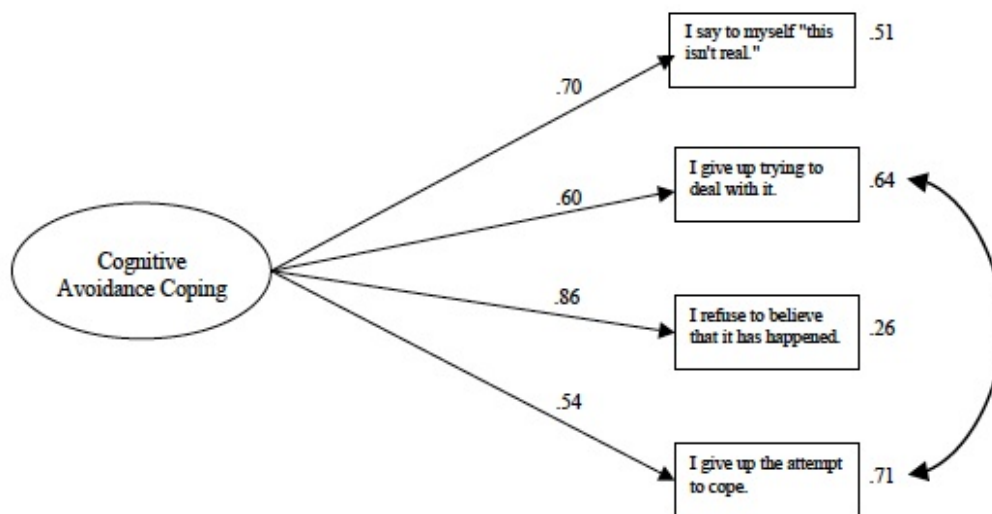
Correlational analyses were conducted to assess the relations among all variables (see Table 2). As expected, stress, depression, and coping were positively correlated with each other. Specifically, higher social and achievement stress were significantly and positively related to higher depression scores. Similarly, higher cognitive avoidance was significantly and positively related to higher depression scores. The relations between cognitive avoidance and both achievement and social stress were significant and positive. Additionally, social stress was significantly and positively related to achievement stress.

Confirmatory Factor Analysis

To validate the Blalock and Joiner (2000) model of cognitive avoidance coping for first-year college students, confirmatory factor analysis was conducted with the Mplus Structural Equations Program Version 6.11 (Muthén & Muthén, 2010) using maximum likelihood estimation procedures. To establish fit, the chi-square/degrees of freedom ratio (Newcomb, 1994), the standardized root mean square residual (SRMR; Bentler, 1995), and the comparative fit index (CFI; Bentler, 1990) were used. Confirmatory factor analyses were conducted on the proposed four -item subscale, shown in Figure 8. As shown in Table 3, initial model testing suggested poor fit to the data $\chi^2 (df = 2) = 58.00$; CFI = .95, RMSEA=.173, and SRMR = .037. Inspection of the factor loadings and CFI and SRMR suggest the four-item subscale may acceptably fit the data. Upon review of the individual items comprising the subscale, it was hypothesized that the error terms for “I give up trying to deal with it” (Item #6) and “I give up the attempt to cope” (Item #16) would be correlated due to their similarity. More specifically, it was hypothesized that the two items suggest specific resignation or inactivity to adapt to the stressor and therefore may suggest the same specific coping strategy. Hence, when measured, the two items share similar amounts of error when predicted by the latent cognitive avoidance variable. The post-hoc model test of the four item subscale with correlated error terms for item #6 and item #16 demonstrated good fit to the data, overall $\chi^2 (df = 1) = 2.72, p = .10$; CFI = .99, RMSEA=.043, and SRMR = .007 (see Table 3). The comparison of the two models suggests allowing the error terms for item #6 and item #16 significantly improves model fit, $\Delta \chi^2 (1) = 55.28$. The four coping items loaded on a latent construct representing the

cognitive avoidance construct. Thus, the cognitive avoidance construct was used in all subsequent analyses.

Figure 8. Conceptual model of the Brief COPE-cognitive avoidance subscale.



Multivariate Analysis of Variance Tests

Hypothesis 1: Males and females will report similar levels of cognitive avoidance at each timepoint. Results of the MANOVA for Hypothesis 1 are presented in Table 4. As hypothesized, results of the MANOVA suggest that cognitive avoidance did not differ by gender at any study time point, $F(3, 937) = .662, p = .575$.

Hypothesis 2: Females will report higher levels of depressive symptomatology at each timepoint. Results of the MANOVA for Hypothesis 1 are presented in Table 4. Contrary to expectations, depression did not differ by gender at any study time point, $F(3, 937) = 1.542, p = .202$.

Path Analyses

Mplus Version 6.11 (Muthén & Muthén, 2010) was used to test hypotheses 3, 4a,

4b, 5a, and 5b. For each analysis, to control for previous levels of depression, depression scores at both Time 1 and Time 2 were regressed on depression at Time 3 as control variables. The inclusive plan for analyses was based on Baron and Kenny's (1986) guidelines for using multiple regression to test moderation hypotheses. According to Baron and Kenny (1986), if one presumes the effect of an independent variable (X) on the dependent variable (Y) is dependent variables should be used (XZ). If the product term is found to be significant, simple slopes tests will be computed using the guidelines in Aiken and West (1991). If interactions with gender are nonsignificant, models will be re-tested without the main effect of gender and interaction with gender.

Hypothesis 3: Cognitive avoidance at Time 2 will predict depressive symptomatology over time for females, but not for males. Results from the path analysis for Hypothesis 3 are presented in Table 5. In this model, gender did not moderate the relation between cognitive avoidance and depression at Time 3, $\beta = -.04$, $p = .434$ (see Table 5). When the gender and the interaction effect were not included in the model, cognitive avoidance significantly predicted depression at Time 3, $\beta = .14$, $p < .001$ (see Table 6).

Hypothesis 4a: Social stress will predict depressive symptomatology for both males and females, but the regression slope between social stress and depressive symptomatology will be steeper for females in comparison to males. In this model, gender did not moderate the relation between social stress and depression at Time 3, $\beta = .09$, $p = .108$ (see Table 5). When the interaction effect was not included in the model, social stress significantly predicted depression at Time 3, $\beta = .19$, $p < .001$ (see Table 6).

Table 2. *Correlations Among Study Variables.*

	Depression Time 1	Depression Time 2	Depression Time 3	Social Stress Time 2	Achievement Stress Time 2	Cognitive Avoidance Time 2
Depression Time 1	--	.44**	.42**	.34**	.16*	.18**
Depression Time 2	.57**	--	.47**	.69**	.56**	.36**
Depression Time 3	.43**	.52**	--	.39**	.33**	.35**
Social Stress Time 2	.37**	.61**	.46**	--	.56**	.34**
Achievement Stress Time 2	.38**	.55**	.46**	.55**	--	.31**
Cognitive Avoidance Time 2	.33**	.44**	.33**	.33**	.30**	--

Note: Correlations for males are on the top half of the matrix, while correlations for females are on the bottom half of the matrix
* $p < .05$. ** $p < .01$.

Table 3. *Alpha Reliabilities and Fit Indices of Cognitive Avoidance Model for the Brief COPE.*

Subscale (number of items)	Alpha	n for Alpha	χ^2 (df), p level	CFI	SRMR
Cognitive Avoidance with Uncorrelated Error Terms (4)	.79	941	58.00(2), $p < .001$.95	.037
Cognitive Avoidance with Correlated Error Terms for Item #6 and #16 (4)	.79	941	2.72(1), $p = .10$.99	.007

CFI = Comparative Fit Index. SRMR = Standardized Root Mean Square.

Hypothesis 4b: Higher levels of achievement stress will predict higher levels of depressive symptomatology for both males and females, but the regression slope between achievement stress and depressive symptomatology will be steeper for males in comparison to females. In this model, gender did not moderate the relation between achievement stress and depression at Time 3, $\beta = .09$, $p = .088$ (see Table 5). When the interaction effect was not included in the model, achievement stress significantly predicted depression at Time 3, $\beta = .20$, $p < .001$ (see Table 6).

Hypothesis 5a: Cognitive avoidance will moderate the relationship between social stress and depressive symptomatology, and this relation will be stronger for females. Specifically, females who report higher levels of social stress and utilize more cognitive avoidance will report greater depressive symptomatology. Conversely, females who report higher levels of social stress and utilize less cognitive avoidance will report lower levels of depressive symptomatology. In this model, gender did not moderate the interaction of cognitive avoidance and social stress predicting depression at Time 3, $\beta = .05$, $p = .439$ (see Table 7). When gender and all interactions with gender were not included in the model, the interaction of cognitive avoidance and social stress predicting depression at Time 3 was not significant, $\beta = -.06$, $p = .141$ (see Table 8).

Hypothesis 5b: Cognitive avoidance will moderate the relationship between achievement stress and depressive symptomatology, and this relation will be stronger for males. Specifically, males who report higher levels of achievement stress and utilize more cognitive avoidance will report greater depressive symptomatology. Conversely, males who report higher levels of achievement stress and utilize less cognitive avoidance will report lower levels of depressive symptomatology. In this model, gender did not

Table 4. *MANOVA Summary Table: Tests of Gender Differences X Time Effects on Cognitive Avoidance Coping and Depressive Symptoms Over Time.*

	Males			Females			<i>F-value</i>	<i>n</i>	<i>p</i>
	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3			
Cognitive Avoidance	1.44(.53)	1.49(.60)	1.46(.60)	1.47(.50)	1.52(.57)	1.51(.57)	1.54	937	.202
Depression	.31(.47)	.57(.60)	.54(.58)	.33(.41)	.51(.57)	.54(.58)	.66	905	.575

Note: Means presented with standard deviations in parentheses.

moderate the interaction of cognitive avoidance and achievement stress predicting depression at Time 3, $\beta = -.07$, $p = .207$ (see Table 7). When gender and all interactions with gender were not included in the model, the interaction of cognitive avoidance and social stress predicting depression at Time 3 was marginally significant, $\beta = -.08$, $p = .057$ (see Table 8).

Table 5. *Regression Summary Table: Interactions with Gender Predicting Depression Symptoms.*

Cognitive Avoidance X Gender	B	SE B	β	Social Stress X Gender	B	SE B	β	Achievement Stress X Gender	B	SE B	β
Depression Time 1	.28**	.04	.21**	Depression Time 1	.29**	.04	.21**	Depression Time 1	.28**	.04	.21**
Depression Time 2	.35**	.03	.34**	Depression Time 2	.29**	.03	.29**	Depression Time 2	.30**	.04	.29**
Cognitive Avoidance Time 2	.17*	.05	.17*	Social Stress Time 2	.12	.05	.11	Achievement Stress Time 2	.13*	.05	.13*
Gender	.01	.04	.01	Gender	.00	.04	.00	Gender	-.01	.04	-.01
Cognitive Avoidance X Gender Interaction	-.05	.06	-.04	Social Stress X Gender Interaction	.11	.07	.09	Cognitive Avoidance X Gender Interaction	.10	.06	.09

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

Table 6. Regression Summary Table: Main Effects of Coping and Stress Variables Predicting Depression Symptoms.

	Cognitive Avoidance				Social Stress				Achievement Stress		
	B	SE B	β		B	SE B	β		B	SE B	β
Depression Time 1	.28**	.04	.21**	Depression Time 1	.17**	.04	.41**	Depression Time 1	.29**	.04	.21**
Depression Time 2	.34**	.03	.34**	Depression Time 2	.31**	.04	.54**	Depression Time 2	.28**	.04	.28**
Cognitive Avoidance Time 2	.14**	.03	.14**	Achievement Stress Time 2	.20**	.06	.20**	Social Stress Time 2	.20**	.04	.19**

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

Table 7. *Regression Summary Table: Three-Way Interactions Between Stress, Cognitive Avoidance, and Gender Predicting Depression Symptoms.*

	Social Stress			Achievement Stress		
	B	SE B	β	B	SE B	β
Depression Time 1	.27***	.04	.20***	.28***	.04	.21***
Depression Time 2	.26***	.04	.25***	.27***	.04	.26***
Cognitive Avoidance Time 2	.20***	.05	.20***	.17**	.05	.17**
Stress Time 2	.08	.06	.08	.08	.06	.09
Gender	-.01	.04	-.01	.00	.04	.00
Stress X Cognitive Avoidance Interaction	-.12	.09	-.09	.01	.08	.00
Stress X Gender Interaction	.14*	.07	.11*	.14*	.06	.12*
Cognitive Avoidance X Gender Interaction	-.10	.06	-.08	-.05	.06	-.04
Stress X Cognitive Avoidance X Gender Interaction	.08	.10	.05	-.12	.10	-.07

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

Table 8. *Regression Summary Table: Stressor Interactions with Cognitive Avoidance Predicting Depression Symptoms*

	Social Stress			Achievement Stress		
	B	SE B	β	B	SE B	β
Depression Time 1	.48***	.07	.28***	.48***	.07	.28***
Depression Time 2	.43***	.07	.25***	.45***	.06	.26***
Cognitive Avoidance Time 2	.23***	.05	.19***	.23***	.05	.13***
Stress Time 2	.32***	.06	.13***	.32***	.05	.18***
Cognitive Avoidance X Stress Interaction	-.11	.07	-.06	-.14	.07	-.08

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

CHAPTER FIVE

DISCUSSION

The purpose of the current study was to assess gender differences in the effect of cognitive avoidance coping and different types of stressful life events in predicting depressive symptoms during the transition to college. Consistent with hypothesis 1, there were no significant differences in cognitive avoidance between males and females at any assessment point. Hypothesis 2 was not supported by the findings of the current study. Specifically, males and females did not differ in their reports of depression at any time in the study. Inconsistent with hypothesis 3, gender did not moderate the relationship between cognitive avoidance and depression. Cognitive avoidance significantly predicted depression overall. Hypothesis 4a was not supported by the findings of the current study. Specifically, gender did not moderate the relationship between social stress and depression, although social stress predicted depression for both males and females. Contrary to hypothesis 4b, gender did not moderate the relationship between achievement stress and depression. When gender was not included as a moderator, achievement stress significantly predicted depression. Contrary to hypothesis 5a, gender did not moderate the interaction of cognitive avoidance and social stress to predict depression. Finally, hypothesis 5b was not supported by the data. Specifically, gender did not moderate the interaction of cognitive avoidance and achievement stress. These findings suggest that gender does not play a significant role in the relationships among cognitive avoidance and stressor types to predict depressive symptoms.

Effect of Cognitive Avoidance on Depressive Symptoms

The study provides evidence of the significance of cognitive avoidance, specifically the impact of cognitive avoidance on depressive symptoms. Researchers have noted the significant issues of heterogeneity and low internal consistency within avoidance coping (Carver, 1997; Ptacek et al., 1994). The present findings support the cognitive avoidance construct within the Brief COPE, which had not been established previously and, consistent with the literature, suggests cognitive avoidance coping strategies predict increases in depressive symptoms (Blalock & Joiner, 2000; Holahan et al., 2005; Ottenbreit & Dobson, 2004). Contrary to hypotheses, gender did not moderate the relationship between cognitive avoidance and depression, suggesting cognitive avoidance is deleterious for both males and females. These findings suggest that during the transition to college, greater use of cognitive avoidance coping is associated with more depression over time regardless of gender. The current findings contrast to the work of Blalock and Joiner (2000), and suggest that cognitive avoidance coping is not specifically depressogenic for females.

Contrary to hypotheses, there were no gender differences in the relationship between cognitive avoidance coping and depression. These findings suggest that this coping strategy is universally maladaptive because the strategy does not directly address the stressor and may allow the stressors to fester. The development of this maladaptive coping strategy may be due to the initial negative reinforcement of avoidance, as avoidance is reinforced through the initial avoidance of negative affect (Cloninger, 1987; Kim, Shimojo, & Doherty, 2006). However, over time, stressors are likely to persist and the chronic strain can lead to negative affect over time. Furthermore, research suggests

that suppressing thoughts associated with stressors leads to rumination, which predicts increases in depressive symptoms (Lucian, 2009; Watkins & Moulds, 2009). The present findings are applicable due to the high content overlap of the cognitive avoidance coping and thought suppression constructs. For example, items from the cognitive avoidance subscale include items such as “I refuse to believe that it has happened” which are similar to items from the White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994), including “I always try to put problems out of mind.” Future research may seek to disentangle the potential overlap of cognitive avoidance coping strategies and thought suppression as previous research has conceptualized the two as separate constructs.

Effect of Stress on Depressive Symptoms

The present study found that both achievement and social stressors significantly predicted depressive symptoms for both males and females. This finding is surprising given that many studies suggest females experience greater negative affect in response to socially based stressors and males report greater negative affect in response to achievement-oriented stressors (Almeida & Kessler, 1998; Bolger et al., 1989; Stroud, Salovey, & Epel, 2002). These gender differences were hypothesized based on gender differences in how males and females may define their roles. Specifically, the hypothesis that females would respond with greater negative affect in response to social stressors was based on findings that suggest females are more socially-oriented than males. These findings were expected as stress in these domains present greater threats to female identities (Darling et al., 2007; Dedovic et al., 2009; Ruble et al., 1993). Conversely, theory and empirical findings would suggest males place a greater emphasis on achievement-oriented stressors (e.g., employment, financial struggles, academic

challenges) and thus would demonstrate greater negative affect in response to these threats. Thus, the findings of the current study may suggest shifts in achievement orientation for females and a greater emphasis for social relationships for males (e.g., more socially-oriented males, more achievement-oriented females). Taken together, the current lack of gender differences between life stressors and depressive symptoms suggests stress itself is deleterious regardless of stressor domain during the transition to college.

The Interaction of Gender, Cognitive Avoidance and Stress on Depressive Symptoms

The final aim of this study was to explain the gender differences in the effect of cognitive avoidance on depression found in Blalock & Joiner (2000). Their study found that in response to life stress, females who used more cognitive avoidance reported significant increases in depression over time. Conversely, no such interaction was found for males. The current research hypothesized that these findings were driven by the increased frequency of social stress in college and that the gender by stress interaction found in their study was due to the heightened sensitivity to social stressors by females. More specifically, social stressors (e.g., romantic problems, conflict with friends or family), which occur at a greater frequency in comparison to other stressors, were expected to drive the effect observed by Blalock and Joiner (2000).

Additionally, present results suggest the interaction of cognitive avoidance coping and gender do not moderate the relationship between life stressors (i.e., social and achievement stressors) and depression. These findings are contrary to the work of both Blalock & Joiner (2000) and Ottenbreit and Dobson (2004) who suggest that both

cognitive avoidance and gender moderate the relationship between stressful life experiences and depression. The present findings may be because cognitive avoidance may lead to depressive symptoms regardless gender or levels of social or achievement oriented stressors, which provides additional evidence of the robust effects of cognitive avoidance on depression and specifically the deleterious effects of this coping strategy during the first year of college.

Implications

The findings from this study have implications within clinical psychology research, as well as college administrations. First, this study provides additional empirical support for the association between cognitive avoidance coping and depression. While still in the early stages of understanding this association, these findings also suggest that regardless of gender or type of stress, cognitive avoidance coping contributes to depressive symptoms.

Avoidance coping is defined as the tendency to avoid adapting to stressors effectively and is associated with depressive symptoms over time and across different developmental periods (D’Zurilla, Chang, Nottingham, & Faccini, 1998; Holahan, Moos, Holahan, Brennan, & Schutte, 2005; Kuyken & Brewin, 1994). Early longitudinal work suggests that a disinclination to use avoidance coping strategies significantly reduced individuals’ risk for negative mood and psychosomatic symptoms (Holahan & Moos, 1986). Furthermore, findings suggest that avoidance is associated with psychopathology (Aldao, Nolen-Hoeksema, & Schweizer, 2010). In clinical research, avoidance has been associated with poorer post-treatment outcomes, such as a lack of remission over a one-year period in individuals seeking treatment for depression (Krantz & Moos, 1988).

Avoidance is a clinically significant construct that has been incorporated into many therapeutic models of depression. According to the Behavioral Activation (BA) approach, there are circumstances that prevent an individual from gaining adequate levels of positive reinforcement in their lives. Therefore the goal of treatment is to work against avoidance and passivity and to work to find positive reinforcement in the individual's life (Kanter, Callaghan, Landes, Busch, & Brown, 2004). Additionally, in Problem-Solving Therapy, the individual is trained to be a more proactive problem solver and the therapist emphasizes the relationship between avoidance strategies and adverse emotional outcomes (Kanter et al., 2004). These two therapeutic models highlight the important function avoidance plays in the maintenance of depressive symptoms.

Although avoidance has been incorporated into therapeutic models for depression, there has been limited research on the relationship between avoidance and depression. Research has shown that in response to life stress, females who had depression used significantly more escape-avoidance coping strategies than did non-depressed female controls, which suggests a potential link between avoidance behaviors and later depressive symptoms (Kuyken & Brewin, 1994). One qualification of this study is that avoidance behaviors were not assessed before the onset of depression and therefore no causal relationship can be assumed. The work of Holahan, Moos, Holahan, Brennan & Schutte (2005) was one of the first studies to find that in response to life stress cognitive avoidance was a significant predictor of depressive symptoms over a four-year period. These findings highlight the importance of avoidance in depressive symptomatology, especially within the context of life stress.

Limitations

Several limitations of the study should be noted. First, this study relied solely on self-report measures. Future studies would benefit from the inclusion of multiple informants (e.g., friends, parents) and multiple measurement modalities (e.g., self-report, interview, biological) to assess coping, stress and depressive affect. In addition, measurement of coping strategies may be improved via the inclusion of multiple measurements of coping over time (Folkman & Lazarus, 1985). Although the Brief COPE has been empirically supported, multiple measures of coping may provide additional information, both in terms of state coping and trait coping strategies. Also, research suggests that self-report measures do not effectively measure situational coping and these measures do not predict coping in specific situations (Schwartz, Neale, Marco, Shiffman, & Stone, 1999). Additionally, the mean of depressive symptoms was in the very low range (Range from 0-3; $M=.32$; $SD=.43$), which indicates that overall the sample experienced low levels of depression. Future research may consider selecting a sample of individuals with a greater range of depressive symptoms as restricted ranges may attenuate the strength of relationships among variables.

In addition, research suggests that the appraisal of the stressor plays an important role in the relation between coping and depression. For example, some research suggests that females perceived academic stressors as having greater importance than males, and that males perceived themselves as being better situated to adapt to stress (Govaerts & Gregoire, 2004). Future research may consider assessing stress within the context of stress appraisal as opposed to a stress checklist format.

The findings regarding the main effects of stress and the lack of gender effects, while contrary to study hypotheses, may be due to variables unaccounted for in the study design. More specifically, previous research suggests that sex role may be a greater predictor of passive forms of coping and also depression. Future research may include sex role as a moderator because sex roles have shown to have greater associations to coping strategies and depression (Dyson & Renk, 2006; Renk & Creasey, 2003).

Conclusions

Overall, findings from the present study suggest that cognitive avoidance is a maladaptive coping strategy regardless of gender, stressor type, and level of stress. More specifically, cognitive avoidance is a maladaptive coping strategy regardless of the experience of stress and may be an underlying indicator of developing psychopathology during the first year of college.

Future research may consider assessing the commonalities between cognitive avoidance coping and thought suppression because the thought suppression literature may provide a framework to delineate the depressive processes that cognitive avoidance coping activates. Furthermore, the present findings provide additional evidence to the importance of addressing cognitive avoidance in therapeutic settings, as cognitive avoidance exacerbates negative affect regardless of level of stress.

APPENDIX A
MEASURES

The Inventory of College Students' Recent Life Experiences

The following is a list of experiences which many students have some time or other. Please indicate for each experience how much it has been a part of your life over the past month. Mark your answers according to the following guide:

Intensity of Experience over the Past Month

- 0 = not at all part of my life
 1 = only slightly part of my life
 2 = distinctly part of my life
 3 = very much part of my life

	<i>Not at all part of my life</i>	<i>Only Slightly part of my life</i>	<i>Distinctly part of my life</i>	<i>Very much part of my life</i>
1. Conflicts with boyfriend's/ girlfriend's/spouse's family	0	1	2	3
2. Being let down or disappointed by friends	0	1	2	3
3. Conflict with professor(s)	0	1	2	3
4. Social rejection	0	1	2	3
5. Too many things to do at once	0	1	2	3
6. Being taken for granted	0	1	2	3
7. Financial conflicts with family members	0	1	2	3
8. Having your trust betrayed by a friend	0	1	2	3
9. Separation from people you care about	0	1	2	3
10. Having your contributions overlooked	0	1	2	3
11. Struggling to meet your own academic standards	0	1	2	3

12. Being taken advantage of	0	1	2	3
13. Not enough leisure time	0	1	2	3
14. Struggling to meet the academic standards of others	0	1	2	3
15. A lot of responsibilities	0	1	2	3
16. Dissatisfaction with school	0	1	2	3
17. Decisions about intimate relationship(s)	0	1	2	3
18. Not enough time to meet your obligations	0	1	2	3
19. Dissatisfaction with your mathematical ability	0	1	2	3
20. Important decisions about your future career	0	1	2	3
21. Financial burdens	0	1	2	3
22. Dissatisfaction with your reading ability	0	1	2	3
23. Important decisions about your education	0	1	2	3
24. Loneliness	0	1	2	3
25. Lower grades than you hoped for	0	1	2	3
26. Conflict with teaching assistant(s)	0	1	2	3
27. Not enough time for sleep	0	1	2	3
28. Conflicts with your family	0	1	2	3
29. Heavy demands from extracurricular activities	0	1	2	3
30. Finding courses too	0	1	2	3

demanding				
31. Conflicts with friends	0	1	2	3
32. Hard effort to get ahead	0	1	2	3
33. Poor health of a friend	0	1	2	3
34. Disliking your studies	0	1	2	3
35. Getting "ripped off" or cheated in the purchase of services	0	1	2	3
36. Social conflicts over smoking	0	1	2	3
37. Difficulties with transportation	0	1	2	3
38. Disliking fellow student(s)	0	1	2	3
39. Conflicts with boyfriend/girlfriend/spouse	0	1	2	3
40. Dissatisfaction with your ability at written expression	0	1	2	3
41. Interruptions of your school work	0	1	2	3
42. Social isolation	0	1	2	3
43. Long waits to get service (e.g., at banks, stores, etc.)	0	1	2	3
44. Being ignored	0	1	2	3
45. Dissatisfaction with your physical appearance	0	1	2	3
46. Finding course(s) uninteresting	0	1	2	3
47. Gossip concerning someone you care about	0	1	2	3

48. Failing to get expected job	0	1	2	3
49. Dissatisfaction with your athletic skills	0	1	2	3

Brief COPE

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about **what you usually do when you are under a lot of stress.**

Then respond to each of the following items by circling one number on your answer sheet for each, using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think "most people" would say or do. Indicate what YOU usually do when YOU experience a stressful event.

- 1 = I usually don't do this at all
- 2 = I usually do this a little bit
- 3 = I usually do this a medium amount
- 4 = I usually do this a lot

	I usually don't do this at all	I usually do this a little bit	I usually do this a medium amount	I usually do this a lot
1. I turn to work or other substitute activities to take my mind off things.	1	2	3	4
2. I concentrate my efforts on doing something about the situation I'm in.	1	2	3	4
3. I say to myself "this isn't real."	1	2	3	4
4. I use alcohol or other drugs to make myself feel better.	1	2	3	4
5. I try to get emotional support from friends or relatives.	1	2	3	4
6. I give up trying to deal with it.	1	2	3	4
7. I take action to try to make the situation better.	1	2	3	4
8. I refuse to believe that it has happened.	1	2	3	4

9. I say things to let my unpleasant feelings escape.	1	2	3	4
10. I try to get help and advice from other people.	1	2	3	4
11. I use alcohol or other drugs to help me get through it.	1	2	3	4
12. I try to see it in a different light, to make it seem more positive.	1	2	3	4
13. I criticize myself.	1	2	3	4
14. I try to come up with a strategy about what to do.	1	2	3	4
15. I get comfort and understanding from someone.	1	2	3	4
16. I give up the attempt to cope.	1	2	3	4
17. I look for something good in what is happening.	1	2	3	4
18. I make jokes about it.	1	2	3	4
19. I do something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	1	2	3	4
20. I accept the reality of the fact that it has happened.	1	2	3	4
21. I express my negative feelings.	1	2	3	4
22. I try to find comfort in my religion or spiritual beliefs.	1	2	3	4
23. I try to get advice or help from someone about what to do.	1	2	3	4
24. I learn to live with it.	1	2	3	4

25. I think hard about what steps to take.	1	2	3	4
26. I blame myself for things that happened.	1	2	3	4
27. I pray or meditate more than usual.	1	2	3	4
28. I make fun of the situation.	1	2	3	4

DASS₂₁

Name:

Date:

Please read each statement and circle a number 0, 1, 2 or 3 that indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of time
- 3 Applied to me very much, or most of the time

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3

17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

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VITA

Daniel Dickson was born and raised in San Jose, California. Before attending Loyola University Chicago, he attended the University of California, Los Angeles, where he earned a Bachelor of Arts in Psychology in 2006. From 2006 to 2009, he worked as a research coordinator under Michelle Craske, Ph.D. at the University of California, Los Angeles Anxiety Disorders Research Center.

While at Loyola, Daniel has acted as a statistical consultant for numerous projects and is gaining experience in advanced forms of statistical modeling such as structural equation modeling, optimal data analysis, and growth modeling.

Currently, Daniel is in his third-year at Loyola University Chicago, and is working on the early drafts of his doctoral dissertation. He lives in Chicago, Illinois.

