

1-1-2011

# The Relationship Between Adult Attachment Style and Stress Coping Skills to College Graduation

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# Walden University

College of Social and Behavioral Sciences

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Renee Ford

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Walden University  
2014

Abstract

The Relationship Between Adult Attachment Style and Stress Coping Skills  
to College Graduation

by

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MSE, University of Wisconsin, Superior, 2004

BAS, University of Minnesota, Duluth, 1985

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Walden University

May 2014

## Abstract

Previous research conducted with currently enrolled college students has suggested a relationship between secure attachment style, greater stress coping abilities, and academic success. However, there is an absence of research examining these variables as predictors of college graduation. Attachment theory was used as a theoretical framework to address this gap. The purpose of this study was to determine if there was a relationship between adult attachment style, stress coping skills, and college graduation. This logistic regression study included 81 individuals who either withdrew or graduated from college within the last 4 years. Participants provided demographic information, completed the Experiences in Close Relationships-Revised (ECR-R) to measure attachment anxiety and avoidance, and the Perceived Stress Scale (PSS) to measure level of perceived stress. A significant Wald statistic between attachment anxiety and college graduation indicated that as attachment anxiety increased, participants were less likely to graduate. However, there was not a significant relationship between attachment avoidance and college graduation. A significant Wald statistic between stress coping skills and graduation indicated that as the level of perceived stress increased, participants were less likely to graduate. When the predictor variables of attachment anxiety and stress coping skills were paired together, neither variable added uniquely to the prediction of graduation. Social change implications could include the development of educational, counseling, and stress reduction programs for students who are at risk of withdrawing from college, which may help increase college retention.



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## Dedication

I would like to dedicate this to my spouse Patricia. Your unwavering support, unconditional love, and encouragement were essential in completing this dissertation. You have always encouraged me to do my best, to continually grow, and change. I am deeply grateful for your exceptional logical mind, for reading every word, and providing suggestions at every step of the process. Thank you for your inspiration and for always believing in me. I could never have finished this without you. I am blessed beyond measure by having you in my life.

## Acknowledgments

Thank you to my family, friends, and colleagues who encouraged and supported me throughout this process. I am deeply grateful to my chair, Dr. Patricia Loun, who I chose because of her commitment to academic excellence. Thank you for your patience, inspiration, and for being a strong and supportive mentor throughout this process. You inspired me to overcome my fear of statistics, and to embrace my success as an academic writer and researcher. Thank you to my committee members Dr. Matthew Hertenstein and Dr. Thomas Diamond for your expertise, guidance, and suggestions. I want to especially thank my parents, Dwaine and June Bipes, who instilled in me the value of education. Your pride in my accomplishments and excitement provided me with motivation to complete this lifelong goal.

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## Chapter 1: Introduction to the Study

### **Introduction**

Retention of students and the timely completion of program studies are issues that besiege colleges and universities around the country. Studies have indicated that upwards of 70% of high school students are choosing to enroll in a postsecondary institution yet more than half will drop before completing the first year of studies (Lotkowski, Robbins, & Noeth, 2004; Venetia, Kirst, & Antonio, 2003). There have been many studies conducted to discover the reasons behind the high dropout rate that indicate students are leaving because of financial issues, failing grades, dissatisfaction with program major, personal and family problems, poor social integration, lack of confidence, and failure to connect with the institution (Assiter & Gibbs, 2007; Bueschel, 2009; Tinto, 1993). The transition to college often takes place during a period of development when individuals are struggling to find their own identity, placing a great deal of stress on an individual who is navigating a new social and physical environment. The ability to adjust this new world and forge new relationships is an important part of the process of remaining in school and successfully graduating from college. Studies have indicated that students with secure attachment styles tend to have higher grade point averages and are more successful in college (Tangney, Baumeister, & Boone, 2004), but I could find no studies that examined the relationship between the predictors of stress coping skills and adult attachment styles and the interaction they may have played on whether or not the individual graduated from college. With retention rates averaging at 33% for 2-year community colleges (Fike & Fike, 2008) and 35% to 40% for 4-year colleges (Braxton,

McKinley, & Reynolds, 2006), educational institutions are seeking understanding of the factors that lead to the ultimate academic success, graduation from college.

The research conducted with currently enrolled undergraduate college students suggests a correlation between adult attachment style and academic success, but no studies have been conducted to examine whether or not they contributed to graduating from college. The purpose of this study was to examine the independent variables of stress coping, adult attachment styles, and their relationship to the dependent variable of college graduation. This study was important because it adds to the larger body of research that seeks to understand the relationship of the adult attachment style, stress coping skills, and academic success in undergraduate college students.

Chapter 1 will give information on the background, nature, and purpose of the study, refine the research questions and hypothesis, provide the theoretical framework for the study, detail assumptions and limitations, and provide the score and significance of the study.

### **Background of Study**

Colleges and universities have come under increased scrutiny in the past few years in regards to funding and the types of programs they offer. In part, this is due to the downturn in the economy and the fact that retention rates at all postsecondary institutions remains a problem with approximately only 35% to 40% completing their first year of studies (Braxton et al., 2006; Fike, & Fike, 2008). More ethnic minorities and older adults are enrolling who may not be prepared for the rigors of academic life and there has been an increase in the amount of online programs offered at colleges and universities

(Ethington & Horn, 2007; Harrison, 2006). These factors coupled with low graduation rates have caused researchers and colleges to focus on retaining students. Retention programs have been developed, counseling services have been increased for the first year students, and instructors are being asked to find ways to engage students in the classroom (Barefoot, 2004; Billups, 2008; Lee, Keough, & Sexton, 2002).

Each of these programs and services serve an important purpose in helping students feel they are part of the college community, yet they really only assist students who live on campus and who are motivated to seek support during this time of transition and stress. The fact remains that even with the increase in programs and services, students are still dropping out at staggering rates. College researchers have studied academic and personal factors relevant to college success such as intelligence, subject knowledge, grade point average, education, social support, financial support, and academic self-confidence (Lotkowski et al., 2004; Willcoxson, 2010); each of which are important for a student to be successful in their academic studies. However, what is missing from the literature is research that examines the relationship between the predictors of stress coping skills and adult attachment styles and the interaction they may have played on the outcome variable of college graduation. More specifically, this study examined the relationship between the predictors of stress coping skills and adult attachment styles and the interaction they may have played on the decision to drop from or graduate from college.

The adult attachment model is based on attachment theory established by Bowlby and Ainsworth who stressed how important the attachment process is in the formation of

physical and physiological brain and nervous system development, and in the formation of social and relationship skills (Cassidy & Mohr, 2001; Siegel, 1999). Research conducted on adult attachment has shown that how infants are handled has long term effects on adult cognitive, social, psychological, and emotional behavior (Ross, McKim, & DiTommaso, 2006). Ainsworth and Bowlby (1991) believed that during infancy, internal mental representations are formed in relation to how they are treated thereby affecting how the self, others, and even the world are viewed. For example, if an infant had a caretaker who was nurturing and responsive to its needs, a secure attachment cognitive model would be formed (Fraley, Heffernan, Vicary, & Brumbaugh, 2011). Securely attached adults tend to have higher self-esteem, are more comfortable exploring new environments, and are better able to foster trusting relationships with teachers and peers, all of which lead to greater academic success (Lopez & Gormley, 2002). Insecurely attached adults tend to have a difficult time adapting to the demands of a new environment which creates more stress on an already faulty stress response system and poor stress coping skills. Insecurely attached individuals also have a difficult time seeking peer and teacher support (Vogel & Wei, 2005), and poor stress coping skills may affect academic performance.

During this time of increased stress, the student is challenged to adapt to a new and mostly unstructured system. Stress experienced during the transition to college is a factor that influences how successful the student is in his or her personal and academic life. According to Landen and Wang (2010), when an individual is placed in a new environment, it creates stress causing the individual to react by appraising the situation

and then using existing stress coping skills to help him or her adapt. If the attachment system becomes active during periods of stress and transition, this survival mechanism may affect the decision that a college student makes regarding the decision to withdraw or stay in school.

Each individual student responds differently to stress. Some students are better than others at dealing with the rigors of academic life. One mediating factor for academic stress may be the attachments that are formed with teachers, peers, and other adults who are able to provide support (Vogel & Wei, 2011). For example, an adult who has a secure attachment style facing stress will seek out other adults for support and comfort. They are also able to form and maintain close relationships. These relationships serve as a secure base from which to explore the environment. Adults who are in secure relationships tend to have more confidence, report higher levels of self-esteem (Foster, Kernis, & Goldman, 2007), tend to be more optimistic when faced with stress (Caldwell & Shaver, 2012), and have a higher grade point average, which is a direct factor linked to academic success (Gifford, Briceno-Perriot, & Mianzo, 2006). This study examined the relationship between the predictors of stress coping skills and adult attachment styles and the interaction they may have played in the outcome variable of college graduation.

### **Problem Statement**

A substantial amount of research has been conducted on infant, adolescent, and adult attachment as it relates to behavior, social relationships, and psychopathologies, but there seems to be an absence of research that addresses whether there is a correlation between adult attachment style and the decision to graduate or drop out of college. Most

research that addresses academic issues has focused on children and adolescents, and the findings have suggested that early attachment experiences directly affect how well a student connects with their peers, teachers, and educational institution (Lopez & Fons-Scheyd, 2008; Schochet, Smyth, & Homel, 2007). Results from years of retention research has shown students drop due to financial difficulties, poor grades, a lack of social involvement in the college community, and a lack of support from college teachers, staff, and family (Barefoot, 2004). There is research that suggests secure attachment is related to higher self-worth, greater satisfaction with college studies, and the ability to cope with the stress of college, but these studies are conducted with currently enrolled students and, therefore, fail to address the relationship between the variables of stress coping skills and adult attachment styles and the ultimate impact they may have had on successful graduation from college.

After years of retention research and the integration of programs to deal with the issue of attrition, students are still dropping out at alarming rates. Attachment style is related to a specific set of behaviors that are activated during times of transition and stress. These issues and internal belief systems directly impact academic performance, learning and memory, stress coping skills, and affect whether or not a student will stay in college and successfully graduate. The problem addressed by the current study was the high numbers of students who are dropping out of college. It is clear from the research that adult attachment style has not been considered a factor when colleges and universities designed classroom curriculum and retention programs. Students continue to withdraw from college at alarming rates even with these programs. Attachment theory

purports that early experiences with adult caregivers lay the foundation for peer and teacher social relationships (Booth-Laforce, Oh, Hayoung, Rubin, Rose-Krasnor, & Burgess, 2006) and how individuals deal with stress throughout their life (Waters & Waters, 2006). Adult attachment style and stress coping skills were examined to determine their influence on college graduation.

### **Purpose of the Study**

The previous research has shown that while there has been an increase in the number of high school students enrolling in postsecondary institutions, more than half are dropping out before the end of their first year of studies (Venezia et al., 2003). Most of the studies conducted have been with currently enrolled students, and inferences are drawn from the results suggesting that students who have qualities associated with secure attachment such as high self-esteem and stable relationships (Gifford et al., 2006; Tangney et al., 2004) tend to have better grades and are more likely to stay in school past their first year of studies. However, these studies did not measure whether these factors were related to successful graduation from college. Therefore, it is important to understand if there is a connection between adult attachment style, the ability to deal with stress, and college graduation. The purpose of this quantitative study was to explore independent (predictor) variables of stress coping skills, adult attachment styles, and their correlation or the impact they may have on the dependent (outcome) variable of college graduation. Data was collected from individuals who either graduated from or dropped out of college in the last four years in order to examine the relationship between the variables.

### **Nature of Study**

The retention rate of college students has not increased even with the advent of first year experience programs, an increase in college counseling, and an increase in student services programs that were specifically created to combat this problem. Research conducted with currently enrolled students implies that attachment style and the ability to cope with stress are two factors that affect academic performance. Inferences drawn from these studies suggest that securely attached students have the coping mechanisms, internal fortitude, and skills necessary to be successful in their academic studies and, therefore, may be more likely to graduate from college. However, no studies have been conducted with college graduates to see if the majority of this population are securely attached individuals with high stress coping skills. The current study sought to understand the relationship between the two factors of adult attachment style and stress coping skills and the outcome of academic success, which will be measured by college graduation among individuals who attended a 4-year college within the last four years with the intention of graduating. The present study utilized a survey research method to gather information from a population of individuals who attended a 4-year college or university with the intention of graduating to measure the relationship between the predictor and outcome variables. All participants were asked to complete demographic questions, to self-report GPA and the date dropped or graduated from college; to complete the Experience in Close Relationship (ECR-R) Scale to gather information on family history and to measure attachment style, and to complete the Perceived Stress Scale (PSS) to measure stress coping skills.

## Research Questions and Hypotheses

Research on adult attachment styles and stress coping skills have been among 2-year and 4-year currently enrolled college students, but no studies have been found regarding individuals who either graduated or withdrew from college. This study utilized a quantitative design in a sample population of individuals who attended a 4-year college or university with the intention of graduating to examine the variables of adult attachment style and stress coping skills as predictors of academic success. The following questions were examined during this study:

1. Among a population of individuals who attended a 4-year college or university with the intention of graduating, are adult attachment styles associated with the decision to complete school as measured by college graduation?

$H1_0$ : The null hypothesis states that there is no relationship between adult attachment style and college graduation.

$H1_a$ : The alternative hypothesis states that there is a relationship between adult attachment style and college graduation.

2. Among a population of individuals who attended a 4-year college or university with the intention of graduating, are stress coping skills a factor associated with academic success as measured by college graduation?

$H2_0$ : The null hypothesis states that there is no relationship between stress coping skills and college graduation.

$H2_a$ : The alternative hypothesis states that there is a relationship between stress coping skills and college graduation.

3. Among a population of individuals who attended a 4-year college or university, are the combined predictors of adult attachment style and stress coping skills related to academic success as measured by college graduation?

*H3<sub>0</sub>*: The null hypothesis states that there is no relationship between the combined factors of adult attachment style and stress coping skills as related to college graduation.

*H3<sub>a</sub>*: The alternative hypothesis states that there is a relationship between the combined factors of adult attachment style and stress coping skills as related to college graduation.

### **Theoretical Framework**

Attachment theory purports that early infant experience has a profound and largely unconscious impact on adult behavior (Ainsworth & Bowlby, 1991; Bowlby, 1969, 1973, 1980). Bowlby and Ainsworth (1991) believed that the quality of infant handling during the first few years of life served as a basis for the development of internal mental representations or working models. Thus, how infants are cared for during early brain development affects the type of neural pathways that are formed that the individual will access throughout the lifespan. These pathways or mental representations are used to regulate emotions, to form social relationships, are the basis for self-esteem issues, affect how individuals respond to stress, and are involved in memory and cognition (Cassidy & Shaver, 2008); all of which may impact academic success.

During infancy, significant brain development occurs that is dependent on stimuli from the environment. Experiences with significant caregivers result in the formation of attachment styles. In the literature, attachment style has been defined as being either

secure, insecure/avoidant, or insecure/ambivalent (Bartholomew & Horowitz, 1991; Tracy & Ainsworth, 1981; Roelofs, Meesters, ter Huurne, Bamelis, & Muris, 2006). Attachment researchers believe that the internal mental representations formed in infancy become hardwired in the brain, are relatively stable throughout adulthood, and affect behavior throughout life (Bowlby, 1980; Bretherton, 1992; Mikulincer, Shaver, & Pereg, 2003). Securely attached adults tend to be more confident in seeking and maintaining close relationships with peers, teachers, and significant others. They also have a greater ability to deal with stress, seek support from others, actively look for solutions to problems, and are more successful in academic settings (Parade, Leerkes, & Blankson, 2010; Tangney et al., 2004).

Insecurely attached adults (anxious or ambivalent adults) tend to approach relationships and new situations from a place of anxiety (Bartholomew & Horowitz, 1991; Hazen & Shaver, 1987). Anxious individuals tend to have a lower level of self-control and, on average, lower grade point averages (Gifford et al., 2006; Tangney et al., 2004) which puts them at a greater risk of dropping out of college. Anxious individuals also are less likely to seek out support from parents, peers, or college faculty (Lopez & Fons-Scheyd, 2008; Vogel & Wei, 2005). Adults with avoidant or dismissing attachment styles have a difficult time forming relationships, have poor stress coping skills, are more likely to be considered “loners,” and have a negative affect (Bartholomew & Horowitz, 1991; Hazen & Shaver, 1987), and are more likely to drop from college.

There has been a substantial amount of research conducted on infant, child, and adolescent attachment that suggests a link between attachment style, behavior, and

cognitive, social, academic achievement, and high school retention rates (Booth-LaForce et al., 2006; Schochet et al., 2007). Research has also suggested a link between attachment style and academic achievement in college populations (Lopez & Gormley, 2002) and the ability to cope with stress (Vogel & Wei, 2005).

The transition to college can be a stressful time for individuals who are leaving familiar family systems and are tackling the challenges of the academic postsecondary environment. During times of stress, the attachment system becomes active and acts as a moderator; attachment style will either increase stress or decrease stress (Baron & Kenny, 1986; Bennett, 2000; Holmberg, Lomore, Takacs, & Price, 2011), in this study specifically related to academic performance. The relationship between adult attachment style and stress has been established. Research has shown that individuals with secure attachment styles are more resilient when faced with stressors (Li, 2008), have greater stress coping skills (Landen & Wang, 2010), seek trusting relationships when under stress (Foster et al., 2007), and tend to ask for support from college staff and support services (Bueschel, 2009; Reio, Marcus, & Sanders-Reio, 2009; Shochet et al., 2007).

Individuals who have not experienced positive secure experiences with their caregivers may have a difficult time adjusting to an unfamiliar environment. Insecurely attached adults have a more difficult time dealing with stress (Li, 2008), which is due to the faulty hardwiring of the hypothalamic-pituitary-adrenocortical (HPA) axis response to stress during infancy (Mikulincer et al., 2003), making and sustaining relationships, regulating their emotions, and adjusting to the academic environment, and ultimately, these adults may be at a greater risk for dropping out of college during their first year of

studies (Ames, Pratt, Pancer, Wintre, Polivy, Birnie-Lefcovitch, & Adams, 2011).

Individuals who lack social skills often feel lonely, experience greater levels of stress, and lack the skills necessary to seek out counseling and other resources available to help them succeed in college.

Many researchers have studied the relationship between the infant and caregiver and with children and adolescents which is presented in greater detail in Chapter 2. This research has been expanded to include adult behavior in regards to romantic relationships and psychopathologies. The research on adult attachment style in college graduates seems to be nonexistent. Research has focused on parenting style and the attachment style of high school students or young adults who are enrolled in college, but researchers have not followed up to see if there are more securely attached adults graduating from college. This study contributed to the body of research on attachment and college retention by filling a gap in the literature related to adult attachment style, factors related to stress coping skills, and the successful graduation of college students. The current study employed a logistic regression design to understand how the two predictor variables impact the dependent variable (George & Mallery, 2010). Logistic regression was chosen for this study because it was an appropriate method to discover the relationship between the independent variables of adult attachment style and stress coping skills and the dependent variable of college graduation. Specifically, college graduation is a categorical variable in that it has two values: individuals who either withdrew from or graduated from college.

### **Operational Definitions**

*Adult Attachment Style:* Anxiety (fear of rejection in personal relationships) and avoidance of close personal relationships as measured by Experiences in the Close Relationships questionnaire (ECR-R) (Brennan, Clark, & Shaver, 1998; Fraley et al., 2011).

*College Graduation:* Receiving a diploma upon completion of a college course of study (Tinto, 1993) as measured by self-reported date of graduation obtained from demographic questionnaire.

*Stress:* Aspects of life that participants feel are out of control or unpredictable as measured by the Perceived Stress Scale (PSS) (Roberti, Harrington, & Storch, 2006).

*Stress Coping Skills:* The strategies employed in an effort to control or reduce stressors in the environment (Earnest & Dwyer, 2010) as measured by the PSS (Roberti, Harrington, & Storch, 2006).

### **Assumptions**

The research conducted on attachment style and stress coping in college populations has been for the most part with freshman students and in psychology classrooms. Conclusions have been made suggesting securely attached students have greater stress coping skills and are more likely to stay in college past their first year of studies. This has left a gap in the literature, as college graduates have not been participants to see if there are indeed a higher number of graduates with secure attachment styles. Thus, this study focused on individuals who have attended a 4-year college or university with the intention of graduating and assumed that there was a

correlation between secure attachment and the successful completion of college. The assumption was also made that there would be a correlation between insecure attachment style and a decreased ability to cope with stress. Therefore, insecurely attached students are at a higher risk of dropping out of college, so fewer college graduates will identify as being insecurely attached. The study also believed that stress and adult attachment style are related to academic achievement. An assumption also inferred that the results would show a higher number of graduate students that identify as securely attached. It was assumed that research participants would answer each of the survey questions honestly to the best of their ability and would accurately assess their adult attachment style. It is also assumed that the instruments used were appropriate for measuring the proposed variables.

### **Limitations**

There are several limitations to the study that were addressed. First, results of this study were limited to a small sample of individuals who attended a 4-year college or university with the intention of graduating. Therefore, it may be difficult to generalize the results to graduates from technical, 2-year, or career college populations. Second, insecure attachment styles are associated with difficulty in dealing with stress, however, in college, periods of perceived high stress often occur during exam weeks or when projects are due, which is also a time when students get less sleep (Murphy, Denis, Ward, & Tarter, 2010). As this study did not include sleep as one of the variables, it is possible that decreased sleep contributes to increased levels of stress, which may affect academic performance and ultimately whether the student graduates from college. Third, learning styles were not assessed as a variable for this study. Fourth, self-report inventories were

used for the present study because they are effective for large sample sizes, are considered to be a valid data collection method, and are assumed to reflect the subjective experiences of the participant. Measurements are only valid and reliable if the participants are honest and forthcoming in their responses. The reliability and validity of the measurements will be discussed in greater detail in Chapter 3. Lastly, there are many factors related to academic success that were not measured because this study only addressed the relationship between adult attachment style and stress coping skills as related to the decision to drop from or graduate from college.

### **Delimitations and Scope of Study**

The purpose of this study was to contribute to the body of research on adult attachment theory and to increase awareness of how attachment style influences stress coping and academic success as measured by graduation from college. This study was conducted online using Survey Monkey. Data was collected from 107 individuals who attended a 4-year college or university in the last 4 years, with individuals above the age of 18, which is the age of consent; all cultural backgrounds, all degree programs, and students who were completing their first bachelor degree were included in the study.

Previous research on adult attachment style and academic success has focused on currently enrolled undergraduate students. The current study is a valuable contribution to the body of literature because it will be conducted on individuals who no longer attend college. Specifically, the study explored whether or not adult attachment style is related to the ability to cope with academic stress, and if attachment style has an effect on the outcome variable of college graduation.

### **Significance of Study**

Most of the research conducted on adult attachment examining the relationship between attachment style and stress coping skills has been conducted on college campuses with students who are mostly freshman enrolled in psychology classes. The current study is a valuable contribution to the body of literature because it was conducted on individuals who are no longer attending college. A large body of research has been conducted in the past 20 years that examines attachment as it relates to the transition to college (Lapsley & Edgerton, 2002), the importance of the relationship between faculty and students (Reio et al., 2007), the ability to cope with stress (Li, 2008), and the ability to adjust to the college environment (Lopez & Gormley, 2002). The current study explored whether or not adult attachment style is related to the ability to cope with academic stress, and if attachment style has an effect on the outcome variable of college graduation. Students are dropping out of college for a variety of reasons, including not being prepared for academia, the inability to make and sustain social relationships with peers and teachers, and ineffective stress coping strategies (Li, 2008).

Students with secure attachments are better prepared to explore their new college environment from a place of trust and confidence because that is what was instilled in them from their adult caregivers early in infancy. These individuals are more confident, mentally and physically healthier, tend to perform better in the academic environment, and cope better while under stress. On the other hand, individuals with insecure or disorganized attachment style, struggle with negative self-messages and tend to approach new situations from a mindset of mistrust and fear (Cassidy & Shaver, 2008). They also

tend to struggle with forming and maintaining social relationships, may have behavioral problems, and may have poor academic performance (Browne & Winkelman, 2003). Studies are suggesting that grade point average is just part of the equation for success; social support is equally necessary for successful retention (Willcoxson, 2010).

The implications for social change are of importance to educators at all levels: school administrators, counselors, and individuals who are struggling to understand how their own childhood attachment experiences have shaped their behavior. Arming educators with knowledge of attachment may help them reach out to individuals who would normally drop from college and may increase the referral of students to community counseling services. College administrators may consider testing new students for adult attachment style and implementing stress management programs to help students learn to cope with academic stress, thereby increasing retention rates. This would affect funding of programs to assist students with attachment issues and help structure classes to boost student performance. This may help insecurely attached students who are intelligent, yet due to a faulty stress response system, may drop from college due to the inability to deal with academic stressors. Students could be taught about the attachment process in psychology classrooms to help them understand the connection between attachment style and stress coping abilities.

When students graduate from college, it poses an economic and social benefit to the individual and to society as a whole. A college degree ensures a higher salary, a higher standard of living, more opportunities for growth, and better health care benefits. The social benefits of a college degree include increased community involvement and

networking, greater awareness of social and political systems, and multicultural awareness (Tinto, 1993). Successfully graduating from college involves the rich interplay between adult attachment style and stress coping skills and their impact on the decision to graduate from college.

### **Summary**

This chapter introduced the gap in the literature on adult attachment, stress coping skills, and college retention. There has been a significant amount of literature on adult attachment style and a separate body of research on stress coping among college students. The results are showing that over half of students who enroll in college are dropping during their first year of studies. Most of the studies are focusing on academic factors related to college retention. This study addressed the gap that examines the relationship between the predictors of stress coping skills and adult attachment styles and the interaction they may have played on the outcome variable of college graduation.

Chapter 2 provides a review of the literature related to attachment, stress coping skills, and college retention. It also provides important background information that is relevant to the study and identifies the gap in the literature on adult attachment style, stress coping skills, and college retention. Chapter 3 discusses the research design, discussion of the variables, sample population, survey instruments, and hypotheses. Chapter 4 will present the findings of the study and the significance of the results in relationship to the hypotheses. Chapter 5 will provide a conclusion of the study, implications for social change, limitations of the study, and suggestions for further research.

## Chapter 2: Literature Review

### **Introduction**

This chapter is designed to provide an overview of the literature that is significant to this study. This literature review will begin with a discussion of the evolution of attachment theory and the development of attachment behaviors in early infancy that continues throughout adulthood. There is a large body of research on attachment theory, more specifically on infant attachment and how that process affects cognitive, emotional, and behavioral development. The second section will focus on the physical development of the infant stress response as it relates to attachment style. The literature will show the clear connection between attachment style and the ability or inability to cope with stress throughout the lifespan. The third section will discuss adult attachment behaviors. The fourth section will be devoted to presenting the literature that is relevant to issues facing college students including attachment style, social and communication skills, academic GPA, as well as stress coping abilities. A review of current literature will also discuss college retention factors as they relate to this study. The final section will be devoted to a summary of the literature that is pertinent to this study.

There is a wealth of information available related to attachment from theoretical classics to current research especially on infant attachment, the relationship between adult attachment and mental health disorders, and attachment factors as related to adult relationship formation. Current research on college retention and stress coping skills were included to provide a base of knowledge and understanding for this study. The literature review begins with a theoretical overview and provides knowledge of the developmental

process associated with attachment and stress coping skills in order to establish the connection between adult attachment behaviors and college graduation and to provide a framework of the research problem. Current literature on college retention will also be reviewed to discuss other factors that are related to the poor retention of students. There is a gap in the literature that establishes a connection between the independent variables of adult attachment style, stress coping skills, and whether they were a factor that related to the dependent variables of grade point average and college graduation.

A review of the literature was conducted through the use of books, journal articles, and electronic psychology databases such as Academic Search Premier, PSYC Articles, and PSYC Info. The list of terms used in this search included *attachment*, *attachment theory*, *attachment styles*, *Bowlby*, *adult attachment*, *adult attachment interview*, *infant stress response*, *cortisol*, *hypothalamic pituitary adrenal (HPA) axis*, *coping skills*, *college transition*, *college retention*, and *college drop-outs*.

### **Attachment Theory**

Attachment theory was developed by British psychiatrist and researcher John Bowlby (1969, 1973, 1980) who was an early student of psychoanalytic theory. Bowlby's work with attachment was originally written and conducted within the context of Freud's developmental theory. The belief that the unconscious mind had a direct influence on present day behavior became a central part of his theory (as cited in Thompson, 2008). After years of studying the research of Charles Darwin and Sigmund Freud, Bowlby built on the work of both pioneers while further defining his own theory of attachment. He spent the rest of his career seeking a deeper understanding of the dynamics of the

relationship between the infant and its maternal caregiver (Schoore, 2000) and how that relationship impacted the stages of development (Waters, Crowell, Elliot, Corcoran, & Treboux, 2002). Bowlby was convinced that infant attachment was different from the emotional bond that develops between two adults in which both adults are able to give an equal amount of energy to sustain the relationship. He felt that the infant attachment system was part of a genetic, evolutionary, emotional, and behavioral system that's purpose was to cause the infant to bond or attach with its female caregiver in order to ensure that the infant would survive by being protected from harm and having its basic physical and emotional needs met (Bowlby, 1969; Maier, Bernier, Pekrun, Zimmerman, Strasser, & Grossman, 2005).

Bowlby purported that the attachment system was vital not only to the survival of the infant (as cited in Cassidy & Mohr, 2001), but also to healthy physical, cognitive, and emotional development, and this greatly affected behavior and mental health throughout the lifespan (as cited in Fairchild, 2006). His attachment theory suggested that infants use this system from the time they are born to recognize and decipher the emotional behavior of their caregiver (as cited in Waters et al., 2002). Bowlby believed that infants use the emotional information they receive from their caregiver to create what are called *internal working models* (as cited in Imamoglu & Imamoglu, 2007) or mental representations of their attachment figure (as cited in Bretherton, 1997) that they will later use to soothe themselves when faced with a stressor.

Bowlby concluded that a large part of brain development occurs after birth and is largely dependent on information received from the environment. Early communication

between an infant and its caregiver is, for the most part, nonverbal and for the infant contains an emotional component. Infants are born with their senses highly developed and all stimuli coming in from the environment greatly impacts a new and developing brain. Bowlby (1980) believed that infants study the face of their caregiver and react to how they are held and to the tone of voice of their caregiver. All of this information is processed through the limbic system and the right hemisphere of the brain which processes memory formation during the first three years of life (Siegel, 1999). Bowlby believed that this was significant as these emotional memories and mental representations of caregivers affect future behavior, influence social relationships (as cited in Thompson, 2008), affect how memory is formed and how information retrieved over the lifetime will be processed (as cited in Bretherton, 1992), and also influence how they will later cope in stressful situations (as cited in Beatson & Taryan, 2002).

Years of research on attachment theory have proven that Bowlby was right; the attachment process is more than a survival mechanism as it directly affects and is vital to the healthy development of brain functioning. Bowlby (1980) stated in his original theory that children learn how to function in the world through interactions with their adult caregivers. These experiences, especially during the first three years of early brain development, affect neural pathway development. Each interaction with the adult caregiver teaches the brain how to later react when faced with stressful situations. Infants will learn from their caregivers how to soothe or not soothe themselves based on these experiences, all of which will affect later learning and memory functions. Subsequent research since then has determined that these early attachment experiences affect the

individual over their lifespan, influencing not only how the brain develops, but also overall cognitive and memory functions, as well as emotional and behavioral expression (Fairchild, 2006).

Bowlby (1980) was convinced that early attachment experience was directly connected to child and adult emotional, behavioral, and cognitive problems, as well as communication issues in social relationships. Years of attachment research has shown that early mental representations affect how well an infant is able to soothe itself, the health of neural functioning (Lipschitz, Morgan, & Southwick, 2002), performance on cognitive tasks (Creeden, 2004), communication in social relationships (Schochet et al., 2007), and emotional development (Schermerhorn, Cummings, & Davis, 2008).

A large premise of Bowlby's attachment theory was that early experiences affect the development of internal mental representations of the self. Bowlby theorized the development of mental representations was part of the evolutionary process whose purpose was to help recognize and decipher social information (as cited in Dykas & Cassidy, 2011). Contemporary research has shown that not only does early infant handling by caregivers impact the sense of self (Stansfeld, Head, Bartley, & Fonagy, 2008), it also affects how significant adult caregivers are perceived in infancy and throughout the lifespan (Browne & Winkelman, 2003; O'Conner & Zeanah, 2003).

Bowlby (1973) asserted that early memory formation (before the age of 3) is unconscious in nature. Infants will encode a memory that contains an emotional component. They internalize how they are handled by their significant caretaker; this becomes a memory neural pathway that will be unconsciously accessed and used as a reference for the

formation of a sense of self. Sigel (1999) has stated in subsequent research that memories formed before the age of 3 are implicit in nature, which means they contain an emotion but no conscious memory to associate with the emotion. Thus, mental representations operate unconsciously, but greatly affect perception of a sense of self (Giannoni & Corradi, 2006) and provide a basis for which the child learns to explore their environment (Coe, Dalenberg, Aransky, and Reto, 1995).

### **The Ainsworth Strange Situation/Styles of Attachment**

Psychologist Mary Ainsworth studied extensively with John Bowlby and further developed attachment theory (Cassidy & Shaver, 2008). She believed the attachment system not only affected external behavior, but greatly affected the physiological functioning of the brain and nervous system (as cited in Schore, 2000). In her research, Ainsworth would separate infants from their caregivers and then observe the behavior of the infants. From this research, Ainsworth developed four distinct styles of attachment which she called the Ainsworth Strange Situation. These styles were called secure, insecure/avoidant, and insecure/ambivalent (as cited in Roelofs et al., 2006). Securely attached infants would display distress when the caregiver left the room but were able to calm their emotions and continue to explore their environment. When the caregiver returned, the infant displayed happiness and appeared to be comforted. Anxious-Ambivalent infants were very upset when their caregiver left the room and were often inconsolable. When the primary caregiver returned, the infant continued to be distressed to the point that they would cling to the caregiver and not explore the environment. Anxious-Avoidant infants would ignore the caretaker while they were in the room with

them and not display any emotion when the caretaker left and subsequently returned to the room. Later research would identify and add a fourth style called disorganized/disoriented (Coe et al., 1995).

Research conducted by Ainsworth and other attachment researchers has established that children who develop a secure attachment in infancy with their adult caregiver physically develop at a faster rate, have higher cognitive functioning, and have a lower rate of mental disorders than children with insecure attachment styles (as cited in Zilberstein, 2006). Infants who are securely attached have adult caregivers who not only take care of their physical needs, but perhaps most importantly, are emotionally sensitive and available to the infant, which in turn teaches infants how to regulate their emotions. Schwartz and Davis (2006) concluded that an infant internalizes or processes the loving and nurturing care it receives from the caregiver and creates a neural pathway which becomes permanent or hard wired through repeated similar experience. As stated previously, during the first three years of life, implicit memories are formed which are unconscious and emotional in nature. These types of memories are stored and retrieved differently than are memories formed after that age that are defined as autobiographical (Weede Alexander, Goodman, Schaaf, Edelstein, Quas, & Shaver, 2002). Bowlby and Ainsworth suggested that it is imperative that infants receive consistent love and support from their caregivers in order to form a positive internal mental representation of self (as cited in Bretherton, 1992; Dykas & Cassidy, 2007); when they are treated with love, they learn to trust others, develop a strong self-image, and develop high self-esteem (as cited in Cortina, Spring, & Marrone, 2004), are better able to deal with everyday stressors, and

are confident in exploring their external environment (as cited in Bretherton, 1997). Both Bowlby and Ainsworth believed, as do contemporary theorists, that a secure representation of self becomes the basis for physical, emotional, and psychological health, the development of social relationships, a healthy lifetime response to stress, and normal cognitive function (as cited in Roelofs et al., 2006).

Through her research, Ainsworth found that infants who develop secure attachments with their adult caregivers are later in life more comfortable developing and sustaining relationships with peers and persons in authority and have lower incidences of anxiety related disorders (as cited in Stepp, Morse, Yaggi, & Reynolds, 2008). One study conducted with securely attached infants found that infants are more independent and comfortable exploring their environment because of the trust developed with their caregiver (McLeish Martin, Paetzold, & Rholes, 2010). When these children reach the education system, if their attachment experience has been positive, they are better able to form trusting relationships with their teachers and peers and are able to deal with the occasional rejection from classmates or negative grading situations (Schwartz & Davis, 2006). The reason these children are able to deal with peer and teacher rejection with relative ease is because during infancy when the brain was being hardwired, infants were soothed during stressful times. This experience causes the neuroendocrine system or more specially the hypothalamic-pituitary-adrenal (HPA) axis to form properly which is crucial to a healthy stress response throughout the lifetime (Weede Alexander, Quas, & Goodman, 2002).

Bowlby and Ainsworth both discovered through their research that long term inconsistencies to the attachment system during the first three years of development could have negative consequences leading to insecure attachment relationships and issues (as cited in Brown & Winkelman, 2003; Dykas & Cassidy, 2011). Insecure-avoidant infants are born into an environment they perceive as stressful and full of anxiety because their caregiver is rejecting and emotionally unavailable (Tracy & Ainsworth, 1981) and they discover they cannot count on this person for safe nurturing care (Feldman, 2007). Infants born into this environment quickly learn that their emotional needs will not be met and in response start to ignore the attachment process simply so they can survive. This has a negative consequence on brain development as it distorts the way infants develop a mental representation of self-leading to a negative self-image (Gullone, Ollendick, & King, 2006); it also damages the way the stress response develops leading to difficulty dealing with stress (Brown & Winkelman, 2003; Cassidy & Mohr, 2001). Recent studies have shown that insecure-avoidant individuals are unable to cope in highly emotional situations due to a low affect, have lower levels of the stress hormone cortisol, and experience delays in childhood development (Gunnar & Cheatham, 2003).

Caregiver rejection also has dire consequences on the development of self and future ability to form social relationships. When the internal representation is one of rejection, infants use this model to develop a sense of self and permanent neural pathways which suggest a cognitive schema that is not worthy of love from others. Current studies have shown that this thought process may affect how the child and later adult will behave in relationships with peers and teachers (Shochet et al., 2008), and the

adult will have difficulty forming social relationships and tend to be emotionally unavailable (Leerkes & Siepak, 2006).

Insecure-ambivalent infants experience caregivers that are inconsistent in their care. They are either overly attentive or not attentive to the needs of the infant which creates a sense of insecurity. As a result, the infant feels abandoned and creates an insecure and inconsistent representation of self. These infants are often emotionally fragile and begin to internalize a belief early in life that love is conditional (Booth-LaForce et al., 2006). As they grow into childhood, they tend to have a negative self-image, are distrustful of others, often believe they need to be perfect in order to be loved, and lack empathy. Insecure-ambivalent infants tend to develop at a slower rate, have an inability to deal with stress, are often not academically prepared for school, have a higher rate of behavior problems (Roelofs et al., 2006), and are at a greater risk for developing anxiety, depression, and addictions (Bifulco, Kwon, Jacobs, Moran, Bunn, & Beer, 2006; Draijer & Langeland, 1999). Current research shows that insecure-ambivalent adults will often appear to be independent, but will avoid developing close social relationships and will experience anxiety in new social situations (Stepp et al., 2008).

There is a large body of research that supports Ainsworth's method of defining types of attachment (Bretherton, 1997; Dykas & Cassidy, 2011; Roelofs et al., 2006). The attachment styles defined by Ainsworth have been linked to childhood, adolescent, and adult behavior, cognitive, social, and academic outcomes (Booth-LaForce, et al., 2006; Gullone et al., 2006; Shochet et al., 2008). These specific attachment styles have been

shown to be different from personality or temperament (Cassidy & Shaver, 2008) and have been proven to be fixed over the lifetime of the individual (Mikulincer et al., 2003).

A fourth style of attachment, disorganized/disoriented, was identified and developed by Mary Main who studied attachment theory with Ainsworth (as cited in Fairchild, 2006). Infants who have this type of attachment disorder experience the loss of the significant caregiver or abuse by that caregiver during early development, which leads to an inability to regulate their emotions (Cassidy & Mohr, 2001). This experience is often so traumatic and fearful it causes the infant to dissociate during the traumatic or fearful event which directly affects physical brain development creating an alternative neural pathway that will be accessed during highly stressful situations (Coe et al., 1995). When infants experience trauma or great fear at the hands of their caregiver, it causes a heightened response to occur in the sympathetic nervous system; more specifically, it directly affects limbic system functioning causing an abnormal HPA axis response to occur (Zeanah & Fox, 2004).

Research has shown that a heightened response to stress early in brain development can cause a lifetime imbalance of the stress hormone cortisol (Gunnar & Cheatham, 2003) and damage to the hippocampus which affects verbal, associative, and short term memory (Siegel, 1999; Weede Alexander et al., 2002). Later in life, these individuals often feel they are powerless when faced with stress (Beatson & Taryan, 2003) and may have difficulty creating and accessing memories during stressful times (Creeden, 2004). During infancy, these individuals develop an abnormally low level of the amino acid tryptophan which is used by the brain to balance aggressive behaviors

(Hudley & Novak, 2004). Later in life, this imbalance coupled with internalized rage prevents them from connecting with others, and is suggested to be the source of their aggressive behavior (Chaffin et al., 2006).

Current research backs Main's claim that a highly stressful environment adversely affects the developing brain and causes damage to the amygdala which predisposes them to behavior disorders (O'Conner & Zeanah, 2003); anxiety and depression (Charmandari, Kino, Souvatzoglou, & Chrousos, 2003), and an imbalance of neurochemicals in the brain such as dopamine (Van Ijzendoorn & Bakermans-Kranenburg, 2006), serotonin, and norepinephrine (Hudley & Novak, 2004), all of which play a key role in depression and regulation of emotion.

### **Infant Attachment and the Development of Stress Coping Skills**

As stated previously, infant attachment experiences not only affect behavior, but also directly influence how the brain and nervous system develop. This section will present the research on the connection between infant attachment, the development of the brain and nervous system, and the role of the (HPA) system in response to stress. There is a growing body of evidence that suggests the infant/caretaker attachment experience plays a key role in the development of the brain and nervous system functions that govern the stress response (Minnis & Keck, 2003) and in determining how that individual will react to stress (Cathey, 2006) throughout their life. Stress is defined as anything the infant perceives that causes them anxiety and threatens the balance between the body and mind (Engert et al., 2011).

During infancy, the brain is actively growing and creating neural pathways, all of which are dependent on the rich interplay between genetics and experience with adult caregivers in the environment (Graham, 2008; Lipschitz et al., 2002). The brain does require a balanced amount of stress to help neurons develop to their full potential and to assist in healthy brain development, however, what is hazardous to an immature and developing brain is repeated long term stress. An infant that has a secure attachment relationship with their adult caregiver will be soothed when they feel stressed, which lays the foundation for a healthy mental representation of self and others; and teaches them how to regulate their emotions under stress (Stansfeld et al., 2008). When an infant has an insecure or disorganized attachment with their adult caregiver, in which the caregiver is emotionally unavailable, inconsistent, absent, or abusive an infant will experience long term consistent stress and will not be able to soothe itself.

It is important to understand that, in infancy, the brain is literally being hardwired. All types of emotional experiences with adult caregivers are influencing the development of permanent neural pathways that will be accessed throughout the life of the individual (Lipschitz et al., 2002) and mental representations are formed during these experiences that are associated with the caregiver. For example, the structures of the brain that are highly active during early brain development are the amygdala and the hippocampus which are part of the limbic system. The purpose of the amygdala is to help regulate emotions such as fear and anger and to give meaning to emotional experiences (Flandreau, Owens, & Nemeroff, 2012; Sigel, 1999). During early brain development, if an infant is experiencing chronic fear or stress associated with their significant caregiver,

it will significantly affect the type of mental representation created of the caregiver (Schwartz & Davis, 2006) and may alter how the hippocampus functions in regard to memory formation and retrieval throughout the lifespan (Creeden, 2004).

During the first two to three years of life, all memories that are formed are implicit memories (Liotti, 2004; Siegel, 1999), which means they contain an emotional component, yet are largely unconscious (Weede Alexander et al., 2002). The developing mind is highly susceptible to information gleaned from the senses; information that is sent to the limbic system and then to the cerebral cortex where a permanent neural pathway is formed that is accessed through repeated experience. These early implicit memories are the basis for the formation of mental representations of self and others and contain both an emotional and odor component (Liotti, 2004). Implicit memory is unconscious (Kihlstrom, 2006) and may be the reason that individuals react negatively in academic settings; they may be unconsciously associating the environment or teacher with past caregiver experience which may be a psychological reason that students drop from college.

Beatson and Taryan (2002) have suggested attachment is intertwined with the functions of the right brain; all early memories are formed through the right hemisphere which is associated with emotional perception and expression (Siegel, 1999) and each experience with an adult caregiver imprints on the development of the brain and the ability to recognize and express emotions. Securely attached infants learn how to regulate their emotions as this ability is mirrored to the infant through facial expressions, tone of voice, and body language. As a result, they are able to deal with the occasional stressors

and inconsistent behavior of their caregiver. Infants that experience inconsistent or fearful caregiving will create a pathway that suggests the caregiver is a source of fear, yet due to the attachment system they are hardwired from birth to be drawn to that parent to meet their needs, which creates a distorted mental representation, and affects the functioning of the attachment system. When memories are formed, the greater the emotional experience, the more likely it will be stored and accessed through repeated experience. When an infant is in an insecure or disorganized caregiving environment, it creates a tremendous amount of stress and fear for them which the developing brain simply has not yet learned how to handle. The excess stress experienced affects hippocampal functioning and memory formation (Benerecetti, Bouquet, & Ghidini, 2000). It is important to understand that the mental representation of the primary adult caregiver also affects the functions of the limbic and nervous system (Maier et al., 2005).

During infant stress, a number of physiological changes occur in the body. The heart rate increases. There is a surge of neurotransmitter chemicals that affect cognitive functions of the brain such as serotonin which is important to help regulate the stress response (Caspers, Paradiso, Yucuis, Troutman, Arndt, & Philibert, 2009; Lipschitz et al., 2002); dopamine which is vital to attention and learning (Hane & Fox, 2006; Liotti, 2004), and acetylcholine which is needed for proper memory formation, retrieval of memories, and language development (Beatson & Taryan, 2002). When an infant is consistently soothed by its caregiver all of these systems are able to return to normal (Lewis & Ramsay, 1999), however, chronic stress coupled with elevated neurochemicals

can actually cause damage to the hippocampus leading to the distortion of memory formation (Kihlstrom, 2006; Liotti, 2004).

The neuroendocrine and cardiovascular systems are affected during these highly stressed periods (Cathey, Lin, Lin, & Huang, 2011) and automatically increase the amount of hormones and blood flow throughout the body and the brain. During this time of heightened fear and stress, the survival response will be activated and over time the attachment system will either be altered or completely shut down. While this serves the immediate purpose of protection for the infant it also creates a lifetime of distance in significant emotional relationships (Cappa, Begle, Conger, Dumas, & Conger, 2010) and an inability to deal with stress throughout life. Some studies indicated that chronic stress experienced during infancy may affect the cardiovascular system development and functioning throughout life (Austin, Leader, & Reilly, 2005); creates abnormal levels of noradrenaline which has been linked to the development of panic disorders (Esler, Lambert, & Alvarenga, 2008), and may lead to mental disorders such as anxiety and depressive disorders (Creeden, 2004).

During times of infant stress, the HPA axis is activated to mediate the different stages of the body's response to stress; glucocorticoids are released causing an autonomic nervous system response which regulates the cardiovascular, endocrine, digestive, and respiratory systems with the goal of bringing the body back into a stage of homeostasis (Engert et al., 2011; Purvis & Cross, 2006). When a new and developing brain experiences prolonged periods of stress it creates a continual and hyperactive HPA axis

response to stress. As a result, the brain creates a permanent elevated response to stress and alters the functioning of the hippocampus (Austin et al., 2005).

There is evidence that prolonged and highly stressful events in an infant's environment may directly alter and damage HPA axis functions leading to abnormally high levels of the stress hormone corticotrophin (Crh) (Aguilera, 2011; Coste et al., 2000). Coste et al., (2000) discovered in their research that healthy balance of Crh is vital to the normal functioning of the nervous system. Abnormal levels can lead to a hyperactive stress response causing adrenaline to increase substantially leading to mental health issues (Aguilera, 2011), anxiety related disorders and addictive behaviors later in life (Hane & Fox, 2006).

Research also indicates that chronic stress experienced by the infant due to absent, inconsistent, or abusive caretakers can alter the limbic system and impair brainstem function. The brainstem along with the right brain is responsible for mediating early infant experiences from the environment (Geva & Feldman, 2008). Both the right brain and the brainstem play a key role in the regulation of emotions. If these systems are not working properly due to long term repeated stress it affects how early emotional experiences are perceived, stored, and later retrieved. The effect can be seen in childhood and is expressed through behavioral problems, attention deficit disorders (Lipschitz et al., 2002), and antisocial and aggressive behavior (Bogoch, Biala, Linial, & Weinstock, 2007; Gunnar, Brodersen, & Krueger, 1996). These behaviors then become part of adult personality patterns.

As previously stated when an infant experiences stress it causes a sympathetic nervous system response which gears the body for action. Infants with insecure or disorganized attachment experience chronic and repeated stress which continually activates the sympathetic nervous system and the HPA axis which strains brainstem functioning and over stimulates the amygdala creating a chronic and abnormal fear response (Charmandari et al., 2003). Research does show that an increased response to stress during early brain development may be associated with the development of depression and anxiety disorders (Jancin, 2006); anxiety in social situations (Flandreau et al., 2012) and has also been linked to a Type D personality (Jancin, 2006) which have an inability to cope when faced stress.

During stressful periods, the stress hormone cortisol is released as part of a normal response to stress by the nervous system (Cathey, 2006). When the infant experiences insecure or disorganized attachment experiences it greatly stresses the developing brain causing excessive amounts of cortisol to be released (Austin et al., 2005; Lewis & Ramsay, 1999) which can cause excessive pruning of neurons and may also damage the immune system response (Purvis & Cross, 2006). Infants with insecure or disorganized attachment are risk at this stage of brain development because they are not taught how to soothe. Damage to the brain and high level of cortisol predispose them to a lifetime of social and behavioral problems. When the HPA axis is hyperactive, and there is an excessive level of cortisol during the first three years of brain development, the result is a lifetime imbalance of cortisol.

Years of animal studies have indicated that infants have a heightened response to stress when they are separated from their mothers or experience a lack of nurturing care which will result in the repeated activation of the HPA axis and elevated cortisol levels throughout the life of the individual (Gunnar & Cheatham, 2003). During stress the HPA axis is triggered causing several neurotransmitter chemicals to be released in the brain such as dopamine and serotonin (Hudley & Novac, 2004), both of which directly affect the functions of the amygdala and hippocampus as they work to regulate emotions (Bogoch et al., 2007). When the developing brain of the infant is exposed to high levels of stress, it causes a flood of neurochemicals between the nerve synapse. If this occurs to a fully developed brain, the brain responds by shutting down or destroying receptor sites in order to decrease the amount of neurochemicals that are being produced. When this same thing happens during early infant brain development and receptor sites are destroyed this creates a permanent imbalance of neurochemicals in the brain and altered neural receptor sites. For example, studies have shown that low levels of the neurochemical serotonin are linked with depression and high levels are found in children and adults who have Post Traumatic Stress Disorder (Creeden, 2004; Lipschitz et al., 2002).

Other studies such as the one conducted by Khakh and Burnstock (2009) have discovered that a molecule called adenosine triphosphate (ATP) acts as a brain neurotransmitter and affects cell communication and behavior. These studies suggest that during periods of intense stress during early brain development the ATP molecule is released to help heal any damage sustained on the cellular level. However, these same

studies indicate that when the HPA axis is continually activated, and there is an elevated rush of neurochemicals between the nerve synapses permanent damage does occur. The result is not only an imbalance of brain neurochemicals, but a lifetime of anxiety related disorders (Esler et al., 2008).

In summary, considerable research proves that a healthy stress response system is vital to the how emotions are regulated (Creeden, 2004), the ability to make and sustain peer and adult relationships, learning and memory (Gunnar et al., 1996), being able to pursue and follow through on goals, and daily management of the fight or flight reaction to stress. Increased stress experienced during infancy significantly alters the development of the brain and nervous system functions (Hardy, 2007) because energy is put into survival rather than the development and growth of the body (Gunnar & Cheatham, 2003) and creates a lifelong imbalance of cortisol (Feldman, Singer, & Zagoory, 2010) and vital neurochemicals in the brain that help with the regulation of emotion. Imbalances within the brain predispose the infant to developmental and cognitive delays, mental disorders such as depression and anxiety (Beatson & Taryan, 2003), as well as a wide range of stress related mental and physical problems.

### **Adult Attachment**

Bowlby (1980) felt the attachment process was so important it created an internal foundation that would be used throughout life to build significant relationships, affect behavior in social situations, determine how individuals would cope when under stress (Reio et al., 2009), and would predetermine which type of attachment would be at risk for physical and mental disorders (Molnar, Sadava, DeCourville, & Perrier, 2010). The

premise that mental representations formed in infancy had the potential to affect adult behavior, and how memories were retrieved became the driving force behind the development of the Adult Attachment Interview (AAI), one of the first assessment measures to test attachment in adults (McCarthy & Maughan, 2010). Psychologist Mary Main originally developed the AAI to assess the attachment styles of the parents of the children used in Ainsworth's Strange Situation (Cassidy & Shaver, 2008). The AAI was structured as an interview in which adults would be asked to recount childhood memories and express feelings about memories involving their significant adult caregivers. This measurement was designed to show the unconscious connection between how adults felt about these experiences in relation to their present day behavior (Stevenson-Hinde, 2007; Waters & Waters, 2006). Based on the results individuals would be placed into secure, dismissing, and preoccupied attachment categories. There have been numerous studies conducted with adults using the AAI which suggest that attachment styles tend to be fixed and stable and are accessed during periods of stress over the lifetime of the individual (Cassidy & Shaver, 2008; Malerstein, 2005). For example, studies involving the AAI have been consistent in their findings that securely attached parents tend to have securely attached infants, insecure or dismissing parents will have children that try to avoid them, and preoccupied adults will have children who alternate between being preoccupied with the parent and angry with the parent (Cassidy & Shaver, 2008).

In the late 1980s Hazan and Shaver took the research of Bowlby and Ainsworth to a new level in their development of adolescent and adult classifications. They postulated that internal mental representations formed in infancy were so ingrained they would

affect how significant social and romantic relationships were formed in adolescence and adulthood. Hazan and Shaver (1987) suggested that as adolescents naturally gravitate toward important relationships with other adults and peers that they would use these relationships much as the infant does as a secure base from which to explore the world. They felt so strongly that significant adult and romantic relationships could be used to study attachment they developed a measurement that identified three different types of adult attachment which were secure, anxious/ambivalent, and avoidant (Hazan & Shaver, 1994).

Hazen and Shaver's (1987) research suggested that mental representations developed in infancy would later be used determine adult behavior in social relationships and greatly affected both physical and mental health. The results also purport that because attachment styles are based on early experience they are not influenced by either genetic makeup or personality (Cassidy & Shaver, 2008). Securely attached adults were more at ease in developing and maintaining close relationships, tended to have good interpersonal communication styles, were comfortable in unfamiliar situations, and had a higher level of satisfaction with their lives and work (McLeish Martin et al., 2010). Avoidantly attached adults had a negative view of self, had difficulty sustaining and maintaining close relationships due to their mistrust of others, and subsequently avoided getting involved in close significant relationships (Cantazaro & Wei, 2010). Anxiously attached adults, on the other hand, would be preoccupied with worry that they would be abandoned by their loved one (Stepp et al., 2008). They would expend a great deal of energy projecting these insecurities onto others believing they were at fault in the

relationship (Mickelson, Kressler, & Shaver, 1997). Anxiously attached individuals also would surround themselves with people due to their high need for approval from others. Hazan and Shaver also determined that adults with insecure attachments were less likely to seek out support when presented with stressors in their lives (Riggs & Han, 2009).

In 1991, Bartholomew and Horowitz presented another model of assessing attachment whose purpose was to assess adult attachment style in relation to individual behavior in social and romantic relationships. They believed like Bowlby and Ainsworth that the mental representations formed in infancy about adult caregivers affected how that individual would feel and react in significant adult relationships. Based on years of research and drawing upon the findings of Ainsworth and Main, Bartholomew and Horowitz (1991) purported that there were four different styles of attachment: secure, preoccupied, fearful, and dismissing (Stein et al., 2002).

Securely attached adults had a positive self-esteem, tended to view other people in a positive manner (Merz & Consedine, 2009), and were comfortable seeking out support in their lives. Bartholomew and Horowitz also discovered that securely attached adults were more likely to use their partner as a secure base (Matsuoka et al., 2006). Much like Ainsworth's insecure-ambivalent style, preoccupied individuals had a negative self-image and tended to place a high value on how others felt about them; thus they would spend a great deal of energy getting others to approve of them. Fearful adults not only had a negative self-image, but they also held that view of others. These individuals were viewed as being so afraid of rejection that they would avoid getting involved in meaningful relationships or seeking the support of others (Merz & Consedine, 2009). The

dismissive style can be compared to Ainsworth's avoidant style. These adults were more likely to have a good concept of self, but they lacked trust in intimate relationships and would avoid seeking the support of others during times of stress.

Perhaps one of the most significant studies on adult attachment came from researchers Brennan, Clark, and Shaver (1998) who after analyzing all the results, and subsequent assessment measurements came up with a two dimensional attachment style model. Brennan et al., (1998) took all the available self-report assessments and after factoring all of the results combined them into one test, which they administered, to over a thousand undergraduate college students. The result was not only the development of the popular Experiences in Close Relationships (ECR), but also after factor analyzing their own results they discovered two dimensions of adult attachment that were labeled adult anxiety and adult avoidance (Wei, Russell, Mallinckrodt, & Vogel, 2007). These dimensions are, in fact, consistent with Ainsworth's insecure-avoidant and insecure-ambivalent styles of attachment (Cassidy & Shaver, 2008). Adult attachment anxiety can be defined as having a fear of abandonment by a loved one, fear of rejection by a significant support person, or an excessive need for approval by others (Wei et al., 2007). When an adult has attachment avoidance their unconscious fear of depending on any other person for support causes them to avoid intimate relationships; they are extremely independent and generally do not share their personal feelings with others (Cassidy & Shaver, 2008). Securely attached individuals score low in anxiety or avoidance on the ECR. The assessment measurement developed by Brennan et al., (1995) has since been combined with a four category model of attachment (Ross, McKim, & DiTommaso,

2006) since this measurement has the most amount of variance when compared to other categorical models (Brennan et al., 1998; Stein, et al., 2002). Thus, this two dimensional model to study adult attachment styles will be utilized in this study.

### **Adult Attachment and Stress Coping Skills**

In the section on infant attachment evidence was discussed regarding the long term affects that are associated with social, cognitive, and emotional outcomes in adulthood. While there is a vast amount of literature on attachment theory, infant and adolescent attachment, and on adult attachment styles there remains a gap in the literature that addresses the link between adult attachment styles, stress coping skills, and college graduation. The studies presented in the following section are mentioned because they give valuable information on adult attachment style, behavior, attachment and grade point average, and stress coping skills, but none of them address whether these are factors in college graduation.

Student retention is one of the greatest problems facing colleges and universities in our country. It is estimated that over half of students that enroll in college will drop before the end of their first year (Ernest & Dryer, 2010). Some studies have suggested the number is greater, and purport that less than a third of students who enroll in a bachelor degree program will complete their studies and over half of students at two year institutions will drop out during their first year (Barefoot, 2004; Solberg Nes, Evans, & Segerstrom, 2009). This is a concern for educational institutions because they need students in order to be financially successful. There is also the issue of accountability; educational institutions are held accountable for every student that enrolls whether they

graduate or drop (Barefoot, 2004). There has been significant research conducted on this issue in the past decade by both two and four year institutions. Each study has shown students drop due to lack of social involvement with their institution, poor academic skills, lack of financial resources to pay for college, and little support from significant people in the students' life including college support staff and teachers (Barefoot, 2004; Oseguera & Rhee, 2009).

Tinto (1993) was an early retention theorist. His premise was the problems of retaining students should be approached from a holistic manner in which the needs of the institution and the student should be considered as equally important. Tinto's theory suggested that retention was an issue of students not being engaged in their studies or feeling connected to their institution, which contributed, poor academic performance and low social integration. Although Tinto (1993) did not specifically address attachment as an issue in retention it is similar as it seeks to understand factors other than poor academic performance that influence college students to either drop out or graduate from college such as personal characteristics, social abilities, family support, and environmental or institutional interests.

Engstrom and Tinto (2008) conducted a longitudinal 4-year study to examine the effectiveness of one of the basic tenants of Tinto's theory, the creation of learning communities that actively involved students in their education. Students were chosen from 13 community and six four-year colleges. There were 5,729 total students, 2,615 that were involved in learning communities and 3,114 that were in equivalent classroom settings. Both sample groups were given a quantitative survey called the Community

College Survey of Student Engagement (CCSSE). Data was also obtained from the National Student Clearinghouse on student performance over 3 years. This data was combined and analyzed using cross-tabular and multivariate regression. Case studies and interviews were employed to understand student subjective experience. The results were significant showing that students in learning communities felt they were valued, supported, and engaged in their studies. These same students also felt supported in their campus social community.

Another retention theorist that has contributed significantly to the current study of retention is C. Robert Pace. His model is important to the current study because it of its focus on the basic components that contribute to achievement in college such personal and social characteristics. Pace (1979) suggested that the key to student success in college was the amount of effort and time that they put into their studies as well as the social connections that are made during the college years. He further suggested that social relationships made with college professors, staff, and peers had a significant impact on student satisfaction. Pace's research is the basis for the College Student Experiences Questionnaire (CSEQ) which is utilized by thousands of 4-year colleges and universities around the United States. The CSEQ was developed to help educational institutions understand the institution and student factors that lead to successful retention of college students. Ethington and Horn (2007) tested Pace's theory in their study involving 1,241 college students from over 40 community colleges in the United States. They used the Community College Student Experiences Questionnaire (CCSEQ), adapted from the CSEQ, which is used primarily with two year and community colleges. The results of

their study supported the Pace Model which purported that student success was measured by the balance between academic studies, connections made with college staff, and the development of social relationships with peers and teachers.

As stated previously attachment theory presented a basis for understanding the differences in individuals regarding behaviors, relationships, and decisions throughout life (Bowlby, 1969, 1980). This theory presents the concept of internal working models that once set as permanent neural pathways in infancy continue to be accessed and used throughout adulthood. These models or mental representations affect the way adults behave in relationships, influence cognitive learning styles, and affect behavior in social situations (Erozkan, 2009; Kilmann, Urbaniak, & Parnell, 2006). In the section on adult attachment, several models were presented that included Bartholomew and Horowitz's model which showed securely attached adults tend to think in more positive terms regarding self and others (Kilmann et al., 2006), whereas adults with preoccupied attachment tend to obsess over whether or not they are accepted by others, and are overly involved in social relationships (Chow & Buhrmester, 2011), and those with a fearful attachment style do not trust others and have a negative concept of self. Adults with a dismissive style of attachment tend to be loners, distance themselves from others, and tend to avoid supportive relationships. These individuals will also tend to dismiss or deflect any discussion of their parents as not being nurturing or supportive, yet they react in a similar fashion to other adults (Rifkin-Graboi, 2008).

### **Adult Attachment, Individuation, and Adjustment to College**

Attending college is a time of stress and transition which in some ways mimics Ainsworth's Strange Situation which activates the attachment system (Lapsley & Edgerton, 2002). In the Ainsworth Strange Situation experiment, infants were separated from their adult caregivers and exposed to unfamiliar individuals and different environments. Entering college is similar to this experience as students are separated from their caregivers and must interact in an unfamiliar social environment. Lapsley and Edgerton (2002) explored this issue when they conducted research using 156 adults that were attending a small Canadian Midwestern college. The purpose of their study was to examine the correlation between adult attachment style and separation-individuation when students were leaving home and enrolling in college. Lapsley and Edgerton (2002) purported that during this time of autonomy or individuation as students forge new relationships outside of the family unit it causes changes in the mental representation of self. Individuals who struggle with separating from their parents may not be able to achieve individuation and struggle with conflicted feelings regarding their identity and career path. This study examined three research questions, of which the second is important to the present study:

1. Was there a correlation between adult attachment style and separation-individuation?
2. What is the relationship between adult attachment style and the consequences of the separation-individuation transitional phase? More

specifically, does adult attachment style affect the ability to adjust to the college environment?

3. Are the measurements chosen for the study accurate to identify if students are adjusting to college? Lapsley and Edgerton (2002)

Lapsley and Edgerton (2002) assessed attachment style using the Bartholomew and Horowitz (1991) model in which students were asked a series of brief statements and asked to pick one statement that best describes them or their situation. College adjustment was measured using the Student Adaptation to College Questionnaire (SACQ), which assesses individual interpersonal experiences and the Personal-Emotional Adjustment (PEA) which measures individual outcomes of emotional experiences. The results of their study suggest that individuals with either secure or dismissive attachment styles reported a greater feeling of independence than that of insecure or fearful styles. Individuals with preoccupied or fearful adult attachment styles reported feeling conflicted over their independence from their caregivers. Lapsley and Edgerton (2002) reported that secure and dismissive attachment styles felt less anxiety and guilt over being separated from their caregivers. While the results of this study are significant and indicate that attachment style does play a role in the successful transition to college and suggests that there may be specific psychological and emotional issues specific to attachment style that affect individuals during this phase, it does not address whether these individuals are being retained by the educational institution.

Another study that specifically addressed adult attachment style and college transition was conducted by Parade, Leerkes, and Blankson, (2010). Their research

focused on 385 female college freshmen and explored the relationship between parental attachment and social anxiety during the transition to college. Each student was administered the Inventory of Parent and Peer Attachment to measure parental attachment, the Interpersonal Competence Questionnaire (ICQ) to assess the skills and ability to form close relationships, the Relationship Assessment Scale (RAS), to measure romantic relationship satisfaction, and the Social Interaction Anxiety Scale (SIAS) to assess social anxiety. The results of their study suggested that students who felt securely attached to their parents had more successful relationships with teachers and their peers in college whereas individuals who reported insecure relationships with their parents tended to have more anxiety in forming social relationships, which affected their satisfaction with college. The results also indicated that insecurely attached individuals who experienced rejection from their adult caregivers early in development unconsciously have the expectation of rejection from the people in authority around them and they are less likely to seek support in when faced with stress.

### **Attachment and Grade Point Average**

One study that is important to the premise of the current study was conducted by Tangney, Baumeister, and Boone (2004) when they researched the correlation between self-control, adjustment in college, higher grade point average, and adult attachment. Their study was based on the premise that students with higher self-control would have greater social skills, have a higher overall grade point average, and a secure attachment style. This study was conducted using 351 undergraduate students a large college on the East Coast. They used a multitude of instruments, but the one that is pertinent to the

present study is the Close Relationships Questionnaire (CRQ) to measure adult attachment style in relationship to the variables being tested. The significance of this study is that secure attachment style is correlated with higher grade point average, higher rates of self-control, and higher rates of self-esteem and psychological adjustment (Tangney, Baumeister, & Boone, 2004). Students with insecure-avoidant or insecure-ambivalent styles of attachment tended to score lower on self-control and also had lower grade point averages than those with secure attachments. The significance of this study is that it directly links attachment style with a grade point average.

Studies conducted on college retention have shown a direct link between grade point average, self-esteem, and retention of college students, all of which are associated with secure attachment (Gifford et al., 2006). In their study, Gifford et al., (2006) found a direct correlation between grade point average and students who returned for their second year of college. Insecurely attached individuals were associated with lower grade point averages and an external locus of control which put them at a risk of dropping out of college. This study did hypothesize that these students may become disillusioned with college, be less likely to seek out support from both professors and peers, yet it did not research whether or not these students were dropping from college.

### **Stress Coping and Academic Success**

When individuals are faced with times of stress or transition stress coping skills will be activated, which will either be problem-focused or emotion-focused which is based on the attachment style of the individual (Ernest & Dwyer, 2010). Individuals will either approach problems in a solution focused manner or they will let their emotions

guide their reactions to stressors in their life (Kohler-Giancola, Grawitch, & Borchert, 2009). Studies conducted on college stress have found that students who experience high levels of personal and academic stress were less satisfied with their studies and life choices (D'Zurilla & Sheedy, 1991).

Li (2008) was interested in discovering why some college students are better able to deal with academic, social, and work stress than others who are in similar stressful situations. He conducted a study using 350 students at a technical college in Taiwan to measure the correlation between secure attachment, stress coping skills, and resilience. The purpose of the study that was pertinent to the present study sought to understand if there were a correlation between secure attachment, coping, resilience, and in college students. Students were administered the Resilience Scale (RS), the Revised Adult Attachment Scale (AAS-Revised) to measure adult attachment style, The Student -Life Stress Inventory (SSI) to measure student stress levels, and the Coping Strategies Indicator (CSI) to measure how well students cope with problems.

The study used both multiple regression and two-way ANOVA to understand how these individuals cope with the stressors faced in college. The results showed that students who have secure attachments are also more resilient and have better coping strategies when faced with stress. In contrast students with insecure attachment styles lack effective problem solving skills when faced with stressors. Li (2008) discovered that insecurely attached students who also suffer from test anxiety are less likely to ask for accommodations and subsequently will fail or do poorly on tests.

Vaughn et al., (2009) suggested that college students with a secure mental representation of self tend to be more successful in college and are less likely to suffer from burnout whereas those with insecure mental representations had more of a tendency to feel overwhelmed and suffer from burnout. Subsequent research has found that securely attached students practiced better communication skills felt more connected with their institution and were more successful in college due to their ability to seek the support of others during times of stress (Cummings-Robeau & Lopez, 2009; Lee et al., 1991; Shochet et al., 2007). Securely attached students are also more self-motivated and strive for success in their academic studies. This is significant as studies have indicated that those who feel connected to their school tend to have higher grades, develop supportive relationships with faculty and staff members, experience a greater level of satisfaction with their studies, and have lower levels of mental and physical health disorders (Bueschel, 2009; Reio et al., 2010; Shochet et al., 2007).

Lopez and Gormley (2002) conducted a study using 245 freshman students from a university in the Midwest. They were exploring whether or not adult attachment style, self-confidence, and stress coping skills changed during the first year of college. This quantitative study was conducted using 245 freshman students. The surveys used were the Personal Demographics Questionnaire (PDQ) to gather information related to age, gender, racial/ethnic background, and employment; the Relationship Questionnaire (RQ) and Experiences in Close Relationships (ECR) to measure attachment style; the Personal Evaluation Inventory (PEI) to assess self-confidence, and the Problem-Focused Style of Coping (PF-SOC) to measure problem solving ability. The result of their study showed

that students with secure adult attachment style tended to be more confident in relationships, had more effective stress coping abilities, and had better problem solving skills than those with insecure attachment styles.

Insecurely attached students are less likely to engage in teacher or peer relationships, suffer from greater levels of anxiety which increases the likelihood that they will perform poorly under academic stress, and is also attributed to a faulty HPA axis response to stress (Ames et al., 2011; Mikulincer et al., 2003; Reio et al., 2010). For example, some studies conducted with undergraduate college students have linked insecure attachment styles with poor stress coping abilities, diminished ability to solve problems, inability to deal with conflict, poor interpersonal communication skills, and negative cognitive patterns especially when under stress (Lopez & Fons-Scheyd, 2008; Riggs & Han, 2009).

### **Summary**

There is an abundance of research on infant attachment, attachment related to the developmental stages from birth to adolescence, and attachment as it relates to psychopathology. There is also a wealth of information available on retention as it relates to student academic success, course design, and individual factors related to student success. Chapter 2 has reviewed and presented studies specific to attachment, the development of the stress response system, adult attachment styles and behaviors, coping skills of college students, attachment, individuation, and adjustment to college, and attachment and grade point average.

Studies have suggested that upwards of 70% of high school students are continuing their education, yet more than half will drop out of school during their first year (Braxton, McKinley, & Reynolds, 2006). There are many stressors that may lead to the decision to drop from college such as financial, academic, social, and psychological factors. The literature reviewed suggests the attachment system is activated during stressful times such as the transition to college which affects specific attachment styles. The consequences can be a positive change in the internal working model of self or emotional conflict as the individual struggles to achieve autonomy. The literature also suggests that specific attachment styles affect behavior which results in the individual either successfully adapting to the college environment or causing anxiety and stress for insecurely attached individuals. What the literature has failed to address is whether or not adult attachment style is related to graduation from college.

Next, Chapter 3 will provide the research design for this study. It will include a brief overview of the study, describe how the study is designed, and will include detail on the examination of the relationship between the independent variables of adult attachment and stress coping skills and their influence on college graduation. It will also include the sample population description, discuss the research instruments utilized, and describe the procedures used in the research as well as detail ethical concerns regarding the study.

## Chapter 3: Research Method

### **Introduction**

The purpose of this quantitative study was to examine the independent variables of adult attachment style and stress coping skills, and their relationship to the dependent variable of college graduation. Adult attachment theory was used as a basis for the current study (Ainsworth & Bowlby, 1991; Bowlby, 1969, 1973, 1980). This theory purports that attachment style is formed due to interaction between the infant and the adult caregiver. This experience affects behavior throughout the lifespan, stress response and coping skills, as well as learning and memory.

Chapter 3 will describe the methods and design of the current study and detail the population and sample in terms of demographics, recruitment, and related information. Data analysis, measurements used, and reasons for the use of such measurements are then described, and ethical considerations of the study are also discussed.

### **Design and Method of the Study**

This quantitative study examined the relationship between adult attachment style and stress coping skills and their subsequent effect on college graduation. The study employed a survey method to gather information from individuals who attended a 4- year college or university with the intention of graduating with a bachelor degree in order to measure the relationship between the independent and dependent variables. A survey design was used because it was cost effective and had the capacity to gather information in a timely manner (Creswell, 2009). The results can also be generalized to the larger population. All participants were asked to answer demographic questions and to self-

report the date the individual dropped or graduated from college. Two instruments were used that have established scales of reliability and validity: Experience in Close Relationship-Revised (ECR-R) Scale to gather information on family history and to measure adult attachment style and the Perceived Stress Scale (PSS) to measure current level of stress and coping skills.

The study first gathered demographic data and examined the relationship between the independent variables of adult attachment style and stress coping skills. A multiple logistic regression design was then used in order to assess the impact adult attachment style and stress coping skills had on the decision to withdraw from college. A multiple logistic regression correlational study seeks to understand how independent variables impact dependent variables (George & Mallery, 2010). In this study, a multiple logistic regression was used because there were two independent variables and a single dependent variable that was categorical. A majority of the research studies used in the literature review used multiple regression analyses. All analyses were conducted using SPSS (Version 18.0).

### **Setting and Sample**

Participants for the present study were 107 individuals who attended a 4-year college or university in the last 4 years and who were above the age of 18. The study was open to both male and female students of all cultural backgrounds. The age requirements for this study were broad, as the average age of enrolled students over the age of 25 increased by 42% between the years 2000 and 2010 (National Center for Education Statistics, 2011), Nationally it is estimated that 61% of enrolled students are white, 17%

Hispanic, 6% Asian/Pacific Islander, and 14% Black (National Center for Education Statistics, 2011). In order to perform a regression analysis with two predictor variables, with alpha levels set at .05, and to achieve a confidence level of 95%, it was determined that a minimum of 107 participants were needed for this study (Gravetter & Wallnau, 2007).

Interested participants were randomly selected to participate in this online study created through Survey Monkey. Survey Monkey was created in 1999 and has become a trusted and popular method of conducting online research (McAndrews, 2009). Many colleges and universities use this site because it has millions of users that represent cultural diversity in the United States and worldwide (Survey Monkey, 2013). Survey Monkey ensures that college Institutional Review Board academic and ethical standards are upheld and have created a variety of services to help researchers enter the demographic data needed in order to get a good representative sample. Kirkby, Wilson, Calvert, and Draper (2011) used Survey Monkey to conduct their online research on estimating sample size in new populations that have yet to be studied. Using Survey Monkey, they were able to obtain sound results in a less than a week. Participation in this study was voluntary and anonymous.

### **Data Collection and Analysis**

Data was collected using Survey Monkey, an internet site designed specifically for gathering research. I purchased a professional membership, which provided the design, storage of research data, and downloadable spreadsheet of results that were imported into SPSS for analysis. Survey Monkey was used because it has a reputation for

providing members with confidential and anonymous survey data. All forms were uploaded to Survey Monkey, participants read a description of the study, filled out an online consent form, completed demographic questions which asked for the date the individual either dropped from or graduated from college, completed the ECR-R to measure adult attachment style, and PSS which identified the ability the level of stress experienced and the ability to cope with stress.

First, the study gathered demographic data and data from each of the instruments used, and then a spreadsheet of the results was downloaded into SPSS Version 18.0 to examine the relationship between the independent variables of adult attachment style and stress coping skills. A multiple logistic regression design was then used to assess the impact adult attachment style and stress coping skills may have had on college graduation.

### **Instrumentation and Materials**

**Demographic questionnaire.** The demographic data collected included gender, age, ethnicity, income, education level, United States location of participant, achieved grade point average, and date individual either dropped from or when bachelor degree was granted.

**Experiences in Close Relationship Inventory-Revised.** Attachment style was assessed using the Experiences in Close Relationships questionnaire (ECR-R) (Brennan, Clark, & Shaver, 1998; Fraley et al., 2011). There have been numerous studies conducted that have found this instrument to be consistent, reliable, and valid (Brennan et al., 1998; Wei et al., 2007) and to have superior psychometric properties (Holmberg et al., 2010).

This 36 question self-report 7-point Likert scale measures attachment style along two continuous scales: anxiety (fear of rejection in personal relationships) and avoidance of close personal relationships (Lopez & Fons-Scheyd, 2008). Participants are asked to assess questions related to close relationships such as “I turn to my partner for many things, including comfort and reassurance” and then rate each item by giving it a score 1 (*strongly disagree*) to 7 (*strongly agree*). Landen and Wang (2010) stated this measurement has proven internal consistency for both attachment dimensions with a coefficient alpha of 0.94 for avoidance and a coefficient alpha of 0.91 for anxiety. The authors of the ECR-R have stated that it is not necessary to gain prior consent for the use of measurement and scales as long as it is used for academic research (Fraley, 2012). See Appendix B for the full version of the ECR-R.

**Perceived Stress Scale (PSS).** Stress coping skills were assessed using the Perceived Stress Scale (PSS). The PSS is a 10-question survey that has been identified as having adequate internal reliability (Roberti, Harrington, & Storch, 2006) and can be used with diverse populations. The PSS is designed to measure the degree of how the participant feels aspects of his/her life are out of control or unpredictable (McCarthy, Moller, & Fouladi, 2001). Participants are asked to respond to each question on a 5-point Likert scale ranging from 0 (*never*) to 4 (*very often*), and specifying the frequency of symptoms in the past month. Scores range from 0 to 40, with higher scores indicating a greater perception of stress experienced by the participant. In the current study, participants were asked to consider how they felt about stressful situations in their lives in

the last month and answer questions such as, “In the last month, how often have you found that you could not cope with all the things that you had to do?”

Roberti et al., (2006) tested the 10-item version of the PSS and found the PSS-10 to be a psychometric valid and reliable measurement for use with college students. Studies conducted on test-retest reliability have shown reliability of .85 and coefficient alpha scores of .84 and .86 when tested in three different samples (McCarthy et al., 2001). It was used in this study because it has been determined to be an accurate measurement of perceived stressful situations and stress coping skills. See Appendix C for a copy of the PSS.

### **Data Analysis Plan**

The study used SPSS (Version 18.0) for analysis of the data. In order to ensure that the data was cleaned and screened, all demographic data and responses for the PSS and ECR-R were entered and given a label, value and frequencies and descriptive statistics were run. Demographic data was used as descriptive statistics which provided information on frequency distributions, measures of central tendency, the mean, median, and mode, measure the standard deviation from the norm, which showed how the distribution was spread and provided information regarding sampling error (George & Mallery, 2010). The following research questions were examined during this study:

1. Among a population of individuals who attended a 4-year college or university with the intention of graduating, are adult attachment styles associated with the decision to complete school as measured by college graduation?

$H1_0$ : The null hypothesis states that there is no relationship between adult attachment style and college graduation.

$H1_a$ : The alternative hypothesis states that there is a relationship between adult attachment style and college graduation.

2. Among a population of individuals who attended a 4-year college or university with the intention of graduating, are stress coping skills a factor associated with academic success as measured by college graduation?

$H2_0$ : The null hypothesis states that there is no relationship between stress coping skills and college graduation.

$H2_a$ : The alternative hypothesis states that there is a relationship between stress coping skills and college graduation.

3. Among a population of individuals who attended a 4-year college or university, are the combined predictors of adult attachment style and stress coping skills related to academic success as measured by college graduation?

$H3_0$ : The null hypothesis states that there is no relationship between the combined factors of adult attachment style and stress coping skills as related to college graduation.

$H3_a$ : The alternative hypothesis states that there is a relationship between the combined factors of adult attachment style and stress coping skills as related to college graduation.

After descriptive statistics were run, this study employed MANOVA multiple logistic regression design in order to assess the impact adult attachment style and stress coping skills may have had on the decision to drop or graduate from college. A multiple

logistic regression correlational study was utilized because there are two independent variables and one dependent variable, which is categorical and has two values (George & Mallery, 2010).

### **Threats to Validity**

Threats to validity that needed to be considered were maturation of the participant and statistical conclusion validity. First, an internal threat was the maturation of the participant (Creswell, 2009). Maturation could affect how the participant viewed adult caregivers versus current significant secure attachment relationships. For example, if the participant has a secure adult relationship, it may influence their response to attachment style and level of stress coping skills experienced during their last year of college. This threat was considered nominal as the study limited responses to participants who either graduated or withdrew from college within the last 4 years.

Threats to statistical conclusion validity were minimized by ensuring that all survey questions related to adult attachment style could be generalized to attachment theory. A Type 1 or Type II error was avoided by choosing the correct statistical power and making sure there was a relationship between the variables before rejecting the null hypothesis (Gravetter & Wallnau, 2007). Every effort was made to avoid statistical conclusion validity by using a sample size large enough to reflect the population studied and using a statistical analysis method that was appropriate for the study.

### **Protection of Human Participants**

Consent was obtained from the Walden University Institutional Review Board to conduct the study. Only individuals who provided an electronic consent were allowed to

participate in the study. In addition to informed consent, participants were informed of all aspects of the study, issues related to confidentiality, information regarding the voluntary nature of the study, and potential benefits and risks involved in the study. In addition, by using Survey Monkey, participants were assured of confidentiality and anonymity as Survey Monkey participants do not have to create an account or give personal contact information in order to complete a survey. Participants were given my email and website address if they had any questions regarding the survey or wanted access to the results. While there were no physical risks related to participating in the study, there was potential for psychological risk as attachment related memories and emotions may emerge as a result of participating in the study. Therefore, participants who were uncomfortable at any time during the study had the freedom to withdraw at any time during the process.

### **Summary**

The purpose of this study was to explore independent (predictor) variables of stress coping skills, adult attachment styles, and their correlation to the dependent (outcome) variable of college graduation. There is a wealth of research conducted with public and private college students examining the variables of stress and attachment style, but no studies have examined these variables to see if they contributed to the successful completion of a college degree. This study examined these variables to establish if there was a relationship between the adult attachment style, stress coping skills, and academic achievement as measured by college graduation.

The assessment instruments were chosen because they are reliable and valid and were able to measure the variables in this study. A logistic regression design was used to show a statistical relationship between the independent variables of adult attachment style and stress coping skills and college graduation. Chapter 4 will present the results of the study including data analysis, interpretation of the results, and explanations.

## Chapter 4: Results

The purpose of this study was to examine the relationship between adult attachment style and stress coping skills, and their relationship to college graduation. The research questions and hypotheses were presented in Chapter 3. The hypotheses were developed to test the relationship between stress coping skills, adult attachment style, and college graduation. This chapter provides information on data collection procedures, sample characteristics, descriptive statistics, and a summary of the results in relation to the three research questions and hypotheses.

### **Data Collection**

Data was collected from 107 participants using Survey Monkey. Participants came from a targeted Survey Monkey audience; a Survey Monkey link was posted on Facebook and my website. The targeted audience was purchased from Survey Monkey to focus on participants who had withdrawn or graduated from college within the last 4 years, and a Survey Monkey specialist was consulted to stay within the 50-question maximum allowed through Survey Monkey. Of the 107 responses, there were a total of 81 valid surveys, 48 from the Survey Monkey targeted audience and 33 from the links to Survey Monkey posted on Facebook and my website. Surveys that had incomplete portions of the Experiences in Close Relationships-Revised (ECR-R) and the Perceived Stress Scale (PSS), or that did not meet the participation criteria were eliminated. For example, some people took the survey even though they had graduated from college more than 4 years ago; these surveys were eliminated from the study. Although age, gender,

ethnic heritage, income level, and U.S. location were not considered to be factors for predicting college graduation, they were included on the demographic questionnaire.

### **Sample Characteristics**

Demographic information was collected from participants that included gender, age, ethnicity, income, education level, United States location of the participant, and grade point average. Any missing data on the self-report measurements of the ECR-R and the PSS were treated as missing and excluded from the analysis. The final sample was composed of 81 ( $N=81$ ) participants or a 76% response rate.

The information on the Survey Monkey website implied that additional demographic data would be collected from all participants; however, it was only collected from the targeted Survey Monkey audience. Therefore, demographic data in regards to gender, income level, age, highest level of education completed, and U.S. location of participant is not known for participants who took the survey via the link to Survey Monkey posted on Facebook or my website. Of the final sample, 48 were from the targeted audience and 33 took the survey via the link posted on Facebook and my website. Participant demographics are displayed in Table 1.

Table 1

*Demographic Characteristics of the Sample (N = 81) for Gender, Age, Ethnicity, Annual Income, Highest Level of Education, U.S. Location of Participant, and Grade Point Average*

Demographic Characteristic	<i>n</i>	%
<b>Gender</b>		
Male	15	18.5%
Female	33	40.7%
Unknown	33	40.7%
<b>Age</b>		
18-29	23	28.4%
30-44	16	19.8%
45-60	9	11.1%
Unknown	33	40.7%
<b>Ethnicity</b>		
White	71	87.7%
Black or African-American	1	1.2%
American Indian or Alaskan Native	2	2.5%
Asian	1	1.2%
Hispanic	3	3.7%
From multiple races	3	3.7%
<b>Annual Income</b>		
\$0 - \$24,999	9	11.1%
\$25,000 - \$49,999	11	13.6%
\$50,000 - \$99,999	16	19.8%
\$100,000 - \$149,999	6	7.4%
\$150,000+	5	6.2%
Unknown	34	42%
<b>Highest level of Education</b>		
Some college	13	16.0%
Associate's or Bachelor	25	30.9%
Graduate Degree	10	12.3%
Unknown	33	40.7%
<b>US Location of Participant</b>		
New England	2	2.5%
Middle Atlantic	7	8.6%
East North Central	10	12.3%
West North Central	3	3.7%

(Table Continues)

Demographic Characteristic	<i>n</i>	%
South Atlantic	1	1.2%
East South Central	4	4.9%
West South Central	4	4.9%
Mountain	2	2.5%
Pacific	15	18.5%
Unknown	33	40.7%
Grade Point Average		
4.1 or above	2	2.5%
3.6 – 4.0	35	43.2%
3.1 – 3.5	27	33.2%
2.6 – 3.0	13	16.0%
2.1 – 2.5	2	2.5%
2.0 or below	2	2.5%

*Note:* Due to rounding totals of percentages may not equal 100.

### **Descriptive Statistics for the Independent Variables**

Descriptive statistics were conducted for the predictor variables of attachment anxiety, attachment avoidance, and stress coping skills (PSS). The final sample was comprised of 81 participants. Descriptive statistics for the independent variables are found in Table 2.

Table 2

*Descriptive Statistics for Stress Coping Skills (PSS), Anxiety, and Avoidance (N=81)*

Variable	<i>N</i>	Range	Mean	<i>SD</i>
Anxiety	81	18.00 - 104.00	46.3086	23.05734
Avoidant	81	18.00 – 114.00	51.7284	24.29764
Stress Coping Skills (PSS)	81	2.00 – 35.00	17.7284	8.31567

### Scoring of the ECR-R and the PSS

Only completed self-report measurements of the ECR-R and the PSS in which participants reported they had withdrawn or graduated from college in last 4 years, were analyzed for this study. All questions were analyzed using SPSS software. Correlations were conducted to provide information on the relationship between the variables.

The ECR-R was used to test the hypothesis that there would be a positive relationship between attachment style and college graduation. The ECR-R assesses attachment along two dimensions and gives two scores, one for attachment anxiety and one for attachment avoidance (Brennan et al., 1998). There were 18 questions about anxiety and 18 about avoidance. Each item was rated on a 7-point scale where 1 = *strongly agree* and 7 = *strongly disagree*. Before scoring for anxiety, items 9 and 11 were reverse scored (7 = 1, 6 = 2, etc.) and the total score was obtained and averaged. For attachment related avoidance, items 19 through 36 were scored. Before scoring, items 20, 22, 26, 27, 28, 29, 30, 31, 33, 35, 35, and 36 were reverse keyed. Scores for attachment anxiety and avoidance can be obtained by calculating the average response for each dimension. However, for the purpose of this study, total scores for each dimension of attachment anxiety and avoidance were used in all analyses for this study. Fraley, Roisman, Booth-LaForce, Owen, and Howland (2013) believed that it is more statistically accurate to use this measurement to study attachment style as a continuous variable. Fraley (2012) also suggested using multiple regression analysis to study the dimensions of attachment anxiety and avoidance.

Averaged scores can be used to obtain an attachment style by plotting the two scores into four categories (based on a 1 to 7 scale). Type 1 is secure and there are 3 types of insecure attachment: fearful/avoidant, preoccupied, and dismissive. For example, low anxiety and low avoidance equals secure; low avoidance and high anxiety equals preoccupied; low anxiety and high avoidance equals dismissing, and high anxiety and high avoidance equals fearful/avoidant. The results from this study were consistent with those in previous research (Reio, 2005; Reio, et al., 2009). With 81 participants, 56 (69%) identified as securely attached, eight (10%) as insecure-preoccupied, 10 (12%) as insecure-fearful/avoidant, and seven (9%) as insecure-dismissing.

PSS total scores were used in all analyses. Environmental stressors play a significant role in the development of physical and psychological disorders. The PSS measures the degree of perceived stress, with low scores indicating greater stress coping skills and high scores indicating a decreased ability to cope with stress (Cohen, Kamarck, & Mermelstein, 1983). This instrument used total scores where the higher the score, the greater the stress level experienced. The score was obtained by reversing the scores on the four positive items (0 = 4, 1 = 3, 2 = 2, etc.) and then summing across all 10 items. Items 4, 5, 7, and 8 are the positively stated items. All independent variables were run in logistic regression as continuous.

### **Assumptions of Logistic Regression**

Logistic regression is used when there are two values for the dependent variable (Burns & Burns, 2009). In this study, the dependent variable graduation was defined as *withdrew* and *graduated*. There are a few basic assumptions associated with logistic

regression. The first assumes that the dependent variable is dichotomous, or has two values (Burns & Burns, 2009). Second, logistic regression assumes the likelihood of a relationship occurring, so it is vital to code the dependent variable correctly. In this study, the dependent variable graduation was coded 0 for *withdrew* and 1 for *graduated*. Third, the correct model should be used, and only relevant variables should be included in the analysis. In this study, the 81 cases available for the analysis satisfied the sample size recommended by Hosmer and Lemeshow of 10 cases per independent variable (as cited in Burns & Burns, 2009). Finally, the independent variables must be independent of each other and can only be used once in the data.

Attachment avoidance was not included in the analysis for Research Question 3 because the results for attachment avoidance were not found to be significant. The predictor variables of attachment anxiety and PSS were tested for correlation and multicollinearity. Multicollinearity is considered significant when bivariate correlations are above .8 (Denis, 2010). In this study, multicollinearity was not considered an issue as the bivariate correlation between all the independent variables was below .8. The results of a bivariate correlation suggested a relationship between the variables of attachment anxiety and PSS. A correlation was also found between attachment avoidance and PSS, and between attachment anxiety and attachment avoidance. A multicollinearity test was conducted using linear regression. Gaskin (2011) purports multicollinearity is only an issue when variance inflation factor (VIF) scores are above 3. The results of the test for multicollinearity show no significance among the predictor variables, with a VIF score of

1.276 for PSS, a VIF of 1.598 for anxiety, and a VIF of 1.387 for avoidance. The results of the correlational analyses for the independent variables can be found in Table 3.

Table 3

*Correlation with Attachment Anxiety, Attachment Avoidance, and Stress Coping Skills (N=81)*

	Attachment Anxiety	Attachment Avoidance	Stress Coping Skills (PSS)
Attachment Anxiety	--	.524**	.460**
Attachment Avoidance		--	.302**
Stress Coping Skills (PSS)			--

*Note:* \*\*. Correlation is significant at the 0.01 level (2-tailed).

## Data Analysis

### Logistic Regression

The data collected from the ECR-R and the PSS were tested using logistic regression analysis to measure the relationship between attachment style, stress coping skills, and college graduation. Logistic regression was used because the dependent variable of college graduation has two values, withdrew or graduated from college, and is considered categorical. The data analysis is presented in three parts to clearly address each of the research questions and subsequent hypotheses. The first section reports the results of the first research question which examined the relationship between adult attachment style and college graduation. The second section reports the findings of the second research question that examined the relationship between stress coping skills and academic success as measured by college graduation. The third section reports the results of the third research question that looked at the relationship of the combined variables of adult attachment style and stress coping skills as related to academic success, which was measured by college graduation.

### Research Question 1

The first research question asked, “Among a population of individuals who attended a 4-year college or university with the intention of graduating, are adult attachment styles associated with the decision to complete school as measured by college graduation?”

$H_{10}$ : The null hypothesis states that there is no relationship between adult attachment style and college graduation.

$H1_a$ : The alternative hypothesis states that there is a relationship between adult attachment style and college graduation.

A logistic regression analysis was conducted to predict the probability that attachment style, measured in this study by attachment anxiety and avoidance, would be associated with the decision to complete school as measured by college graduation. The predictor variables were the ECR-R total scores of attachment anxiety and avoidance. In the analysis, the test for attachment anxiety only as a predictor of college graduation was statistically significant. The accuracy rate for the model excluding outliers showed that 76.5% of the cases were correctly predicted.

The Wald criteria demonstrated a significant relationship between attachment anxiety and college graduation. The B score for attachment anxiety was negative, which indicates that attachment anxiety is negatively related to graduation. This suggests, for every 1 point increase in attachment anxiety scores (total 126, range 18-104), there is a 2.5% decrease in the likelihood of graduating. See Table 4 for the results of logistic regression analysis for attachment anxiety and graduation.

Table 4

*Summary of Logistic Regression Analysis for Attachment Anxiety (N=81)*

Predictor	<i>b</i>	<i>OR</i>	95% CI	Wald Statistic	<i>p</i>
Anxiety	-.025	.975	[.954, .997]	4.755	.029

*Note.* CI = confidence interval for odds ratio (OR)

A logistic regression analysis to test for a likelihood of a relationship using attachment avoidance yielded different results. The analysis with attachment avoidance only did not indicate a statistically significant relationship. The accuracy rate for the model excluding outliers showed that 78% of the cases were correctly predicted. The Wald criteria demonstrated that it is unlikely there is a relationship between attachment avoidance and college graduation,  $p = .250$ . The results of logistic regression for attachment avoidance are found in Table 5.

Table 5

*Summary of Logistic Regression Analysis for Attachment Avoidance (N=81)*

Predictor	<i>b</i>	<i>OR</i>	95% CI	Wald Statistic	<i>p</i>
Avoidance	-.013	.988	[.967, 1.009]	1.323	.250

*Note.* CI = confidence interval for odds ratio (OR)

Participants with low anxiety scores were more likely to graduate; however, no significant relationship was found between attachment avoidance and college graduation. Therefore, the null hypothesis was rejected.

## **Research Question 2**

The second research question examined whether among a population of individuals who attended a 4-year college or university with the intention of graduating, if stress coping skills a factor were associated with academic success as measured by college graduation.

$H_{20}$ : The null hypothesis states that there is no relationship between stress coping skills and college graduation.

*H2<sub>a</sub>*: The alternative hypothesis states that there is a relationship between stress coping skills and college graduation.

A logistic regression analysis was conducted to predict college graduation using stress coping skills (PSS) as a predictor. The results suggested a statistically significant relationship for stress coping skills, indicating that the predictor was a reliable factor in college graduation. The accuracy rate for the model excluding outliers showed that 76.5% of the cases were correctly predicted. The Wald criteria demonstrated that stress coping skills were a statistically significant contributing factor in college graduation. The B score for PSS was negative, which suggests stress coping skills (PSS) are negatively related to graduation. This suggests, that for every 1 unit increase in PSS scores (total 40, range 2-35), there is a 8.3% decrease in the likelihood of graduating. Thus, the null hypothesis was rejected. The results of logistic regression are found in Table 6.

Table 6

*Summary of Logistic Regression Analysis for Stress Coping Skills (N=81)*

Predictor	<i>b</i>	<i>OR</i>	95% CI	Wald Statistic	<i>p</i>
Stress Coping Skills (PSS Total)	-.083	.920	[.858, .986]	5.583	.018

### **Research Question 3**

The third research question examined whether among a population of individuals who attended a 4-year college or university, if the combined predictors of adult attachment style and stress coping skills were related to academic success as measured by college graduation.

$H3_0$ : The null hypothesis states that there is no relationship between the combined factors of adult attachment style and stress coping skills as related to college graduation.

$H3_a$ : The alternative hypothesis states that there is a relationship between the combined factors of adult attachment style and stress coping skills as related to college graduation.

Attachment avoidance was not included in this regression model because previous results determined that attachment avoidance was not a significant factor in predicting college graduation. A logistic regression analysis was conducted to predict college graduation using attachment anxiety and stress coping skills (PSS) as predictors. In the analysis, the test of the full model versus a model with intercept only was statistically significant,  $\chi^2(2, 81) = 7.517, p < .05$ . The existence of a relationship between adult attachment anxiety, stress coping skills, and college graduation was supported. A Hosmer and Lemeshow goodness-of-fit test result of .435 was not significant which indicated goodness of fit for the model. When each variable was tested controlled for the other, the results indicated, that neither variable added a significant prediction over and above the other. Therefore, the null hypothesis is rejected because the combination of attachment anxiety and stress coping skills (PSS) can significantly predict college graduation. The results of logistic regression for all the variables of attachment anxiety and stress coping skills (PSS) can be found in Table 7 and will be further discussed in Chapter 5.

Table 7

*Summary of Logistic Regression Analysis for Variables Predicting College Graduation for Attachment Anxiety and Stress Coping Skills (N=81)*

Predictor	<i>B</i>	OR	95% CI	Wald Statistic	<i>P</i>
Anxiety	-.015	.985	[.960, 1.010]	1.366	.242
Stress Coping Skills (PSS Total)	-.062	.939	[.870, 1.015]	2.535	.112

A post hoc a logistic regression analysis of the four styles of attachment and stress coping skills (PSS) was conducted, classifying attachment into 4 styles, with attachment style as a categorical variable. The four styles of attachment coded 0 = *anxious/fearful*, 1 = *dismissing*, 2 = *preoccupied*, and 3 = *secure*. The overall model with the four styles of attachment and stress coping skills (PSS) showed a likely fit for predicting college graduation, and was statistically significant,  $\chi^2(2, 81) = 7.605, p < .05$ . However, when the variables were controlled for each other, the results indicate that neither makes a statistically significant contribution to college graduation. The results for logistic regression for the variables of four styles of attachment and stress coping skills are found in Table 8.

Table 8

*Four Styles of Attachment and Stress Coping Skills (N=81)*

Predictor	<i>B</i>	OR	95% CI	Wald Statistic	<i>P</i>
Stress Coping Skills (PSS)	-.071	.932	[.860, 1.009]	3.021	.082
AttachStyle				4.166	.244
AttachStyle(1)	.342	1.408	[.199, 9.964]	.117	.732
AttachStyle(2)	-.787	.455	[.050, 4.143]	.488	.485
AttachStyle(3)	-1.047	.351	[.037, 3.341]	.830	.362

### Summary of Results

The purpose of this study was to discover if there was a relationship between adult attachment style, stress coping skills, and college graduation. The participants were randomly sampled through Survey Monkey yielding 81 valid results. The data was analyzed using SPSS. Logistic multiple regression analysis was performed on all research questions. The results showed that there was a negative relationship between adult attachment anxiety and college graduation and stress coping skills to college graduation. The results suggested that participants with low anxiety scores and low scores on PSS are more likely to graduate from college.

The PSS was designed to measure the degree of perceived stress. Low scores are related to a greater ability to cope with environmental stressors, and high scores are associated with increased inability to cope with stress, and the likelihood that environmental stressors affect significant life decisions (Cohen, Kamarck, &

Mermelstein, 1983). When the predictor variables of attachment anxiety and stress coping skills (PSS total) were paired together, the results suggest that they are contributing factors to college graduation. For questions 1, 2, and 3 the null hypothesis was rejected.

### **Conclusion**

The results of this study indicate there is a relationship between adult attachment, stress coping skills, and college graduation. These results will be discussed in greater detail in Chapter 5. There will be a discussion of strengths of the study, limitations, implications for social change, as well as recommendations for further study.

## Chapter 5: Summary, Conclusions, and Recommendations

### **Introduction**

The purpose of this study was to determine if there was a relationship between adult attachment style, stress coping skills, and college graduation. The first question examined the relationship between attachment style and college graduation and utilized the Experiences in Relationships-Revised (ECR-R), which measures attachment across two dimensions: attachment anxiety and attachment avoidance. The second question used the Perceived Stress Scale (PSS) to examine the relationship between stress coping skills and college graduation. The third question combined all the variables to determine the likelihood of a relationship between the variables. The findings suggest the likelihood of a relationship between attachment anxiety and college graduation, but not attachment avoidance and college graduation. There was a significant relationship found between stress coping skills and college graduation. However, when attachment anxiety and stress coping skills (PSS) were paired together, the results suggested neither variable was better than the other for predicting college graduation.

After years of college retention studies and programs developed to address this issue, students continue to withdraw from college with estimated rates of 45% to 55% (Lotkowski et al., 2004; Venetia et al., 2003). There have been a number of studies that have suggested that academic stressors and adult attachment styles may be factors involved in academic success (Assiter & Gibbs, 2007; Bueschel, 2009; Pillay & Bundhoo, 2011; Tangney, Baumeister, & Boone, 2004); however, these studies have been conducted with currently enrolled students. The goal of this study was to expand

adult attachment theory and propose that the adult attachment style and stress coping skills are likely predictors of college graduation. This chapter will include an interpretation of the research findings, discuss limitations of the study, provide recommendations for further research, present implications for social change, and a conclusion of the study.

### **Interpretation of the Findings**

This study sought to build upon the previous research as presented in Chapter 2, which found a connection between secure attachment, a greater ability to make and sustain social relationships, and the ability to cope with stress, all as predictors of academic success among currently enrolled college students (Tangney et al., 2004; Vaughn et al., 2009). The current study is unique because it addressed a gap in the literature by examining the variables of adult attachment style and stress coping skills in a population of individuals who were no longer enrolled in college as predictors of college graduation.

### **Attachment, Stress Coping Skills, and College Graduation**

As expected, attachment anxiety was a significant predictor of college graduation. Individuals with low anxiety ECR-R scores, indicating secure attachment, were more likely to graduate from college. This result was similar to previous research conducted by Williams (2010) who found a relationship between low anxiety scores and secure attachment styles. A secure attachment style has been linked with the ability to form supportive social relationships, a factor that Lapsley and Edgerton (2002) and Reio et al., (2009) believe are vital to academic success. Previous research conducted by Reio et al.,

(2009) found a relationship between secure attachment and school completion, as measured by individuals who were seeking their GED. Extending these findings to a college graduate population, the present study revealed a relationship between secure attachment and college graduation. Securely attached adults are more resilient, better able to adapt to new environments, and have stronger stress coping abilities. Individuals with secure attachments also tend to be more attached to their educational institution (Schochet et al., 2007) and are happier with their choice of studies. This would suggest securely attached individuals possess the internal fortitude and skillset necessary for continued success in the college academic environment.

However, the current study did not find a significant relationship between attachment avoidance and college graduation. This seems to be consistent with findings in other attachment studies, which suggest individuals with insecure avoidant attachment tend to make work or school the central focus of their lives and are less likely to rely on social support from others (van Eecke, 2007; McLeish Martin et al., 2010).

This study also found a significant relationship between low PSS scores, indicating a greater ability to cope with stress, and college graduation. An examination of the relationships between ECR-R scores and PSS scores revealed that participants with low anxiety and avoidant scores on the ECR-R also had low scores on the PSS, all indicative of a secure attachment style. Significant correlations were found between attachment anxiety and stress coping skills (PSS),  $r(78) = .460, p < .001$ , and attachment avoidance and stress coping skills,  $r(78) = .302, p < .001$ . This finding was consistent with a basic tenant of attachment theory, suggesting securely attached individuals have a

greater ability to deal with stress (Landen & Wang, 2010). The attachment experiences and the level of stress experienced during early infant development affect the biological structures of the brain and the nervous system and create a permanent HPA axis response to stress (Charmandari et al., 2003; Creedon, 2004). Thus, individuals respond to stress based on their attachment style and the ability to cope with stress, as learned and formed in infancy (Bowlby, 1969; Beatson & Taryan, 2003). Individuals who have experienced a secure attachment base are better prepared to navigate stressful environments and have greater stress coping abilities (Erozkan, 2009). Securely attached individuals tend to report lower levels of perceived stress in their daily lives, are more adaptable, and are more effective in finding solutions to stressful problems. McCarthy et al., (2001) also identified a relationship between adult attachment style and the ability to regulate emotions, especially when dealing with stress.

The attachment system is activated during periods of stress, such as the academic stress experienced by college students. Li (2008) discovered in his study examining the relationship between stress coping skills and secure attachment among college students that the ability to effectively cope with stress was consistent with a secure attachment style, and therefore, was a predictor of academic success. This study went one step further and measured whether stress coping skills had affected college graduation. The results suggest a strong likelihood stress coping skills were a factor in the decision to withdraw or graduate from college.

In addition, previous studies have shown that attachment and stress coping are related to various outcomes among students still in college. Research conducted by

Vaughn et al., (2009) found that students with secure attachment styles tend to be more successful in college. Lopez and Gormley (2002) discovered securely attached individuals have more effective stress coping skills, and Parade et al., (2010) purported that secure attachment is related to increased satisfaction with college. The findings of this study suggest that attachment style and a greater ability to cope with stress are factors in continued academic success as defined by college graduation.

For Research Question 3, the overall model of combined predictors, revealed that attachment anxiety (ECR-R) and stress coping skills (PSS) were predictors of college graduation. However, when the variables were controlled for each other, the results indicate that independently one is not better than the other at measuring college graduation. A likely reason could be a result of using two measurements, the ECR-R and the PSS, which measure, to some extent, the degree of perceived anxiety or stress, whether experienced in social relationships or from stressors in the immediate environment. While multicollinearity was not indicated in this study, ECR-R scores and PSS scores were correlated.

### **Theoretical Considerations**

The current study used both attachment theory and the wealth of literature presented and discussed in Chapter 2 to provide a basis for the model. The model used in this study suggested a significant relationship between adult attachment, stress coping skills, and academic success as measured by college graduation. A central tenet of attachment theory is that early infant attachment experiences affect how the brain and nervous system develop (Ainsworth & Bowlby, 1991; Bowlby, 1969, 1973, 1980). The

quality of the infant caregiver relationship serves as the basis for the development of internal working models or permanent neural pathways that are accessed throughout life. These internal working models affect the ability to cope with stress and the formation of relationships with peers and teachers, and they determine how individuals learn in academic settings.

The relationship between the infant and caregiver leads to the formation of attachment styles (Bartholomew & Horowitz, 1991; Ling & Qian, 2010; Tracy & Ainsworth, 1981) and attachment style behavior. Attachment styles formed in infancy become relatively permanent and are believed to be stable throughout the lifespan (Bowlby, 1980; Bretherton, 1992; Mikulincer et al., 2003). Bowlby (1969) established that early attachment experiences were the key to a healthy, successful, and productive life. He believed that a secure attachment style provided the internal elements necessary for resilience throughout the lifespan.

The results of this study are consistent with attachment research that establishes a link between attachment style and academic achievement in high school and college populations (Schochet et al., 2007) and the ability to cope when under stress (Vogel & Wei, 2005). A premise of attachment theory is that securely attached adults have the emotional maturity and cognitive skills needed to be successful in college. Securely attached adults tend to be more confident, have higher self-esteem, and on average have a higher grade point average, which is how success is measured in academic settings (Lopez & Gormley, 2002; Parade et al., 2010; Tangney et al., 2004). Landen and Wang (2010) believe that the level of stress experienced in college is a determining factor in

both personal and academic success. Securely attached adults are better equipped to navigate new and highly stressful environments because of healthy attachment behaviors, a normal stress response system, and effective stress coping skills. This enables securely attached adults to navigate the academic world and successfully graduate from college.

A significant factor related to academic success is the supportive attachment relationships that are formed with supportive teachers, peers, and romantic partners (Reio et al., 2009; Vogel & Wei, 2011). Securely attached adults tend to seek out support when faced with stress. These supportive relationships provide a secure basis and allow a new environment to be explored with greater ease. Attachment style behaviors also become active during times of perceived stress. These behaviors are the result of deeply rooted internal belief systems, which impact how students learn, how memory is formed, stress coping skills, and academic performance. The findings of this study establish a significant relationship between secure adult attachment and college graduation, and a relationship between stress coping skills and college graduation, suggesting that more securely attached adults are graduating from college.

### **Limitations of Study**

The first limitation of the study was using a small sample size that was limited to individuals who withdrew or graduated from a 4-year college within the last 4 years. The sample was 63 who had graduated from college and 18 who withdrew from college. This may affect the degree to which the results can be generalized to other populations.

A second limitation was the use of self-report surveys to collect the data. Self-report tools are widely used in research; they are affordable and are considered a

consistent measurement tool, and the participant's responses to questions are assumed to be honest (Creswell, 2009). There are some drawbacks to self-report measurements in that they rely on honest answers to sensitive questions asked about attachment and romantic partners. If the participant is not in a significant relationship, the answer must be drawn from a past relationship, which, depending on if it ended on a positive or negative tone, may have affected answers given on the attachment scale.

The third limitation of the study was the use of a random sample through Survey Monkey, which consisted of a targeted audience and participants who took the survey through Survey Monkey links posted on Facebook and my website. The maximum amount of questions allowed for the survey was 50. Survey Monkey assured me that additional demographic data would be collected from all survey participants; however, additional data was only collected from the Survey Monkey targeted audience. A poor response rate from the Survey Monkey targeted audience resulted in incomplete surveys, which were dropped from the dataset. Survey Monkey suggested that the poor response rate was because the survey was too long; however, all surveys taken via the Survey Monkey link on Facebook and my website were fully completed.

### **Implications for Social Change**

The results of this study are important to college administrators, counselors, faculty, and staff as they have the opportunity to identify factors related to academic success before they become a retention issue. This study demonstrates the need to understand attachment related behavior when designing educational and school counseling programs. If educators are taught about attachment styles, it may encourage

them to adopt a student focused teaching style and focus on individual learning styles, which may lead to a decrease in the amount of at-risk students who withdraw from college. It may also encourage psychology teachers to educate their students about attachment issues so they better understand the connection between attachment style behavior and the ability to cope with stress. The research conducted with currently enrolled students suggests a link between attachment style and the ability to cope with stress as factors involved in academic success (Li, 2008). This study has shown a direct connection between these factors which should encourage college administrators to address this issue by creating programs that teach first term students how to cope with academic stress, thereby increasing retention of students. By providing school counselors with knowledge of adult attachment styles and how individuals cope with stress, they may create treatment models specific to helping student clients understand attachment style behaviors, which may help with academic success.

Finally, a college degree poses individual, economic, and social benefits. Academic success is measured by college graduation. A college degree provides an increase in knowledge and a better understanding of relationships on a local and global scale. Attaining a college degree often means an increase in salary, a higher standard of living, opportunities for growth and change, and better health care. Communities and all aspects of society change when people are educated. Individuals with college degrees tend to be more involved in their communities, are better able to create social networking systems, and have a greater awareness of social, multicultural, and political issues.

The implications of this study show that adult attachment style and stress coping skills are related to the decision to withdraw or graduate from college. Academic achievement as measured by college graduation is a value in society. The goal of education is to arm students with knowledge and to help them become productive members of society. This begins with these same institutions changing the way they view student retention and using the information from this study to reach out to attachment styles that are at risk, thereby increasing the likelihood that they will then graduate from college.

### **Recommendations for Action**

It is strongly recommended that college administrators consider using a self-report measurement to assess incoming freshman students in order to determine their attachment style and ability to cope with stress. Students who score high on the attachment anxiety scale and the stress scale could be identified early in the academic process and receive individual counseling, which may increase the likelihood they will graduate from college. Individual scores could be shared with academic advisors, counseling services, and other stress support staff so that these students receive the assistance they need in order to be successful in the academic environment.

Further, mentoring programs could be created pairing at risk students with upper level students. The mentors could help at risk students learn how to navigate the academic world and create social networks that are proven to help retain students (Reio, et al., 2009). At-risk students could also be provided with their test scores in learning seminars designed to help them understand their own behavior.

This study suggests the likelihood of a relationship between adult attachment, stress coping skills, and college graduation, which should be of interest for educational institutions who want to retain more students. Social change means helping people acquire the knowledge and skills to help them be successful in life. Social change also means creating an education system that addresses the underlying problem involved in retention and which people understand their own behavior so they can move forward and be successful in their lives.

### **Recommendations for Further Study**

The outcome of this study suggests that further research is warranted in this area. There are numerous studies that have been conducted examining the predictors of adult attachment style and stress coping skills in college populations. Further studies with individuals who are no longer attending college are recommended to assess the impact of these factors on college graduation. This study could be replicated using a comparison study or mixed methods model, with equal groups of those who have withdrawn and graduated from college, which would give an understanding of the subjective experience of the individual, and may statistically increase the likelihood of a significant relationship between all the variables. It is also recommended that the number of years participants withdrew or graduated from college be broadened. This would draw from a larger participant pool and would provide further insight into the impact adult attachment and stress coping skills may have had on college graduation.

A second recommendation is to further study how secure adult relationships effect or alter attachment styles and behavior. The ECR-R assessed both attachment anxiety,

how secure or insecure one feels in a significant relationship, and attachment avoidance or the level of comfort an individual feels seeking support from others. Another study of interest would be to use the ECR-R and a parental attachment measurement, and compare the results of both measurements. This would further help researchers understand the impact of secure adult relationships in understanding long term behavior.

Finally, the findings from this study suggest a direct connection between the predictor of stress and college graduation. It is strongly recommended that further research be conducted in this area. If stress alone is a contributing factor in academic success, college administrators and counselors will benefit from further studies associated with adult attachment style and college stress.

### **Conclusion**

This study was based on attachment theory research which suggested that early infant experiences with adult caregivers not only affect how the brain and nervous system develop, but affect behavior throughout the lifespan. This study was developed to understand the impact of adult attachment style and stress coping skills on college graduation. There were numerous studies conducted with college students, which suggest a relationship between attachment style, stress, and retention of college students. A contributing factor for this study is that to my knowledge, this is the first psychological study to examine the variables of adult attachment style and stress coping in the population of adults who were no longer enrolled in college. Significant relationships were found between the variables of adult attachment and college graduation and stress coping skills and college graduation.

This study began with an extensive review of the literature on infant and adult attachment as well as stress coping skills and retention of college students. Attachment style behaviors are purported to be activated during times of stress. The transition to college is not only a stressful time, but it requires the ability to forge new social relationships, navigate a new environment, and effectively cope with stress. The attachment experience in infancy creates a set of behaviors and patterns that affect behavior and stress coping skills throughout the lifespan.

The results from this study support previous research conducted with college students that suggest adult attachment style and stress coping skills are factors in academic success. Significant relationships were found between the variables of adult attachment and college graduation and stress coping skills and college graduation. This information could be useful for further research adult attachment theory and college retention and for further understanding of the impact of attachment style behavior, stress coping skills, and academic success.

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## Appendix A: Informed Consent

### INFORMED CONSENT

#### RESEARCH PROCEDURES

The purpose of this research project is to examine how you deal with stress in your life, your style of relating in close adult relationships, and how that may have related to your decision to complete college.

This is a research project being conducted by Renee Bipes, a doctoral student at Walden University. You have been selected for this survey because you are part of the Survey Monkey audience that has indicated that you either withdrew or graduated from college within the last four years.

In addition to questions asked regarding your age, gender, and the date you either withdrew or graduated from college, you will be asked questions regarding how you deal with stress in your life and your style of relating in close relationships.

For example, when completing the Perceived Stress Scale (PSS) you will be asked to rate your feelings and thoughts on a scale of 0 to 4 in response to 10 questions. A sample question is: "In the last month, how often have you been upset because of something that happened unexpectedly."

The Experiences in Close Relationships – Revised (ECR-R) questionnaire asks you to rate 36 questions using a 1 to 7 scale. A sample question is: I'm afraid that I will lose my partner's love.

#### RISKS

There are no foreseeable risks for participating in this study.

#### BENEFITS

There are no benefits or rewards offered to you as a research participant.

#### PARTICIPATION

Your participation in this research study is voluntary. You may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. The procedure involves filling an online survey that will take approximately 30 minutes. Your responses will be confidential and we do not collect identifying information such as your name, email address or IP address.

## CONFIDENTIALITY

Your information will be kept strictly confidential. All data is stored in a password protected electronic format. To help protect your confidentiality, the surveys will not contain information that will personally identify you. The results of this study will be used for scholarly purposes only.

## CONTACT

If you have any questions about the research study, please contact Renee Bipes at [renee.bipes@waldenu.edu](mailto:renee.bipes@waldenu.edu). You may also contact the Walden University Research Center at [research@waldenu.edu](mailto:research@waldenu.edu) if you have any questions or comments regarding your rights as a survey participant. This research has been reviewed according to Walden University IRB procedures for research involving human subjects. You may retain a copy of this Informed Consent form by downloading or printing a copy for your records. To obtain a copy, right click, then click on "select all," and copy the form into a word document. Walden University's approval number for this study is 09-17-13-0125477 and it expires on September 16, 2014.

ELECTRONIC CONSENT: Please select your choice below.

Clicking on the "agree" button below indicates that:

- you have read the above information
- you voluntarily agree to participate
- you are at least 18 years of age

If you do not wish to participate in the research study, please decline participation by clicking on the "disagree" button.

## Appendix B: Demographic Questions

Do identify as White, Black or Africa-American, American Indian or Alaskan Native, Asian, Native Hawaiian or other Pacific Islander, Hispanic, or some other race?

- A. White
- B. Black or African American
- C. American Indian or Alaskan Native
- D. Asian
- E. Native Hawaiian or Pacific Islander
- F. Hispanic
- G. From Multiple Races
- H. Other (Please specify).

Choose the term which best describes your level of completion within your bachelor degree program.

- A. Stopped attending as a freshman within the last four years.
- B. Stopped attending as a sophomore within the last four years.
- C. Stopped attending as a junior within the last four years.
- D. Stopped attending as a senior within the last four years.
- E. Graduated with a Bachelor degree within the last four years.
- F. Other (please specify).

What was your GPA?

- A. 4.1 or above
- B. 3.6 - 4.0
- C. 3.1 – 3.5
- D. 2.6 – 3.0
- E. 2.1 – 2.5
- F. 2.0 or below
- G. Other (Please specify)

Are you

- A. Male
- B. Female

What is your age?

- A. Younger than 18
- B. 18 - 29
- C. 30 - 44
- D. 46-60
- E. >60

What is your annual household income?

- A. \$0 – 24,000
- B. \$25,000 – 49,999
- C. \$50,000 – 99,999
- D. \$100,000 – 149,999
- E. \$150,000 +

What is your education level?

- A. Less than high school diploma
- B. High school diploma
- C. Some college
- D. Associate or Bachelor degree
- E. Graduate degree

## Appendix C: Experiences in Close Relationships – Revised

**Scale:**

Please respond to each statement about how you feel when you are in a close intimate relationship. Respond to each statement how you feel or have felt in a close intimate relationship. Please circle a number to show how much you agree or disagree with each statement.

Question	1=Strongly Disagree	7=Strongly Agree
1	I'm afraid that I will lose my partner's love.	1 2 3 4 5 6 7
2	I often worry that my partner will not want to stay with me.	1 2 3 4 5 6 7
3	I often worry that my partner doesn't really love me.	1 2 3 4 5 6 7
4	I worry that romantic partners won't care about me as much as I care about them.	1 2 3 4 5 6 7
5	I often wish that my partner's feelings for me were as strong as my feelings for him or her.	1 2 3 4 5 6 7
6	I worry a lot about my relationships.	1 2 3 4 5 6 7
7	When my partner is out of sight, I worry that he or she might become interested in someone else.	1 2 3 4 5 6 7
8	When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.	1 2 3 4 5 6 7
9	I rarely worry about my partner leaving me.	1 2 3 4 5 6 7
10	My romantic partner makes me doubt myself.	1 2 3 4 5 6 7
11	I do not often worry about being abandoned.	1 2 3 4 5 6 7
12	I find that my partner(s) don't want to get as close as I would like.	1 2 3 4 5 6 7
13	Sometimes romantic partners change their feelings about me for no apparent reason.	1 2 3 4 5 6 7
14	My desire to be very close sometimes scares people away.	1 2 3 4 5 6 7
15	I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.	1 2 3 4 5 6 7
16	It makes me mad that I don't get the affection and support I need from my partner.	1 2 3 4 5 6 7
17	I worry that I won't measure up to other people.	1 2 3 4 5 6 7
18	My partner only seems to notice me when I'm angry.	1 2 3 4 5 6 7
19	I prefer not to show a partner how I feel deep down.	1 2 3 4 5 6 7
20	I feel comfortable sharing my private thoughts and feelings with my partner.	1 2 3 4 5 6 7
21	I find it difficult to allow myself to depend on romantic partners.	1 2 3 4 5 6 7
22	I am very comfortable being close to romantic partners.	1 2 3 4 5 6 7
23	I don't feel comfortable opening up to romantic partners.	1 2 3 4 5 6 7
24	I prefer not to be too close to romantic partners.	1 2 3 4 5 6 7
25	I get uncomfortable when a romantic partner wants to be very close.	1 2 3 4 5 6 7
26	I find it relatively easy to get close to my partner.	1 2 3 4 5 6 7
27	It's not difficult for me to get close to my partner.	1 2 3 4 5 6 7
28	I usually discuss my problems and concerns with my partner.	1 2 3 4 5 6 7
29	It helps to turn to my romantic partner in times of need.	1 2 3 4 5 6 7
30	I tell my partner just about everything.	1 2 3 4 5 6 7
31	I talk things over with my partner.	1 2 3 4 5 6 7
32	I am nervous when partners get too close to me.	1 2 3 4 5 6 7

33	I feel comfortable depending on romantic partners.	1	2	3	4	5	6	7
34	I find it easy to depend on romantic partners.	1	2	3	4	5	6	7
35	It's easy for me to be affectionate with my partner.	1	2	3	4	5	6	7
36	My partner really understands me and my needs.	1	2	3	4	5	6	7

### 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 by circling *how often* you felt or thought a certain way.

**0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often**

1	In the last month, how often have you been upset because of something that happened unexpectedly?	<b>0 1 2 3 4</b>
2	In the last month, how often have you felt that you were unable to control the important things in your life?	<b>0 1 2 3 4</b>
3	In the last month, how often have you felt nervous and “stressed”?	<b>0 1 2 3 4</b>
4	In the last month, how often have you felt confident about your ability to handle your personal problems?	<b>0 1 2 3 4</b>
5	In the last month, how often have you felt that things were going your way?	<b>0 1 2 3 4</b>
6	In the last month, how often have you found that you could not cope with all the things that you had to do?	<b>0 1 2 3 4</b>
7	In the last month, how often have you been able to control irritations in your life?	<b>0 1 2 3 4</b>
8	In the last month, how often have you felt that you were on top of things?	<b>0 1 2 3 4</b>
9	In the last month, how often have you been angered because of things that were outside of your control?	<b>0 1 2 3 4</b>
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	<b>0 1 2 3 4</b>

Please feel free to use the *Perceived Stress Scale* for your research.

#### **Mind Garden, Inc.**

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#### **References**

The PSS Scale is reprinted with permission of the American Sociological Association, from Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 386-396.

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## Curriculum Vitae

**RENEE M. FORD****EDUCATION**

Candidate, Doctor of Philosophy, Educational Psychology, Walden University, Minneapolis, MN, 2008-Present. Dissertation: *The Relationship Between Adult Attachment and Stress Coping Skills to College Graduation*.

Master of Science in Education in Guidance and Counseling: Human Relations, University of Wisconsin, Superior, December 2004.

Bachelor of Applied Science in Community Health Education and School Health Education, Minor Psychology, University of Minnesota, Duluth, November 1985.

**TEACHING EXPERIENCE**

Adjunct Online Faculty, October 2009 to Present  
Globe University/Minnesota School of Business, Minneapolis, MN

Course Taught:

- Human Behavior
- Abnormal Psychology
- Developmental Psychology
- Introduction to Psychology

Department Head/Faculty/Online Program and Course Developer, September 2005 to Present  
Duluth Business University, Duluth, MN

- Supervised faculty
- Worked with the Director of Education to ensure DBU provided an effective training program to assist students for their chosen career
- Assisted students with academic advisement
- Supported students academically and personally to enhance retention rates
- Built community relationships through internship programs
- Completed successful national accreditation audit with no citations
- Planned and developed overall direction, content, and quality of each program
- Developed program policies and procedures
- Developed and wrote Human Services curriculum

- Created classes for Blackboard and E-college

#### Courses Taught:

- Introduction to Psychology
- Psychology of Aging
- Child & Adolescent Development
- Family Dynamics
- Introduction to Chemical Dependency
- Introduction to Human Services
- Interpersonal Communications
- Psychology of Addictions
- Crisis Intervention and Treatment Approaches

Department Head, Therapeutic Bodywork Programs, September 2004 to September 2008  
Duluth Business University, Duluth, MN

- Utilized organizational and planning skills to build quality programs
- Supervised faculty
- Conducted effective staff meetings
- Advised students to discuss academic progress
- Interviewed and hired qualified instructors
- Built a strong reputation within the community through networking

#### **OTHER EXPERIENCE**

Somatic Therapist, September 2002 to September 2004  
Christal Center, Duluth, MN

Owner, August 1997 to July 2002  
Two Women Center for Aromatic Therapies, Minneapolis, MN

Instructor and Spa Services Team Leader, Aveda Corporation, 1992 to 1997,  
Minneapolis, MN

#### **PROFESSIONAL PRESENTATIONS AND PAPERS**

Ford, R. (2012). *Understanding Attachment and how it Affects Adult Behavior*. A workshop presented at the St. Louis County Health & Human Services Conference, Duluth, MN. October 2012.

Ford, R., & Francis, M. (2010). *Enhancing Cultural Sensitivity*. A workshop presented at the St. Louis County Health & Human Services Conference, Duluth, MN. October 2010.

Panel Discussion (2010). Tools for Transition. Northern Bridge Group, Proctor, MN. April 2010.

Ford, R., & Francis, M. (2009). *How to be a Culturally Sensitive Educator*. A workshop presented at the St. Louis County Health & Human Services Conference, Duluth, MN. October 2009.

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Ford, R. (2006). *Clinical and Physical Benefits of Massage Therapy*. A workshop presented for the Minnesota Association of Medical Assistants Minnesota Conference. October 2006.

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#### **REFERENCES**

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