THE INFLUENCE OF ATTACHMENT ON COLLEGE STUDENT SUCCESS

by

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ABSTRACT OF THE DISSERTATION

The Influence of Attachment on College Student Success

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The four studies in this dissertation examined the relationship between attachment theory

and college student success. In Study 1, 85 first-semester students provided their

attachment dimensions and psychological, ethical, and social indices. Academic records

were also obtained during the first semester. Anxious students performed worse

academically in college compared to high school and indicated they would be more

willing to cheat; they also scored lower on academic locus of control and self-esteem. In

addition, securely attached students reported lower levels of depression and anxiety.

Study 2 assessed the attachment dimensions of 52 college students who had plagiarized

college assignments.   The students who had displayed unethical behavior reported higher

levels of attachment anxiety as compared to the levels of a random sample of students on

the same campus. Study 3 followed the students from Study 1 over their first four years

of college. Secure students had higher GPA's and graduated at a higher rate compared to

insecure students. While overall retention rates were similar, secure students were

retained at a higher rate during the first two critical years at college. Study 4 examined

161 students enrolled in an introductory psychology class to determine if self-efficacy

and/or procrastination served as a mediator or moderator between attachment and

academic success.   Self-efficacy was a moderator of attachment anxiety and final class

grade as well as cumulative GPA. Self-efficacy was found to moderate the relationship

between attachment avoidance and cumulative GPA. Procrastination was found to be a moderator between attachment anxiety and attachment avoidance and cumulative GPA. Study 4 has shown that psychological variable of self-efficacy and procrastination can serve to moderate academic success within the classroom. Findings from all four studies have shown that attachment has an influence on academic, ethical, and psychological success of students in college.

Preface

I would like to take this opportunity to thank my family and friends for their constant, unwavering support through all my up's and down's. I credit them with keeping me sane and for allowing me the time and energy to focus on my research.

I want to thank my dissertation committee, Harold Siegel, Paul Boxer, Ken Kressel, Lion Gardiner, and Luis Rivera for their advice, support, and guidance in helping complete my research.

I am also greatly indebted to my fellow colleagues from the attachment lab: Allyson Meloni for her support and in allowing me to use her class for my laboratory, Dan DePaulo for his analytic mind and data assessment abilities, and both Raelene Joran and Katie Alexander for their support and collaboration.

I would also like to thank Connie Wibrowski, my former supervisor and friend for supporting my efforts and allowing me the flexibility to pursue my research.

Most of all I want to thank Harold Siegel, who without his support, guidance, patience, and wisdom, I would never have been able to be successful with my research. Besides for being a great advisor and mentor, I consider him a colleague, friend, supporter, confidant, and of course attachment figure.

Acknowledgement and/or Dedication

This dissertation is dedicated to my family without whom I could never have completed my research. I am specifically dedicating this to my parents, Louis and Barbara, my wife, Shelley, and my daughters, Amber and Jillian.

My parents have been there for me and have provided me the opportunity to pursue my passions with unwavering support and enthusiasm.

My wife has been an incredible wife, editor, motivator, confidant, and friend. I cannot imagine what my life would be without her in it.

My daughters have shown me the true importance of attachment. I have seen them grow and develop over the years. I only hope that I have been able to do a good job in teaching them the value of patience, the importance of family, and the need for strong attachment bonds. I hope that they will see that family will always be there and that learning never ends.

Hopefully if nothing else, my research on attachment has made me a better father, husband, and son.

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The Influence of Attachment on College Student Success

Over the past decade, institutions of higher education have come under close scrutiny as demands for outcome assessments for student success have increased. Thus, educational administrators are more focused on assessing, measuring, and improving student success within colleges and universities. Most institutions of higher education build reputations based upon their ability to produce successful college graduates. In recruiting new students, colleges and universities often stress a variety of qualities they believe will appeal to prospective students and make them more successful. Some of these advertised factors include offering students professional connections through alumni, prestige (i.e., Ivy League), resources and opportunity (larger research institutions), specific programs offered (engineering, medical, law, etc.), religious affiliations, and smaller class sizes and individualized attention. While students may choose to attend a college based on any or more of these factors, once a student is enrolled in college, his/her success in college will be largely determined by their own psychological resources. To assess a student's ability to succeed, the basic nature of the individual needs to be considered. Attachment Theory has been related to a large number of a person's core personality components, a number of which may be related to success in college (Cassidy, & Shaver, 2008). The development of a secure attachment can affect an individual's behavior in a wide variety of domains. Thus, the purpose of this dissertation is to investigate the relationship between attachment and a student's ability to be successful in college.

The first step is to define and discuss attachment and attachment styles, define and discuss how to quantify what makes a college student successful, and look at how attachment and attachment styles may influence college student success. While a major component of success at college looks at academic and scholastic achievement, this research will also discuss other ways that one may assess success.

History of Attachment

There are two main researchers whose names are synonymous with the foundation of Attachment Theory: John Bowlby and Mary Ainsworth. With a background in medicine and psychology, Bowlby provided the basic principles of Attachment Theory (Ainsworth & Bowlby, 1991). Bowlby was hired by the World Health Organization to study the negative effects on children who had been separated from their primary caregivers as a result of war (Bowlby, 1988). Bowlby went on to look at the effects of the environment on infants during important developmental stages. He found that prolonged broken mother-child relationships could result in future psychological problems for the offspring (Bowlby, 1940). This discovery led Bowlby to develop new theories on motivation and behavior control that led to his three-volume work on attachment, *Attachment, Separation,* and *Loss* (Bretherton, 1995). Bowlby went on to state that children developed specific mental models or schemas of the world and themselves within the world (Bretherton, 1995). He theorized that depending on the type of care/bond that the child's mother provided, the child would create specific schema to validate his/her concern as to whether or not someone will be there for him/her when needed and if so, then he/she would also feel loved. He found that children developed

specific attachment styles based upon their early interactions with their mother (who usually represented their primary caregiver).

These specific attachment styles were categorized as secure or insecure. More specifically, Rothbaum, Weiz, Pott, Miyake, and Morelli (2000) stated that there are three main aspects of Attachment Theory that affect a child's ability to develop a secure versus insecure attachment style: sensitivity, competence, and secure base. The sensitivity component theorized that a mother who was better able to understand her child's needs would increase the probability that her child would be securely attached and that different abilities to respond and different responses to the infant would lead to differing attachments. Social competence theorized that children who developed secure attachments would become more emotionally and socially competent as compared to insecure children. The secure base component was perhaps the most important aspect of attachment theory. This stated that a mother (or primary caregiver) performed the role of being a secure base from which a baby can explore the world. A successful secure base would provide the infant with a safe place from which it could always return to receive support, love, comfort, etc., and that this secure base would then allow the baby to feel more at ease with exploring the world. So strong were these styles and their effects that Bowlby believed that attachment to an infant's mother started early in life and had lasting effects over one's life span (Waters, Merrick, Treboux, Crowell, & Albersheim, 2000) or as he stated, "from cradle to grave" (Shear & Shair, 2005).

While Bowlby provided the basis for Attachment Theory, Ainsworth provided much of the empirical data needed to support and further Attachment Theory. Ainsworth discovered that the infant portrayed specific attachment styles as a result of the mother's

parenting during the child's first year of development. Ainsworth went on to create the well-known Strange Situation (Bretherton, 1995). In Ainsworth's study, a mother and her one-year old child were placed in a controlled setting where Ainsworth observed the infant's reactions to seven separate separation situations (mother and child together, mother and child with a stranger, mother leaves child with stranger, mother returns, stranger leaves, mother leaves, mother returns). Three separate and distinct attachment styles could be observed through the children's responses. Secure children are (mildly) upset when their mother leaves the room, but are able to be soothed by their mother when she returns. Avoidant children appear not to be as upset by the mother's departure (although they are suppressing their emotions) and tend to show additional emotional restraint when she returns. And a third set of children, the ambivalent ones, cry hysterically when the mother leaves and then are unable to be readily soothed by the mother's return.

Adult Attachment

Later research found that similar patterns of attachment style continue on through preschool, preadolescents, adolescents, and into adulthood (Bartholomew, 1990). However, as these models were developed, Bartholomew found four distinct styles of adult attachment that appeared to better characterize Bowlby's conceptual model. The four styles were classified as secure and insecure with three subsets of insecurity. These categories were derived on two dimensions: level of anxiety, related to worry about being abandoned or rejected, and level of avoidance, related to one's comfort with emotional closeness (Bartholomew & Horowitz, 1991). Another way to look at this measurement is as a model of self (attachment anxiety) and a model of others (attachment avoidance). If

individuals see themselves and others positively, then they are labeled as Secure; if they see themselves positively and others negatively, then they are considered Dismissive; if one perceives themselves negatively and others positively, then they are considered Preoccupied; if one seems themselves and others negatively, then they are considered Fearful (see Figure 1).


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                          Low
                       Avoidance
                           |
                           |
                           |
          Secure           |        Preoccupied
                           |
  Low   _____|_____  High
Anxiety                    |                    Anxiety
                           |
          Dismissive       |          Fearful
                           |
                           |
                           |
                          High
                       Avoidance
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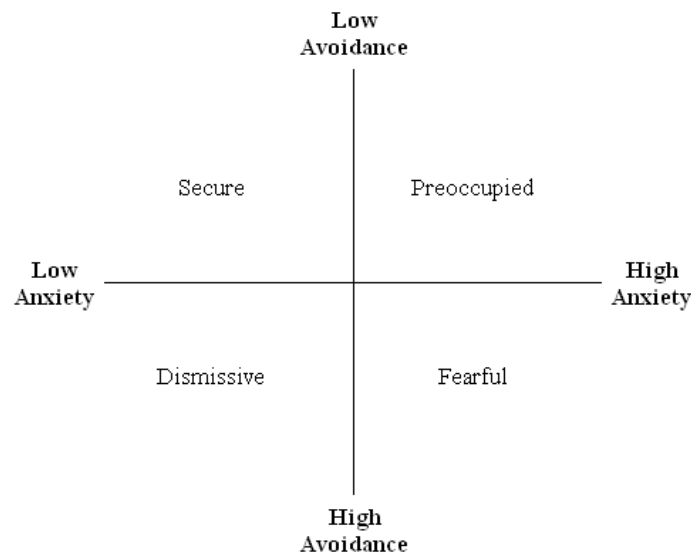
Figure 1. Adult attachment model

Measuring Attachment

Three main tools have been used to measure and assess adult attachment styles. The simplest measure is the single-item self-report that asks individuals to choose one of three brief paragraphs (Hazan & Shaver, 1987), or four brief paragraphs (Bartholomew & Horowitz, 1991) regarding comfort level with closeness in relationships. On the opposite side of the spectrum, the most complicated method is the Adult Attachment Interview (George, Kaplan, & Main, 1985) that involves an interview process designed to probe into the participant's childhood (which can often be a fairly subjective measurement).

The last measurement, which is currently the one used most often in determining adult attachment styles, is the Experiences in Close Relationships-Revised (ECR-R) Adult Attachment Questionnaire (Fraley, Waller, & Brennan. 2000). The ECR-R is a self-report questionnaire that looks at the two dimensions of attachment anxiety and attachment avoidance.

Defining College Success

In defining success in college, most individuals immediately look at a student's academic record or GPA. Students who are more academically successful in college provide future employers with the proof that they have been able to transition to and traverse through college successfully. Future employers see this as an indicator that, if hired, these students would be able to join their company and be a successful contributor. Academic success is an important aspect of measuring students' success especially for higher education institutions, as it is more of a measure of one's ability to learn than it is one's ability to be successful outside academia. However, as most educators can attest, success within the college environment is certainly more complicated than purely looking at a student's GPA.

While the academic performance of a student can be a relevant measure for success, there are additional factors that need to be considered. College is not just about getting good grades and landing a high paying job. College is also about growing up, experiencing life, and being exposed to new ideas, people, and experiences. As Reich and Siegel (2002) state, "university life offers late adolescents and young adults a social environment conducive to intellectual, moral, and social-emotional exploration" (p. 125). In addition to learning and career preparation, college life is a transitional time in which

students move into adulthood, learn how to be successful, become critical thinkers, and develop positive psychological and ethical values. How students view themselves and others can have a major impact on how they develop into successful adults.

STUDY 1 – ATTACHMENT AND TRANSITION TO COLLEGE

The impact of attachment affects many facets of one's life experiences; however, attachment takes on added significance during various life transitions, including when one is beginning formal schooling (Matas, Arend, & Sroufe, 1978), leaving the parental home (Bucx & Van Wel, 2008), getting married (Davila, Karney, & Bradbury, 1999), and becoming a parent (Wilson, Rholes, Simpson, & Tran, 2007). While many of these transitions share similarities (e.g., psychological and social challenges), the transition from high school to college is a unique experience as individuals are approaching adulthood, becoming more independent, experiencing changes in their social structures, and often moving out of the family home. How successfully students handle the transition to college can potentially influence their college success as well as their next life transition after graduation. The focus of this study is to examine college success using an attachment framework.

According to Bucx and Van Wel (2008), life course transitions give rise to fluctuations or changes in parent-child relationships that are affected by attachment bonds. During major life transitions, individuals are met with new social and psychological challenges and stressors that need to be negotiated. Larose and Bernier (2001) discuss three steps for dealing with life occurrences: primary appraisal, defined as "the process of categorizing an encounter and its various facets with respect to its significance for well-being" (p. 97), secondary appraisal which refers to "the individual's evaluation of his or her resources to deal with a stressful situation, (e.g., personal and environmental resources)" (p. 97), and coping which refers to "the person's cognitive and

behavioral efforts to manage demands that are appraised as taxing or exceeding his or her resources" (p. 98). As an individual experiences new life transitions, there will be further exploration resulting in a need for reassurance that his or her secure base will be available to him or her. Additionally, new transitions in life occurrences will bring about new stressors for individuals to deal with and depending upon one's attachment style, differing ways of handling these stressors will occur. According to Wilson et al. (2007), when highly anxious individuals detect a potential threat or stressor, they will be unsure whether or not their attachment figures will be attentive, available, and responsive to their security needs and therefore will engage in a hyperactivation of their attachment system. Highly avoidant individuals will engage in deactivating strategies to control and inhibit emotions, which may prevent them from being able to monitor their attachment figure's availability and responsiveness (Wilson et al., 2007). Such actions may consist of dismissing, ignoring, withdrawing from potential threats, or suppressing threat related thoughts.

Over the course of one's life, a number of transitional experiences will occur. During childhood, one major life transition occurs the first time a child leaves home for extended socialization experiences. Matas, Arend, and Sroufe (1978) found that when compared to insecurely attached infants, securely attached children at the age of 18 months were more enthusiastic, cooperative, and better prepared for future social interactions as they began to transition into daycare. Avoidant and ambivalent toddlers explored less and thus were less involved in the classroom setting. As students continue through school they rely less on parental support and more on teacher support, showing an additional shift in their attachment system as they cope with further independence

from their parents (Harter, 1996). Additionally, as children grow and develop, there is evidence supporting the idea that differing attachment styles can affect adolescents' development through puberty (Mikulincer & Shaver, 2007).

Life transitions also occur in adulthood as individuals must face changes such as leaving the parental home, getting married, starting a family, etc. (Bucx & Van Wel, 2008). During the onset of long-term romantic relationships, Davila, Karney, and Bradbury (1999) found that individuals become more secure as they move towards marriage and as their marriage develops. In terms of the transition to parenthood, Wilson et al. (2007) found that individuals who are more anxious tend to cope less effectively compared to secure individuals. Additionally, as a new family begins, secure spouses score higher on clinical ratings and self-reported measures of family functioning (Mikulincer & Shaver, 2007). As adults move into their later years, their own parents' health may begin to deteriorate leading to a role reversal from care-receiver to caregiver (Bradley & Cafferty, 2001). Furthermore, with advancing age, secure individuals, characterized as having more positive models of self and others, report less anxiety toward death (Besser & Priel, 2008).

While a variety of life transitions have been discussed involving childhood and adulthood, there are also transitions in between, of which the transition to college is considered critical. This transition is a challenging time as students need to adjust to a new social and academic environment while simultaneously being expected to be more autonomous in managing their academics and navigating their personal lives (Larose, Bernier, & Tarabulsy, 2005). The college years can also bring many unique challenges and stressors (Compas, Wagner, Slavin, & Vannatta, 1986). How students react to and

are affected by the pressures of college can be influenced by their attachment style. In some ways, the transition to college is similar to the Strange Situation as developed by Ainsworth, as college will challenge an adolescent's adaptive strategies and coping mechanisms (Rice, Fitzgerald, Whaley, & Gibbs, 1995).

Higher education administrators are faced with the challenge of being able to produce successful college graduates. Before the role of attachment can be examined, it is important to first define how success is measured. Most research on college student success focuses on academics. Svanum and Bigatti (2009) state that college success has been defined as performance in specific or a collection of courses, college retention or less commonly degree attainment. Lounsbury, Fisher, Levy, and Welsh (2009) state that a student's cumulative grade-point average (GPA) is often viewed as the most important measure of college student performance. Other researchers support the idea that college success is more than just earning a high GPA. Wolf-Wendel, Ward, and Kinzie (2009) stress the importance of student involvement, engagement, and integration to the campus as a whole. As discussed by Reich and Siegel (2002), life at a university offers students a social environment in which they will be able to experience intellectual, moral, and social-emotional exploration, and as such, there are a number of new experiences that a student will need to face including those that are academic, psychological, and ethical.

Secure individuals are better prepared for the academic (Aspelmeier & Kerns, 2003; Larose, Bernier, & Tarabulsy, 2005; Mikulincer & Shaver, 2007), psychological (Frey, Beesley, & Miller, 2006; Muris, Mayer, & Meesters, 2000; Wei, Russell, & Zakalik, 2005), ethical (Albert & Horowitz, 2009; Mikulincer & Goodman, 2006; Van Ijzendoorn & Zwart-Woudstra, 1995), and social challenges and rigors (Laible, 2007;

Larose & Bernier, 2001) that they will encounter in college. Individuals who had not been able to form or maintain secure attachment bonds face a more difficult transition. In order to understand the effects of attachment, a group of incoming freshman students were recruited to study the relationship between attachment and college success as measured by academic, psychological, ethical, and social indices.

Methods

Participants

Study 1 was conducted using 85 incoming first-year college students. There were 21 males (24.7%) and 64 females (75.3%). The average age was 18.26 (SD = 0.99). In terms of ethnicity, 22 participants self-reported as Hispanic (25.9%), 18 Caucasian (21.2%), 20 Asian (23.5%), 8 African-American (9.4%), 7 Asian - Pacific Rim (8.2%), 4 Middle Eastern (4.7%), and 6 classified themselves as other (7.1%).

Materials

The participants completed the following surveys: demographic questions, the Relationship Structure (RS) questionnaire (Fraley, Niedenthal, Marks, Brumbaugh, & Vicary, 2006) which is which consisted of 40 questions on a 7-point Likert scale (α = .809) used to measure attachment avoidance and anxiety, the four- paragraph relationship questionnaire (Bartholomew & Horowitz, 1991) which is a categorical scale used to assess attachment style, 7-point Likert questions regarding student life (e.g., how interested would you be to engage in a political debate, how interested would you be to read a book not required for your courses), a questionnaire regarding student activities (e.g., are you planning to join any fraternities/sororities, are you planning to join any student groups), two 7-point Likert questions regarding academic cheating behavior (e.g.,

how willing would you be to cheat to help a friend, how willing would you be to cheat to get a good grade), Beck's Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988) which consisted of 21 questions on a 4-point Likert scale ($\alpha = .912$), Beck's Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) which consisted of 21 questions on a 4-point Likert scale ($\alpha = .960$), Rosenberg Self-esteem Scale (Rosenberg, 1965) which consisted of 10 questions on a 5-point Likert scale ($\alpha = .835$), and Academic Locus of Control Scale (Trice, 1985) which consisted of 28 questions on a 5-point Likert scale ($\alpha = .702$). Additionally, participants were asked to give permission to the experimenter to allow access to their academic records (including GPA, credits attempted/earned, choice of major, high school GPA, and SAT scores).

Procedure

E-mails were sent to approximately 800 incoming freshmen who had registered university email addresses during their first semester of enrollment (October). Students were invited to participate in the survey. All participants were asked to complete each questionnaire in the survey. The entire survey took approximately 30 minutes to complete.

Statistical Analysis

For this study, *t*-tests, correlational analysis, and regression analyses were used to determine if there were significant differences ($p < .05$, two-tailed) between various aspects of student success as it relates to attachment security/insecurity.

<div align="center">**Results**</div>

To provide a more well-rounded view of the influence of attachment theory on student success, both categorical (four paragraphs) and continuous (RS questionnaire)

attachment assessments were used. When discussing levels of attachment anxiety and avoidance, continuous variables were used, while in discussing specific attachment styles (secure vs. insecure), categorical variables were used.

Attachment and Academic Success

Correlations among attachment anxiety and attachment avoidance (as measured with the RS questionnaire) with various academic measurements were performed on four high school measures including final high school GPA, math SAT scores, verbal SAT scores, and total SAT scores (see Table 1). There was a significant relationship between high school GPA and attachment avoidance ($r = .267$, $p = .021$). In addition there was a significant negative correlation between students' total SAT scores and attachment anxiety ($r = -.261$, $p = .024$). Correlations were also conducted on attachment anxiety and avoidance and academic indices following the students' first semester at college. The four indices of academic success included credits attempted, credits completed, GPA, and GPA credits (completed credits that count towards a student's GPA). These analyses did not result in any significant correlations. However, further analysis was conducted in examining students' high school GPA as compared to their first semester college GPA. Students who were higher in attachment anxiety performed less well academically in college (college GPA) as compared to their high school GPA ($r = .312$, $p = .007$). In addition, students who were high in attachment avoidance attempted more credits in their first semester as compared to students low in attachment avoidance: $t(1,72) = 2.626$, $p = .011$.

Attachment and Academic Cheating

Two questions were asked of the students including, "How willing would you be to cheat to get a good grade?" and "How willing would you be to cheat to help a friend?" Students who scored high on attachment anxiety were more likely to agree to both statements [willing to cheat to get a good grade ($r = .406$, $p = .000$) and willing to cheat to help a friend ($r = .298$, $p = .008$)]. (See Table 4 and Figure 2 below)

Figure 2. Correlational relationship between students' willingness to cheat and measures of attachment anxiety

Attachment and Psychological Health

Four psychological measurements were analyzed including locus of control, anxiety, depression, and self-esteem (see Table 2). Results indicated that securely attached individuals were less anxious [$t(1,64) = 2.383$, $p = .020$] and less depressed [$t(1,60) = -1.693$, $p = .096$] compared to insecure individuals (see Figure 3 below).
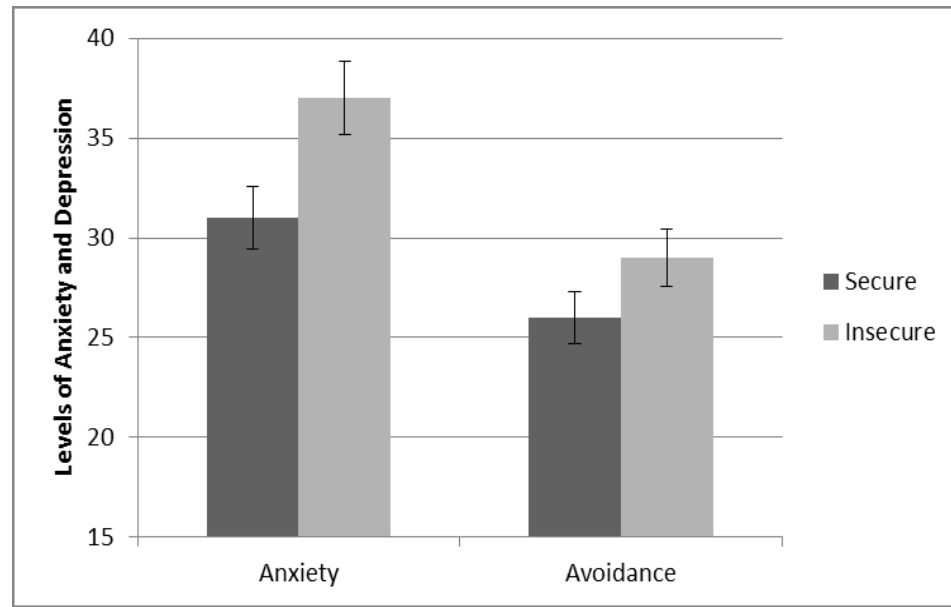
Figure 3. Group comparison of attachment security and levels of depression and anxiety

Students who reported higher levels of attachment avoidance or attachment anxiety also scored higher on scales of depression [($r = .552, p = .000$); & ($r = .510, p = .000$), respectively]. Students who scored higher in attachment avoidance or higher in attachment anxiety scored lower on their academic locus of control [($r = -.397, p = .001$); ($r = -.310, p = .008$), respectively]. Students who scored higher in attachment avoidance scored higher on overall general anxiety ($r = .287, p = .020$) as measured by the Beck Anxiety scale. Similarly, those who scored higher in attachment anxiety scored lower on measures of self-esteem ($r = -.427, p = .000$).

Two additional findings support the hypothesis that attachment affects psychological health as measured by drug and alcohol use. Students who reported higher attachment anxiety stated that they were more likely to use hard drugs ($r = .460, p = .000$) and light drugs ($r = .324, p = .008$). In addition, students with higher attachment

anxiety also reported that they were more likely to "drink to get drunk" ($r = .358$, $p = .003$).

Locus of control was also highly correlated with a number of additional academic, psychological, and ethical variables. Academically, students who scored higher on locus of control performed better academically in college (college GPA) as compared to their high school GPA ($r = .372$, $p = .001$), had higher GPA's in their first semester at college ($r = .396$, $p = .001$), and completed more credits ($r = .278$, $p = .017$). Psychologically, students who scored high on locus of control also scored higher on levels of self-esteem ($r = .482$, $p = .000$) and lower on measurements of anxiety ($r = -.289$, $p = .013$) and depression ($r = -.400$, $p = .001$). Results of the ethical variables have shown that students who scored low on locus of control also indicted that they would be more willing to cheat to get a good grade ($r = .400$, $p = .000$) and cheat to help a friend ($r = .304$, $p = .009$).

To further examine the influence of attachment, regression analysis was used to examine the influence of attachment anxiety and attachment avoidance on first semester college GPA while controlling for locus of control, high school GPA, and gender (see Table 3). The results indicate that attachment anxiety had a significant effect on students' academic success during the transition from high school to college. This model accounts for 31% of the variance (see Figure 4 below).

* *p* < .05
** *p* < .01
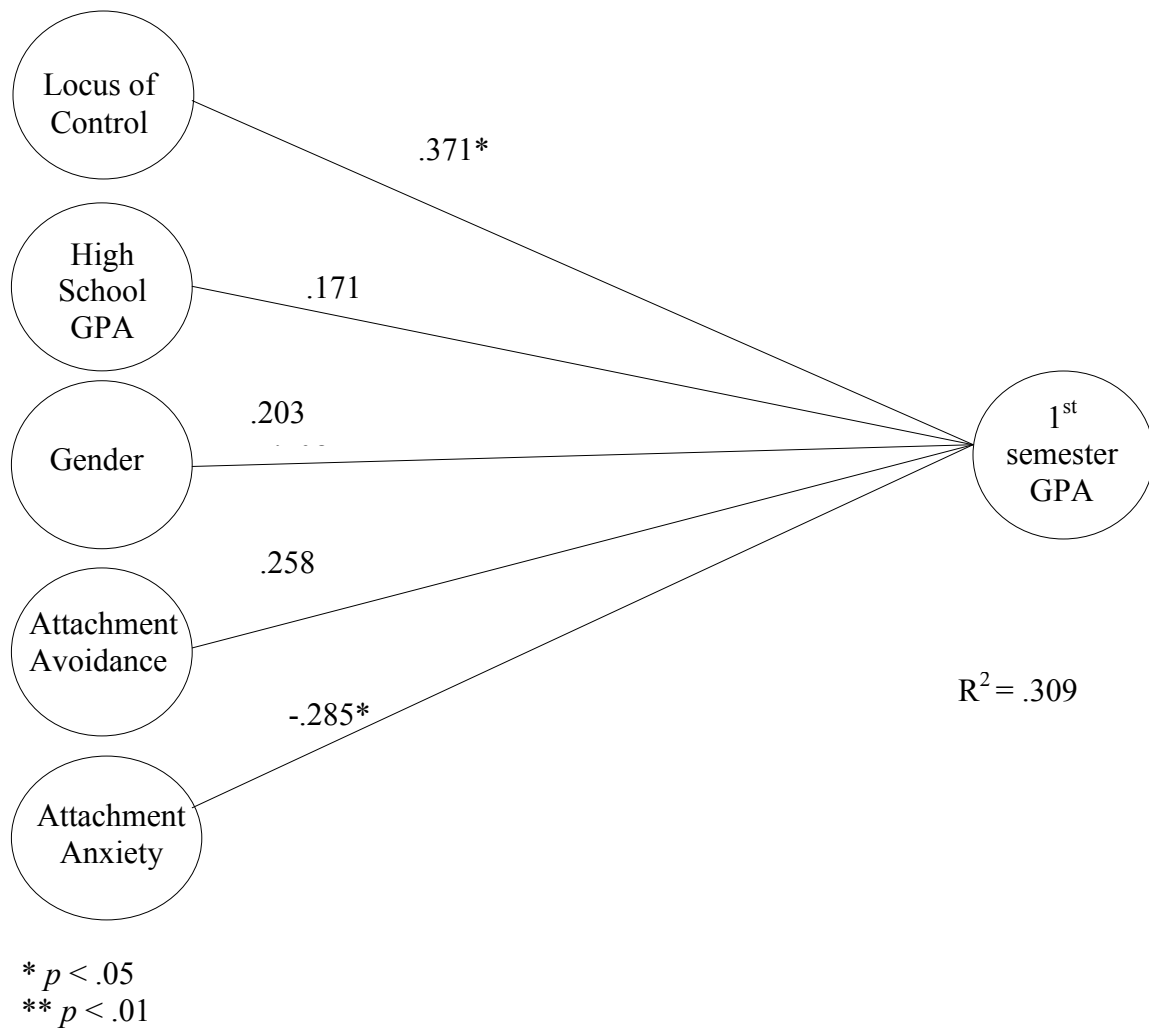
Figure 4. Regression analysis of the influence of attachment anxiety, locus of control, and gender on the difference in academic performance from high school to college.

Attachment and Socialization

Several questions asked if the participants were currently members of or were planning to join a fraternity or sorority or any other student group. There were no significant correlations between these student involvement questions and measures of attachment anxiety or avoidance (see Table 5).

Discussion

Attachment and Academics

Previous research found a strong correlation between attachment security and overall academic achievement (Larose, Bernier, & Tarabulsy, 2005). Specifically, Aspelmeier and Kerns (2003) found that securely attached individuals reported greater feelings of academic competence, preoccupied students showed more general trait anxiety, and dismissive students were less organized and unfocused on academic matters.

The current results have expanded the relationship between attachment and academic success prior to entering college. There was correlational evidence showing that students in high school who were more avoidant did better compared to students who were less avoidant. While this finding may seem counter to the general hypotheses on attachment security and academic success, it may very well be that avoidant high school students shunned varying interactions including sports, extra-curricular activities, and social get-togethers, etc., and therefore may have focused more of their free time on academic pursuits and interests. In addition, the results showed that students who were more anxious scored lower on their SAT's than students who were less anxious. Although the ability of SAT scores to predict academic success is debatable, SAT scores are a common measurement used for admission (Camara & Echternacht, 2000). Students who scored higher in attachment anxiety during their first college semester had lower GPA's in that semester compared to their high school GPA's. Additionally, the first semester GPA may not always be the best indicator as students may be receiving additional support for their first year to ensure retention for the institution. While students are traversing their most difficult transitional period during the first semester of their freshman year, in many colleges they are being closely monitored. Many colleges have devised specialized programs to assist students with their academic studies during

transition (special advisement sessions, special first-year seminars, etc.) that are designed to assist them during this crucial period.

Attachment and Psychological Health

The strong results involving psychological health support previous research which has shown a relationship between secure attachment and overall psychological health in college students (Frey, Beesley, & Miller, 2006). As students transition to college, they are faced with many individual challenges that may cause them to become more anxious about upcoming events (classes, leaving home, fitting in, etc.). Insecurely attached individuals tend to not handle the anxiety and stress as well as secure individuals. Those with insecure (ambivalent) styles may feel that they cannot have their attachment needs met, and thus they tend to experience more loneliness than others which in turn may lead to depression and lower self-esteem (Mikulincer & Shaver, 2007). This inability to navigate this transition and to deal with these stressors can also lead to feelings of helplessness.

In terms of drug and alcohol usage, individuals with higher levels of anxiety and depression and lower self-esteem will turn to drug use as a means to escape (Vungkhanching, Sher, Jackson, & Parra, 2004). Often drug and alcohol use in college is associated with a need to either fit in (peer pressures) or get away from one's self. Studies have shown that individuals who are securely attached were not as likely to report large amounts of alcohol consumption (Brennan & Shaver, 1995), while individuals who were classified as insecure have shown to be more likely to engage in alcohol use in order "to cope with a troubled relationship" (Levitt, Silver, & Franco, 1996).

Attachment and Academic Cheating

Students who scored high on attachment anxiety were more likely to endorse statements concerning cheating to get a good grade and to help a friend. The students in the present study may have felt pressure to succeed to make their parents proud, and they may be willing to cheat to help a friend in order to seek / receive their approval. While there has not been much research previously analyzing attachment and ethical behavior in the college classroom, there have been experiments designed to analyze other types of unethical behavior. Van Ijzendoorn and Zwart-Woudstra (1995) found that security of attachment among college students was related to high levels of moral reasoning. Albert and Horowitz (2008) found a strong relationship between attachment and ethical reasoning within the marketplace. Insecure individuals are more likely to be unfaithful in romantic relationships (Mikulincer & Goodman, 2006).

Attachment and Socialization

Often students must deal with separation from their previous social networks including friends, family, and romantic relationships as they explore their new social connections in college. Securely attached individuals are more comfortable exploring and knowing that they have a secure base to which they can return. According to Larose and Bernier (2001), secure adolescents have been shown to have greater ego-resilience and social competence, acceptance, and integration within peer groups. Additionally, Laible (2007) found that secure adolescents may be more socially competent than insecure adolescents because of the emotional skills they have learned in close relationships, including empathy, emotional expressiveness, and emotional awareness. While the current results surprisingly did not support a relationship between attachment styles and the intent to socialize through formal student groups, these findings do not

negate the possibility of finding stronger informal relationships among the more securely attached students.

One of the major limitations of this study revolves around the sample size. Approximately 800 students were sent the request to participate in the survey. With only 85 responding, the return rate is approximately 10.5%. A further examination of the 800 students shows that the sample response may be relatively representative of the population as they share similar demographic information (see Table 6). In terms of ethnicity, the 800 students are broken down as follows: African American (18.8%), Asian (25%), Latino (18.9%), White (28.2%), and Other (9.1%). The average age was 18.1. The only demographic information that may not be representative involves gender as the population showed that males account for 45% and females account for 55%. However, research in attachment has shown that gender is not a good predictor of attachment styles (Mikulincer & Shaver, 2007).

Table 1 Correlational measurements of attachment avoidance and anxiety and academic measurements (N=74).

ATTACHMENT AND ACADEMICS DATA		
	Avoidance	Anxiety
High School GPA	.267*	.195
Math SAT	.184	.071
Verbal SAT	.033	-.064
Total SAT	.067	.261*
1st semester credits attempted	.142	-.066
1st semester degree credits	.217	.111
1st semester GPA	.077	-.048
1st semester GPA credits	.013	-.216
high school GPA - College GPA	.133	.312**

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

Table 2 Correlational analysis of attachment avoidance and anxiety and psychological measurements (N=67).

Attachment and Psychological Measurements		
	Avoidance	Anxiety
Locus of control	-.397**	-.310**
Anxiety	.278*	.076
Depression	.552**	.510**
Self-esteem	.451**	.427**
Use hard drugs	.221	.460**
Use light drugs	.221	.324**
Drink to get drunk	.140	.358**

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

Table 3 Regression analysis of the influence of attachment anxiety, locus of control, and gender on the difference in academic performance from high school to college.

	b	SE	β	sig
Locus of Control	.019	.008	.261	.026*
Gender	.457	.239	.208	.060
Attachment Anxiety	.198	.094	.236	.040*

NOTES: $R^2 = .220$

Table 4 Correlational analysis of attachment avoidance and anxiety and ethical attitude (N=77).

Attachment and Ethical attitude		
	Avoidance	Anxiety
Willing to cheat to get a good grade	.173	.406**
Willing to cheat to help a friend	.128	.298**

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

Table 5 Correlational analysis of attachment avoidance and anxiety and student involvement.

ATTACHMENT AND STUDENT INVOLVEMENT		Avoidance	Anxiety
Do you belong to a fraternity or sorority?	r	-.055	-.121
	N	77	77
If no, are you planning on joining a fraternity or sorority?	r	-.190	.000
	N	38	38
Do you belong to any student groups on campus?	r	-.191	-.062
	N	77	77
If no, are you planning to join any student groups on campus?	r	-.235	.012
	N	30	30

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

Table 6 Demographic comparison of sample and populations

	Population	Sample
Age	18.1	18.26
Gender		
Male	45%	25%
Female	55%	75%
Ethnicity		
African-American	18.8%	9.4%
Asian	25%	31.7%
Latino(a)	18.9%	25.9%
White/Caucasian	28.2%	21.2%
Other	9.1%	11.8%

Study 2 –Attachment and Ethics

Study 1 suggested further exploration of the influence of attachment on various measures of college student success. While there is extensive research on attachment as it is related to psychological health and success, Study 2 was designed to further examine the role attachment has regarding ethical success and behavior. In this study, students identified as having violated ethical standards were surveyed to explore their attachment styles. Once evaluated, their attachment results were compared to the sample from Study 1 for comparison.

Discussions on ethics and morality can be traced back to the time of Greek civilization (Carr, 2000). Plato (1871) believed that ethics and morals were best summarized as a question of how individuals should live their lives. Over the years, ethical reasoning has been related to a number of factors, including age, gender, religion, value system, belief system, and moral character (Albert & Horowitz, 2009). Attachment theory looks at one's view of self and others, and as such offers a unique perspective on ethical reasoning. In fact, so closely related is attachment theory to ethical behavior, that according to Levy and Orlans (2000), children with attachment disorders show a propensity for what are typically considered unethical behavior including lying, cheating, and stealing. It is theorized that individuals who are more insecurely attached will engage in more unethical reasoning as displayed through a variety of unethical behaviors including moral reasoning, amoral business practices, academic dishonesty, and infidelity.

Ethics

Philosophers, psychologists, instructors, and business leaders have spent years

attempting to define what it is to be ethical (MacKinnon, 2007). While definitions of

ethics can vary between individuals, cultures, and societies, ethics can be generally

described as "the use of reason to answer the worldview-shaping question, how should

life be lived" (Chappell, 2009, p. 3). Ethical reasoning is a compilation of adhering to

one's moral beliefs, in which individuals must decide what their set of morals are and

what influences their decision to follow their moral beliefs (Gibbs, 2010). Morals are

generally defined as ideas and thought of what one believes is right and wrong

(Kohlberg, 1984). Therefore, ethical reasoning involves first, the development of one's

universally ethical principles and then second, how one behaves in accordance with such

principles.

Since ethics is dependent upon morals, it is important to discuss moral

development. According to Kohlberg's (1984) theories on moral development, there are

six stages of moral development divided into three levels (see Figure 5 below). The first

level of moral development is called the preconventional level and consists of two stages.

The first stage is characterized by an egocentric point of view in which a person's

position is entirely centered on him or herself, while the second stage occurs as one

becomes more aware of others' interests and points of view. The third and fourth stages

make up the conventional level of moral development. At stage three there is an

awareness of shared feelings and expectation with others that may trump individual

interests. During stage four, one becomes aware of and follows the societal norms and

laws to maintain a fully functioning society. The third level, known as post-conventional,

is comprised of the fifth and sixth stages of moral development as individuals develop

awareness that others have differing opinions and values, and that moral reasoning is

derived from universally ethical principles derived from reasoning. Each stage of moral

development is comprised of a viewpoint relating to attachment as one's moral

development depends on the way one perceives him/herself, others, and his/her

interactions within the world.

Figure 5. Kohlberg's Stages of Moral Development
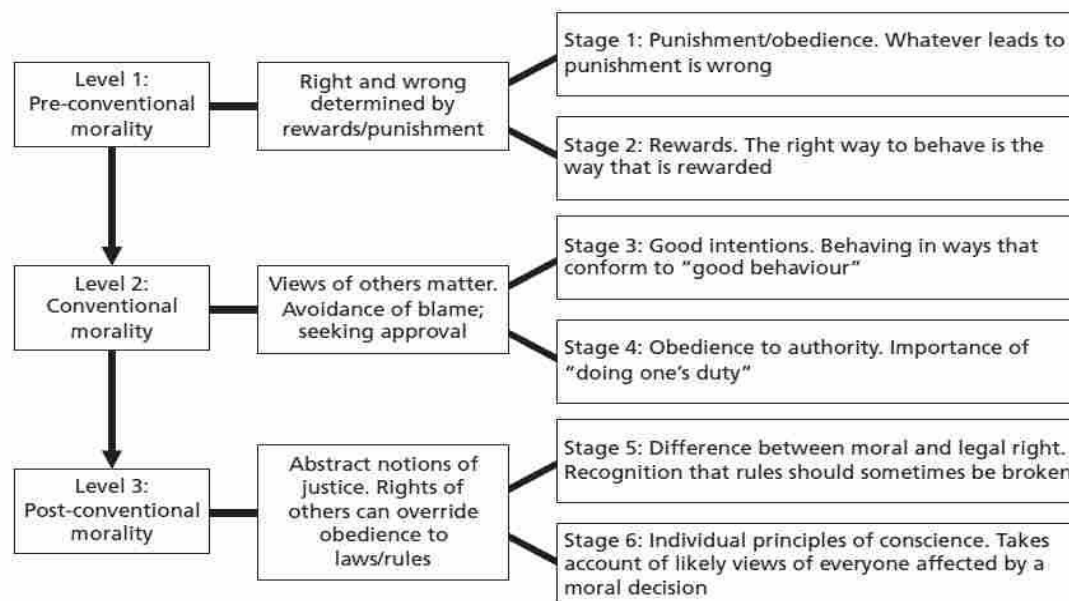
Ethical Reasoning

To understand how individuals use reasoning, it is critical to understand how

attitudes affect behavior. According to Ajzen and Fishbein's (1980) theory of reasoned

action, specific behaviors are exhibited based on a rational process that is goal-oriented

and follows a logical sequence. Ajzen (1991) provided a later version of this process

entitled the "theory of planned behavior." According to this theory, one's behavior is a

direct result of one's behavioral intentions. While this may seem to be a very logical and basic conclusion, the theory of reasoned action states that variations on one's behavioral intentions are comprised of three factors: attitude towards a behavior, subjective norms, and perceived behavioral control. Attitude towards a behavior can be seen as one's evaluation of a performed behavior and whether or not it will yield positive or negative outcomes. Subjective norms can be described as the social norms associated with a particular behavior as to whether or not the behavior will be approved or disapproved. Perceived behavioral control reflects one's ability to perform such an action.

In regard to ethical reasoning, one's attitude towards a behavior and subjective norms become a critical component as they are affected by one's view of self and others (Batson and Thompson, 2001). One could use the theory of reasoned action to understand one's ethical and moral reasoning and behavior. For example, according to this model, one can make predictions as to whether or not one would be willing to engage in unethical or amoral behaviors. Specifically if one were to use this model of reasoning to determine how likely it is that a college student would cheat, all three factors could be analyzed and a determination can be made. Therefore, according to this theory, a student's likelihood of cheating would depend on the student's attitudes about whether or not cheating would result in a positive or negative outcome, whether cheating was highly valued by others, and whether or not one believed that he/she could successfully "get away with it." Once these factors are evaluated, one can determine the likelihood of cheating to occur. In fact, in an experiment by Mayhew, Hubbard, Finelli, Harding, and Carpenter, (2009), they were able to use this model as predictor of students' willingness to cheat.

Attachment and Ethical Reasoning

While the literature on the relationship between attachment and ethical reasoning is not extensive, there is evidence supporting the theory that attachment style can play a role in one's ethical and moral reasoning. The evidence that helped lay the groundwork started with Bowlby (1944) himself in which he used attachment theory to explain how "affectionless juvenile thieves" who had grown up without the close secure attachments to their parents resulted in a lack or absence of a concern for others. Bowlby believed that these "thieves" developed dismissive attachment styles to prevent themselves from forming close relationships in order to eliminate the possibility of being let down (again) by others. Therefore, they became egocentric and did not care or worry about other's feelings nor did they worry about any unethical treatment of others.

Moral reasoning dilemmas are dependent upon a number of factors that parallel attachment theory. According to Kohlberg (1984) and Van Ijzendoorn and Zwart-Woudstra (1995), moral dilemmas are dependent on such things such as role-playing, empathy, and perspective taking, as well as autonomy and trust in others. Piaget (1932) stated that moral judgment is parallel to emotional understanding in children. Reimer (2005) found that motivation to act morally lies within one's willingness to support and have confidence in him/herself. Additionally, Sims (2002) found that individuals who did not care more about others' wishes and expectations, also tended to engage in unethical decision making. According to attachment theory, role-playing, empathy, trust, and positive view of and confidence in oneself and others are all traits of a secure individual.

Additional evidence from a cognitive perspective supports the idea that emotions play a significant role in moral judgment (Greene & Haidt, 2002). In one experiment by Greene, Sommerville, Nystrom, Darley, and Cohen (2001), subjects were presented with different dilemmas that required them to evaluate and make decisions. One set of dilemmas were moral dilemmas while another set of dilemmas were non-moral practical dilemmas. Through fMRI (functional magnetic resonance imaging) studies, it was found that personal moral dilemmas activated the medial frontal gyrus, posterior cingulated gyrus, and bilateral STS; all areas generally associated with social and emotional processing. However, non-moral dilemmas resulted in an increase in activity in areas associated with working memory. Therefore, moral dilemmas and moral reasoning must have a strong emotional component that could potentially be affected by attachment theory.

In one of the first experiments to truly address the relationship between attachment and moral reasoning, Van Ijzendoorn and Zwart-Woudstra (1995) hypothesized that secure attachment among college students would be linked to higher levels of moral reasoning. Van Izjendoorn and Zwart-Woudstra (1995) used an aspect of Kohlberg's theory in their experiment. In addition to his six stages of moral reasoning, Kohlberg also theorized that there were two substages within each stage in which one can develop a Type A or a Type B moral type (Power, Higgins, & Kohlberg, 1989). It is believed that Type B was more philosophically advanced, as it was a more autonomous resolution to moral conflict as compared to Type A. Type B individuals learned to reason morally based upon autonomy and genuine concern for fairness and universality, while Type A is more concerned with moral reasoning based on the need to act morally due to

authoritarian mandates. Van Ijzendoorn and Zwart-Woudstra (1995) believed that secure individuals would be more closely correlated to these Type B forms of moral judgment.

In their experiment, Van Ijzendoorn and Zwart-Woudstra (1995) surveyed college-aged students on measures of attachment and moral reasoning. They looked at their results in terms of two areas. First, they found that there was no direct correlation between moral reasoning and the three separate attachment styles in terms of level of moral development. However, they theorized that due to the homogeneous population of participants (i.e., all college students) that there may not have been enough of a variation to allow for a significant difference. For example, most college students are within the conventional level of moral development, which would not allow for a significant difference. However, in looking at the difference between attachment styles as they relate to Type A and Type B sublevels, Van Ijzendoorn and Zwart-Woudstra did find that secure individuals were more likely to engage in Type B moral reasoning as compared with insecure individuals. It is believed that this was because type B moral reasoning allows individuals to properly balance individual rights with societal demands, just as secure individuals have the ability to balance individuals' rights between partners as well as the partnership itself.

Albert and Horowitz (2010) also looked at the unique relationship between attachment and ethical reasoning within the marketplace. It is believed that since the marketplace is reasonably interpersonal, an individual would factor in one's perception of others in his or her business dealings. If one believes that other people are friendly, caring, and supportive, then they would want to protect and foster that relationship through a fair and balanced relationship. On the other hand if one perceives others as

selfish, exploitative, and uncaring, then one would be more protective of their own interests. In terms of attachment, secure and preoccupied individuals have a more genuine concern for (and positive view of) others and thus would want to foster their relationship within the marketplace; as opposed to fearful and dismissive individuals who generally are less concerned with (and have a less positive view of) others' feelings.

Simultaneously Albert and Horowitz (2010) believe that self-image will also have an effect on one's ethical behavior. If one has a positive self-image, then they will have strong convictions and be more willing to hold true to their beliefs, as opposed to individuals with a less positive self-image. Both secure and dismissives tend to have more positive self-images as compared to preoccupied and fearful individuals who have a less positive image of self. Therefore, it is believed that secure individuals who value others highly and yet are strong in their own convictions will be the most likely to engage in ethical behaviors, while dismissive individuals will be the most untrusting of others and the most self-confident in their beliefs; therefore, they will most like be ones who engage in the most unethical behavior.

In order to study their hypothesis, Albert and Horowitz (2010), developed an ethical beliefs (EB) questionnaire that was used to assess feelings of ethical fairness. The EB consisted of 16 statements of varying ethical transgressions in which participants were asked to rate the statement on a 5-point Likert scale as to how "right" or "wrong" a behavior was. These data were then tabulated and compared to the individuals' attachment style. The results showed that secure individuals generally felt that more of the statements were more unethical as compared to the views of others with different attachment styles. In fact, secure individuals ranked more of the questionable behaviors

to be unethical, followed by preoccupied and fearful individuals (not significantly different from one another), and then dismissives, who were ranked as the least ethical in their reasoning. Accordingly, it is believed that the unhealthy combination of bold entitlement (positive view of self) and minimum concern for consequences regarding others (negative view of others) leads to more unethical reasoning.

Another example of unethical behavior is infidelity. Attachment styles have been found to be related to infidelity as insecure individuals are more likely to cheat on their spouse/significant other (Mikulincer & Goodman, 2006). Individuals who are more avoidant reason that the act of cheating allows them to further distance themselves (physically and emotionally) from their significant other; consequently not allowing themselves to become too emotionally close. Other research has shown that avoidant individuals hold themselves in high regard and therefore reason that through cheating they can share more of themselves with others (Mikulner & Shaver, 2007). Insecure-anxious individuals, who have a negative view of themselves, are more likely to cheat because of their demand for attention and reinforcement that they are constantly seeking from others (Duba, Kindsvatter, & Lara, 2008). Additionally, according to Platt, Nalbone, Casanova, and Wetchler (2008), as children tend to develop a similar working model in their youth which tends to stay with them as they develop, children whose parents engage in infidelity, are more likely to do the same. Children may often relate to the parent who was cheated on and therefore develop an insecure attachment style in that they do not feel positively about themselves. Or they may also relate to the parent who did the cheating and thus develop an avoidant pattern leading to further infidelity when they become adults.

Attachment has also been found to be related to unethical reasoning regarding physical and emotional abuse of children. According to Howe, Dooley, & Hinings (1999), parents who are more avoidant have expressed frustration when their baby demands more attention and care. Avoidant individuals are unable to fully reciprocate the infant's needs, resulting in irritation and frustration that may turn into physical or emotional abuse. Simultaneously, parents who are anxious or ambivalent, lack synchronicity with their baby's needs as they become neglectful and disorganized. They are unable to fully notice or satisfy their baby's needs, leading to a baby's continued crying. Therefore, insecurely attached individuals are more likely to engage in amoral behavior due to their inability to properly meet the needs of their infants.

Methods

Participants

The study was conducted using 52 participants collected over five consecutive semesters. There were 22 males (42.3%) and 30 females (57.7%). The average age was 20.9 (SD = 2.704). In terms of ethnicity, 17 participants were Asian (33.3%), 7 Hispanic (12.82%), 5 African American (10.3%), 5 Middle Eastern (10.3%), 5 Caucasian (10.3%), 3 Asian - Pacific Rim (5.1%), and 9 classified themselves as other (18.0%).

Materials

The participants completed surveys including: demographic questions, the ECR-R questionnaire (Fraley, Niedenthal, Marks, Brumbaugh, & Vicary, 2006) which consists of 36 questions on a 7-point Likert scale used to measures attachment avoidance ($\alpha = .92$) and attachment anxiety ($\alpha = .95$), and the four paragraph relationship questionnaire (Bartholomew & Horowitz, 1991).

Procedure

All students who commit and are found responsible for plagiarism at the university are required to participate in a three-part workshop on academic integrity. During the last session, students were asked to complete the surveys. This group of students was compared to the sample group from Study 1 in terms of levels of attachment anxiety and avoidance. The entire survey took approximately 10 minutes to complete.

Statistical Analysis

For this study t-tests were used to determine if there were significant differences ($p < .05$) between the current group of students and the sample from Study 1.

Results

Using the ECR-R survey (a continuous measurement), it was found that students from the plagiarism group were significantly more anxious [$t(1,112) = 2.446$, $p = .016$] but not more avoidant than the group analyzed in Study 1 (see Figure 6 below).
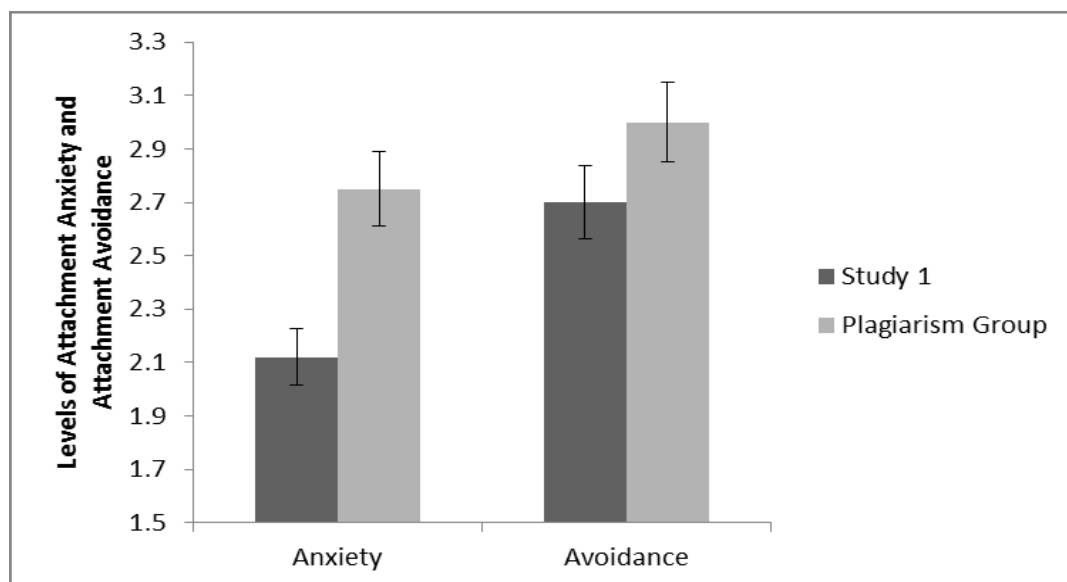
Figure 6. Group comparison of measures of attachment anxiety and attachment avoidance

Discussion

The results from Study 2 indicated that attachment may have an influence on ethical behavior. The students from Study 2 had higher levels of attachment anxiety and attachment avoidance compared to the sample of students from Study 1. Study 1 asked students to think about their willingness to cheat. Study 2 looked at attachment as it related to actual ethical behavior. Not only do students of varyious attachment styles think and reason about ethical behavior differently from more securely attached individuals, but they also behave differently as well. The real question is what exactly is the role of attachment when it comes to students' ethical behavior. While there have only been a limited number of studies examining attachment and ethics, the results from this study support previous research on the relationship between ethics and attachment.

Study 3 – Attachment and College Academic Success: A Four-Year Longitudinal Study

Study 1 showed that attachment is related to academic success during the transition from high school to college. Study 3 continued this research by examining academic success longitudinally over four years in college students. In discussing academic achievement and attachment, much of the research reported attachment in terms of general level of attachment (i.e., high, low, etc.). This research supports the idea that students who are highly attached to their parents (Kenny, 1990), peers (Fass & Tubman, 2002), and professors (Eccles et al., 1993) demonstrate higher academic achievement. While level of attachment is important, security of attachment needs to be discussed as well. As attachment security remains fairly consistent through one's lifespan (Baldwin & Fehr, 1995), it is important to look at the effects of attachment on academic related achievement through different developmental periods.

Childhood

As children grow, they encounter increasingly difficult challenges (academic and non-academic) and are more often facing these challenges alone. Children who are classified as secure generally are more comfortable exploring the world with the knowledge that they will have their parent or parents (secure base) there for them. As children progress through the educational system, they tend to interact less with their parents (becoming more independent) as they progress academically. Simultaneously, there is a general feeling that as children grow and become more independent, the need for a teacher's perceived support tends to decrease (Harter, 1996). In order to analyze the relationship between attachment and academic success in college, researchers have

previously studied factors that affect students' academic success. Research has shown that better preparation early in life allows students to be better prepared for the academic challenges that lie ahead in college.

In discussing preschool and early grammar school, attachment styles affect early exposure to and achievement in academics. Matas, Arend, and Sroufe (1978) found that securely attached children at the age of 18 months were "more enthusiastic, persistent, cooperative, and, in general, more effective than insecurely attached infants" (p. 1) and that these qualities could also be applied towards academics, thus making them more up to the challenge of academic rigors. Bus and Van IJzendoorn (1988) looked at children aged 1½ through 5½. They found that children who are securely attached paid more attention to readings than anxiously attached children. In looking at seven-year-old children, Jacobsen and Hofmann (1994) found securely attached children had better cognitive abilities later in life than insecurely classified children. Additionally, these securely attached children were also better with deductive reasoning. Moss and St-Laurent (2001) found similar results in a three year longitudinal study. After analyzing children's attachment styles through a separation-reunion experiment at age 6, Moss and St. Laurant later analyzed children's academic motivation and achievement at age eight. While they found that there was no specific relation between attachment style and IQ, they did find a positive relationship between academic achievement and secure attachment to the child's mother.

There have also been a number of studies looking specifically at insecure styles and negative effects on academic achievement. Matas et al., (1978) found that avoidant and ambivalent toddlers explored less and thus were less involved in school and

academic related tasks and activities. Cassidy and Berlin (1994) also found that ambivalent children were more concerned with focusing on the teacher's physical proximity and attachment availability than they were on academic tasks and activities. These differing qualities between secure and insecure individuals directly relate to the ability of securely attached children to obtain higher grades throughout school.

Adolescents

Similar research supports these previous findings at the high school level. When looking at research involving early adolescents, there is a relationship between the students' academic motivation and achievement based upon positive (or secure) attachment to their parents and teacher (Duchesne & Larose, 2007). Additionally, Wong, Wiest, and Cusick (2002) looked at 9th graders and found similar results in terms of academic achievement. Although there was a decrease in the amount of interaction with the parents, students who established secure relationships tended to prefer academic challenges (with an increased motivation to achieve) and were found to be more competent in math and reading skills.

Other findings looked more specifically at the relationship between student and teacher. Learner and Kruger (1997) found a positive relationship between a student's attachment to his or her teacher and academic success. These findings coincide with the theory that attachment can additionally be formed with other individuals who are not the primary care giver (Ainsworth, 1989). Furthermore, these findings revealed that parental attachment (family) and attachment to a teacher (non-family) were both individually and collectively related to academic motivation and that academic self-concept had a significant effect on academic motivation. Hence, individuals may experience a shift in

regards to the impact of attachment figures as teachers play a more significant role in a student's academic motivation and success.

College Academic Success

Larose, Bernier, and Tarabulsy (2005) looked at academic performance during the transitional time between high school and college. They studied 62 students' academic records in high school and then again after each of their first three semesters in college. According to their results, secure students showed better learning abilities compared with dismissive and preoccupied students. They also discovered that dismissive students had performed worst over all. Larose et al. theorized that this association was mediated by changes in quality of attention during the transition. As dismissive students are less anxious, but more avoidant, they may feel that while they themselves remain consistent, being exposed to a new environment may bring about additional interactions that they are unsure (and untrusting) of and, thus they attempt to avoid interactions at a critical time when more interactions and support are needed to better succeed.

Another major study by Fass and Tubman (2002) looked at the influence of parental and peer attachment on college students' academic achievement. Fass and Tubman examined the influence of social support as affected by attachment. In their study they looked at 357 undergraduate students who were attending a four year urban university in the southeast. They used the Inventory of Parental and Peer Attachment (IPPA; Armsden & Greenburg, 1987) to measure attachment levels to both parents and peers. The IPPA examines levels of trust, communication, and alienation, of which more specifically high levels of trust and communication (and low levels of alienation) can directly be related to avoidant attachment styles' model of positive and negative view of

others. In order to obtain information on the students' academic achievement, the

researchers utilized another self-report survey, the Student Academic Profile (SAP). The

SAP consists of ten questions about students' academic performance in college and high

school. Fass and Tubman found that students' perceived level of attachment (high,

medium, and low) to their parents and their peers had significant effects on their self-

reported academic performance. Students who had low attachment to both parents and

peers had significantly lower GPA's than those that scored high with both parents and

peers. Accordingly, those with attachment styles low in avoidance had self-reported high

academic performance. Furthermore, they indicated that while parental and peer

attachment is a significant factor, it is certainly not the only factor to influence GPA.

Unfortunately the results were not fully discussed in regard to groups who may have

scored high with one and low with the other (parents and peers).

  Cutrona, Cole, Colangelo, Assouline, and Russell (1994) studied the effect of

attachment on academic achievement. Cutrona et al. looked more specifically into the

indirect influence of attachment styles and GPA. They examined 131 undergraduate

students from the University of Iowa enrolled in an introductory psychology course.

They used a self-report method to assess perceived social support. Additionally, as

opposed to Fass and Tubman's self-report method, they obtained their subjects actual

GPA's from the university's registrar to ensure accuracy and prevent self-reporting bias.

While they did not find a significant direct correlation between secure parental

attachment and GPA, they did find an indirect correlation of significance. They predicted

and found that secure attachment would lead to lower anxiety, a hypothesis consistent

with the basis of Attachment Theory, and that lower anxiety would lead to higher

academic self-efficacy, which in turn would ultimately lead to higher GPA's. Interestingly, while Fass and Tubman may have found a relationship with level of attachment and academic success, Cutrona et al. (1994) found that only parent support and attachment, as opposed to friends and romantic partners, significantly predicted grade point average.

The purpose of Study 3 is to build upon the findings from Study 1. While Study 1 found a relationship between attachment and student academic success during the transition from high school to college, Study 3 followed these students' academic progress throughout their four years of college. In doing so, academic data was collected and analyzed. Specific data included term and cumulative grade point average (GPA), credits attempted and completed, student retention, and graduation rates. It is hypothesized that attachment will continue to have an influence on college students' academic success as they continue through their college experience.

Method

Participants

The study was conducted using 85 incoming first-year college students. There were 21 males (24.7%) and 64 females (75.3%). The average age was 18.26 (SD = 0.99). In terms of ethnicity, 22 participants self-reported as Hispanic (25.9%), 18 Caucasian (21.2%), 20 Asian (23.5%), 8 African-American (9.4%), 7 Asian - Pacific Rim (8.2%), 4 Middle Eastern (4.7%), and 6 classified themselves as other (7.1%).

Materials

The participants completed the following surveys online: demographic questions, the Relationship Structure (RS) questionnaire (Fraley, Niedenthal, Marks, Brumbaugh, &

Vicary, 2006) which is used to measure avoidance and anxiety of attachment, and the four-paragraph relationship questionnaire (Bartholomew & Horowitz, 1991). Additionally, participants were asked to give permission to the experimenter to allow access to the their academic record (including GPA, credits attempted/earned, choice of major, high school GPA, and SAT scores).

Procedure

E-mails were sent to approximately 800 incoming freshmen who had registered university e-mail addresses (from Study 1). Students were invited to participate in the survey. Each participant was asked to complete each questionnaire in the survey. The entire survey took approximately 30 minutes to complete. These students' academic records were reviewed and recorded over four years of enrollment at the college

Statistical Analysis

For this study, *t*-tests, crosstabs analysis, and correlational analysis were used to determine if there were significant differences ($p < .05$) between various aspects of student success as it relates to attachment security/insecurity and avoidance/non-avoidance. In addition, regression analysis was used to examine the effect of attachment on academic success across the four years.

Results

The results, through the analysis of a categorical measurement of attachment styles, indicated a strong relationship between attachment and college student academic success. In terms of GPA, secure students have maintained higher GPA's as compared to insecure students (which include dismissive, preoccupied, and fearful) with secure students having averaged a cumulative GPA

of a 3.295 while insecure students averaged 2.999 [t (1,58) = 2.124, p = .038] over

eight semesters (see Table 6 and Figure 7 below).
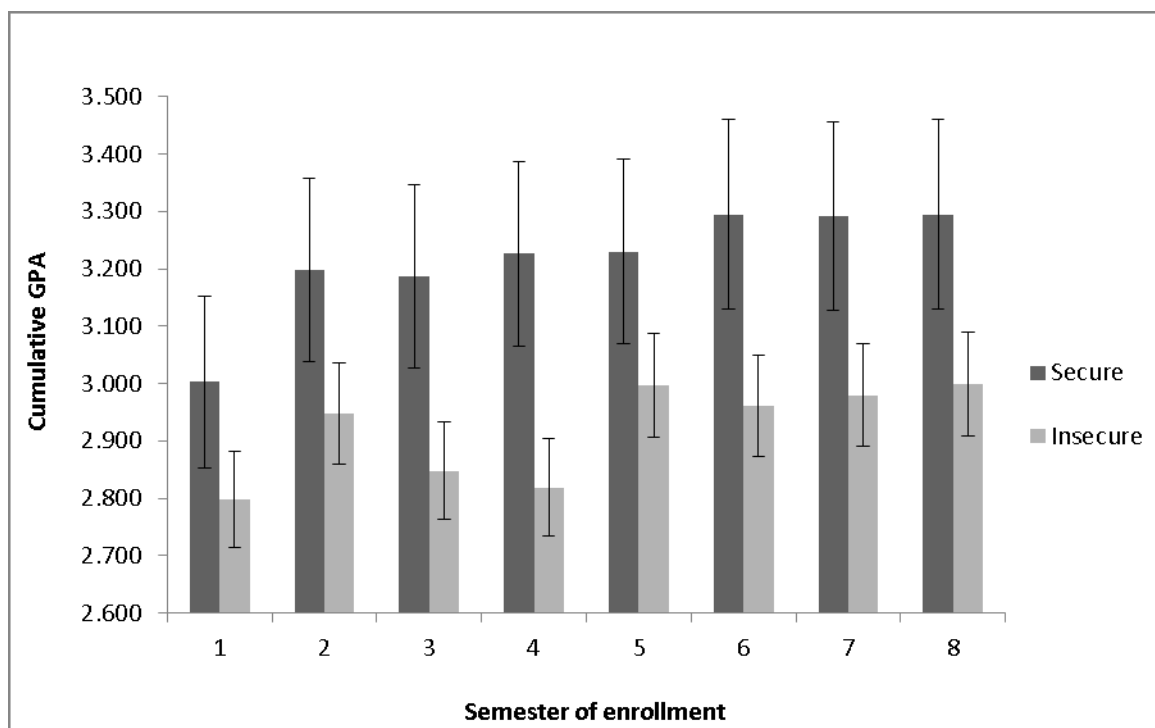
Figure 7. Attachment Security and Cumulative GPA over four-year span

While retention at the end of the four years was not significant, over the course of

two years (see Figure 8), as these students entered their junior year, secure students were

retained at a rate of 96.88% compared to an insecure retention rate of 81.40% [X^2 (1, N =

75) = 4.163, p = .041].
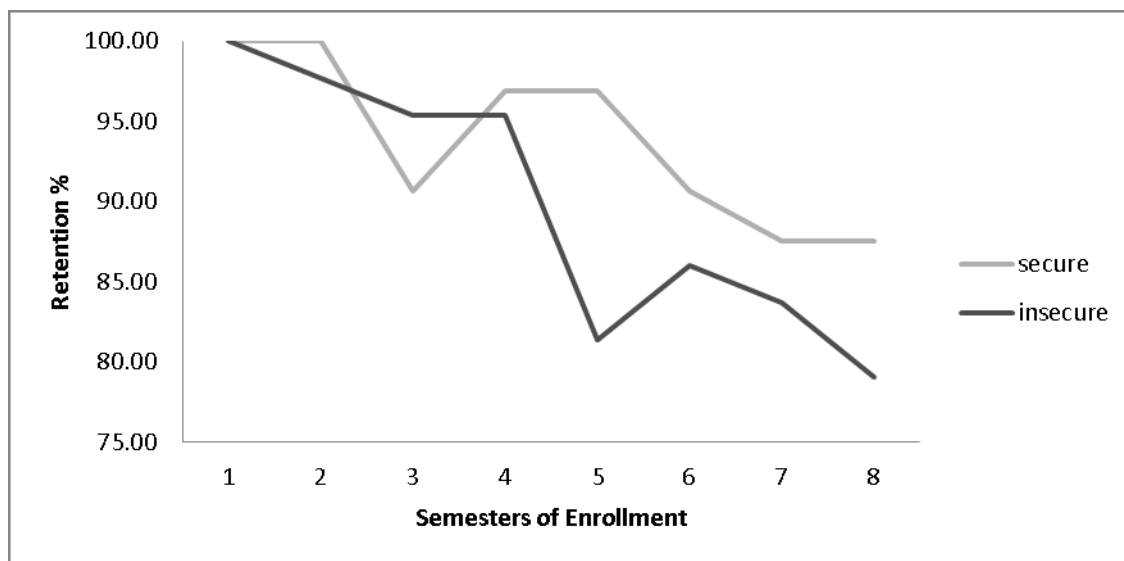
Figure 8. Attachment Security and 4-Year Retention Rate

During the four year period, secure students are averaging a graduation rate of 43.75% compared to an insecure graduation rate of 27.91% [X^2 (1, N = 75) = 3.961, *p* = .047]. See Figure 9 below.
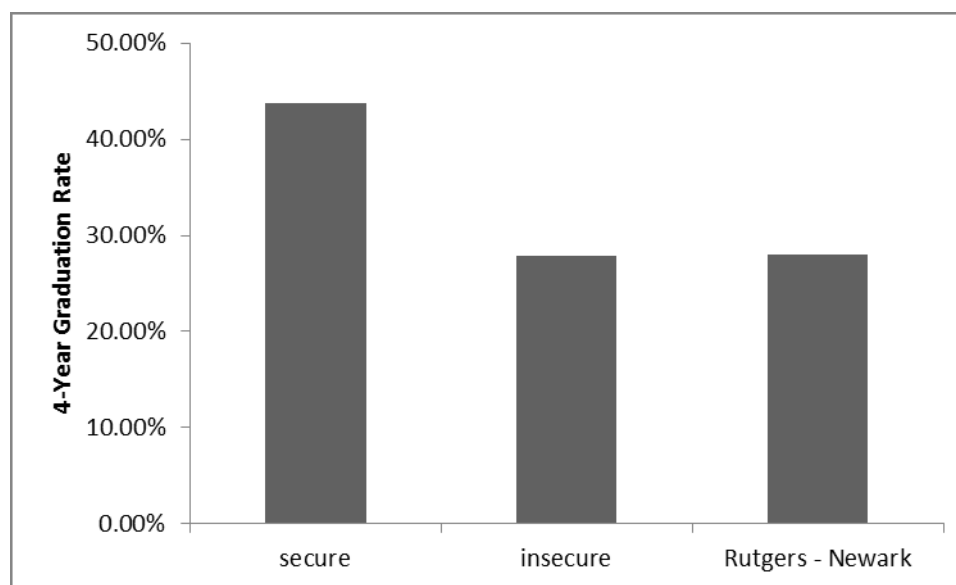
Figure 9. Attachment security and four-year graduation rates

To further examine the influence of attachment, regression analysis was used to examine the influence of attachment security on four-year cumulative college GPA from

high school to college while controlling for high school GPA (see Table 7). The results indicate that attachment security had a significant effect on students' four-year cumulative GPA (β = .258, p = 0.049). This model accounts for 17.9% of the variance. See Figure 10 below.
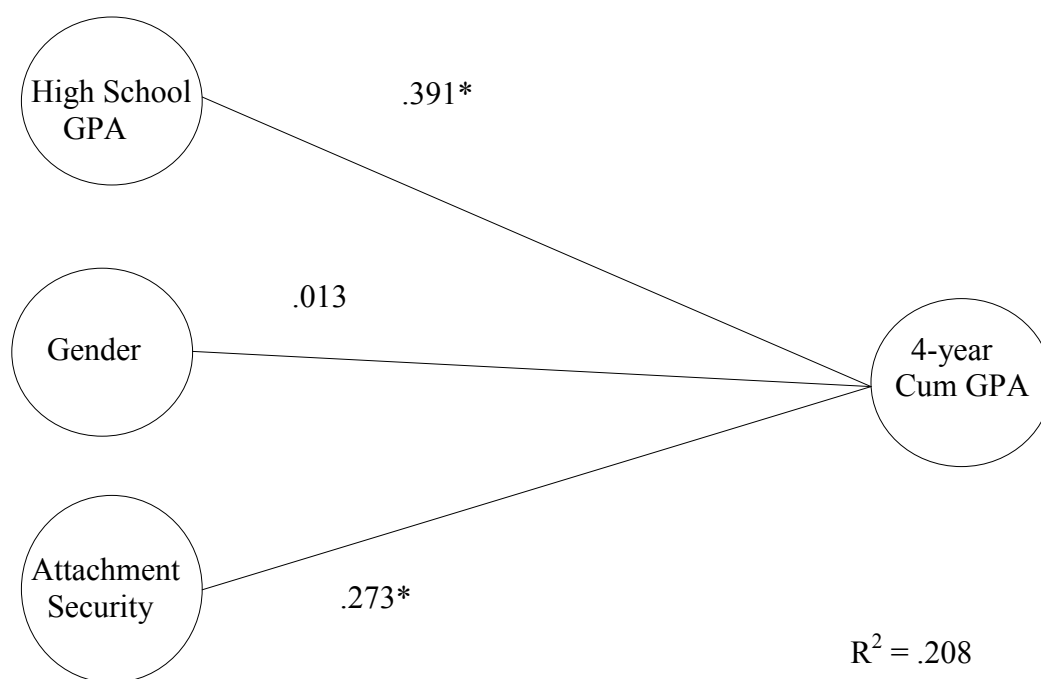
Figure 10. Regression Results for Influence of Attachment and High school GPA on Cumulative GPA

Discussion

The findings from Study 3 support the general hypothesis that attachment has an influence on college student success. While Study 1 showed the influence on attachment on academic success during the transition from high school to college, Study 4 has shown that attachment also continues to be a factor throughout the college experience. Secure students achieved higher GPA's as compared to insecure students, and many of the insecure students who were no longer retained had lower average GPAs (prior to dropping out) as compared to the insecure students who did remain. Therefore, one could

assume that if the retention was not a factor, that this difference would be only more dramatic. In addition, looking at the graduation rate may be one of the most significant measures of student success. If a student does not graduate, then GPA, credits, time to graduation, etc. are all inconsequential. The graduation rate data show a significant difference in the graduation rate of secure students versus insecure students. . In fact, according to Rutgers University's Office of Institutional Research (n.d.), at Rutgers University – Newark, 28% of students finish their degrees within four years and 59% within six years. This shows that most of the insecure population is closer to that average graduation rate at the university, and that the secure population is well above that number.

Insecure anxiously attached individuals tend to feel anxious about their attachment relationship and are defined as having a negative view of self. Insecure anxious students will generally struggle with close relationships as they are constantly attempting to have themselves validated by others. This focus on relationships will place the social needs of the individual as a priority over everything else including academics. They may attend classes and even look forward to the interactive aspects of being within the classroom; however, often they may lose focus on their academic needs and requirements. These students may not spend enough time studying on their own, preferring to study with groups. However, even in group study, they may be too focused on seeking approval from their fellow students that even the academic purpose of study groups becomes lost. This focus on relationships may cause students to concentrate less on their academic pursuits leading them ultimately being academically dismissed from the university. Poor retention may also be a result of the inherent aspects of their

attachment needs as they may also find that they are unable to fulfill their attachment

needs and thus leave the university to either return home to their previous support groups

and attachment figures, or to attend another college in hopes that their attachment needs

can be met elsewhere. The insecure anxious students who tend to take fewer credits or

unsuccessfully pass more classes per semester will take longer to graduate, thus

influencing graduation rates. Insecure anxious students may also be looking ahead with

concern about making another life transition. They may be apprehensive about having to

fully transition into adulthood and form new relationships and thus be delaying their

inevitable next step.

Avoidant insecure individuals characterized as avoidant of close relationships and

have a negative view of others. These types of students are less likely to socialize with

other students and may avoid interactions with university officials (e.g., instructors,

advisors, tutors) who would best be able to provide them with support. Without

academic (or non-academic) support and guidance, these students will be more likely to

struggle with their academics resulting in lower GPAs. In terms of retention, avoidant

students who struggle with forming closer relationships are less likely to feel connected

to their college and thus may be more willing to leave. Retention is another factor that

directly influences graduation rates. Students who are avoidant may see the end of

college as a final step into the real world where they are expected to start a career, form

new bonds, and further engage with relationship building that they may not be ready to

face. They may see staying in college as a means for delaying this next step/transition,

causing them to delay graduation. Avoidant students may also have been taking fewer

credits per semester (which means slower progress towards graduation) as a means of

avoiding social interactions within the classroom. Further research should be conducted to look at specific variable (i.e. psychological, behavioral, cognitive) that may affect this relationship between attachment and academic success.

Table 7 Results of t-test for attachment security and cumulative GPA

Semester	Secure cum GPA	Insecure cum GPA	t	df	P
1	3.003	2.797	0.983	72	0.329
2	3.198	2.948	1.431	72	0.157
3	3.187	2.848	2.121	68	0.038*
4	3.226	2.819	2.763	70	0.007*
5	3.230	2.997	1.644	63	0.105
6	3.295	2.961	2.521	64	0.014*
7	3.292	2.980	2.363	59	0.021*
8	3.295	2.999	2.124	58	0.038*

NOTE. $p < .05$

Table 8 Regression Results for Influence of Attachment and HS GPA on Cumulative GPA

	b	SE	β	sig
Attachment security	.258	.130	.237	.049
High School GPA	.392	.121	.390	.002

NOTES: R^2 = .208

Study 4 – Attachment and Academic Classroom Behavior

Based on Studies 1-3, attachment styles influence college students' academic, psychological, and ethical success. In examining the relationship between attachment and academic success, it is critical to further explore other variables that may moderate or mediate this relationship. Research on academic success has found a wide number of psychological factors that affect college academic success including: motivation (Linnenbrink & Pintrich, 2002), emotional intelligence (Parker, Summerfeldt, Hogan, & Majeski, 2004), attitude (Tracey & Sedlacek, 1985), exploration (Aspelmeier & Kerns, 2003), persistency (Larose, Bernier, & Tarabulsy, 2005), self-confidence (Mattanah, Hancock, & Brand, 2004), academic (Fass & Tubman, 2002) and social competency (Bernier, Larose, Boivon, & Soucy, 2004), and self-esteem (Brennan & Morns, 1997). Many of these factors have also been found to be closely related to attachment security. According to Mikulincer and Shaver (2007), a successful student "requires cognitive openness, self-control, positive attitudes toward learning and problem solving, optimistic expectations of academic success, and constructive ways of coping with frustrations and failures" (p. 237). Secure individuals tend to possess these self-regulatory skills that would contribute to academic success. Secure students have been shown to better handle stress (Salas, Driskell, & Hughes, 1996), have higher levels of self-confidence (Mattanah, Hancock, & Brand, 2004), self-esteem (Brennan & Morris, 1997), and have better academic competency (Fass & Tubman, 2002).

Study 4 examined two specific factors that can be observed within the classroom and have been found to be related to both attachment and academic success: self-efficacy

(Cutrona, Cole, Colangelo, Assouline, & Russell, 1994) and procrastination (Hazan & Shaver, 1990). Both of these factors have been shown to be related to attachment and academic success and can both be measured and observed within the classroom setting. By examining these factors within the classroom, one may be able to better predict academic success and intervene appropriately when necessary.

Self-efficacy

Self-efficacy has been defined as one's evaluation of his or her own ability or competency to achieve a goal, perform a task, or overcome an obstacle (Bandura, 1986). A person's self-efficacy is formed by an assortment of experiences including one's perception of their own ability, feedback from others, social competence, and self-assessment (Schunk & Pajares, 2002). If a person does not believe that he/she can achieve a goal, then he/she will have little incentive to do so. Therefore, one's belief that he/she can be successful will have a direct impact on his/her actual successes and failures. The impact of self-efficacy can be seen in a wide range of areas including politics, sports, and relationships (Baron & Byrne, 2003). Research on self-efficacy has also been shown to be related to performance on both physical (Courneya & McAuley, 1993) and academic tasks (Sanna & Pusecker, 1994).

From an academic perspective, self-efficacy affects students' ability to complete coursework, regulate learning, and live up to the academic expectations of themselves and others (Baron & Byrne, 2003). While academic success in grade school may be more attributed to teachers' close monitoring of students' work and progress, as students advance through their academic careers and teachers become less involved in an individual's learning process (e.g., at college), levels of self-efficacy become more

important. In an academic environment, self-efficacy beliefs tend to influence effort, persistence, task choice, resilience, and achievement (Schunk, 1995). Often individuals who are low in self-efficacy tend to worry about negative events and attribute them towards external factors (Myers, 1989). A student with low self-efficacy would be more willing to attribute a poor grade to a perceived "bad" teacher or being exposed to a perceived "unfair" exam. On the contrary, a student high in self-efficacy will attribute one's successes and/or failures to his or her own abilities. Self-efficacy has been shown to be highly correlated with academic achievement (Bandura, 1997; Pajaras, & Schunk, 2001; Schunk, 1995). Research has shown that students with high self-efficacy with problem solving are more persistent than students with low-self-efficacy (Bouffard-Bouchard, Parent, & Larivee, 1991). Students who have high self-efficacy in writing proficiency also have been shown to have high levels of academic success (Zimmerman & Bandura, 1994). Mathematics self-efficacy has been shown to be a better predictor of mathematics achievement as compared to any other factors that include math anxiety, self-concept, or even prior experience (Pajares & Miller, 1994). In addition, students who showed a general positive self-assessment of competency and abilities were more likely to perform well academically (Cutrona, et al., 1994).

Aspects of self-efficacy and attachment theory share similarities. Both attachment and self-efficacy develop early in life. Parents who provide a stimulating environment which allow children to explore and develop mastery experiences, help build one's self-efficacy. When an environment contains stimulating experiences, children will need to explore and learn how to navigate through these challenges and thus develop new skills and abilities (Meece, 1997). As one works on a task, he or she learns

what a desirable action is and thus motivates him/herself to persist and achieve, thus increasing one's self-efficacy. Similarly, one of the main aspects of attachment security involves exploration; not surprisingly, research has shown secure individuals tend to explore more. Individuals who are more competent and effective would be more willing to explore and risk failure. By creating an environment in which children feel more comfortable to explore (secure attachment), children will be able to further develop mastery of their environment while learning new skills and thus increase their own self-efficacy. Furthermore, individuals who have high self-efficacy are less depressed, less anxious, and more persistent (Maddux & Stanley, 1986). All of these qualities tend to parallel those of a securely attached individual.

Research involving attachment and self-efficacy has covered topics ranging from leadership, conflict resolution, depression, and social support. In one study on leadership, Davidovitz, Mikulincer, Shaver, Ijzak, and Popper (2007) assessed participants' self-reported ability to be successful. They were interested in how individuals perceived their ability to meet both task and emotional needs of their followers. Davidovitz et al. (2007) found that individuals high in attachment anxiety scored lower in self-efficacy on task-forced situations while individuals high on attachment avoidance scored lower in self-efficacy on emotional related situations. In another study, Corcoran and Mallinckrodt (2000) examined the influence of self-efficacy as it related to attachment style and conflict resolution. Using surveys to assess attachment, social competency, and conflict resolution styles, it was found that self-efficacy helped to explain the relationship between attachment security and compromising and integrating styles of conflict resolution. In addition, self-efficacy

mediated the relationship between attachment avoidance and approaches to conflict resolution.

Through a longitudinal study, Wei, Russell, and Zakalik (2005) examined the influence of self-efficacy and attachment as it related to feelings of loneliness and depression. In this study, students were asked to complete a series of surveys including measurements of attachment, self-efficacy, self-confidence, depression, and loneliness. The surveys were completed in both of their first two semesters (October and March, respectively) of their freshman year. The results showed that self-efficacy did indeed serve as a mediator between attachment anxiety and feelings of depression and loneliness. According to their results, 55% of the variance in loneliness was attributed to attachment anxiety, self-efficacy, and self-disclosure. Mallinckrodt and Wei (2005) examined the effect of self-efficacy as it related to the relationship between attachment and psychological distress and perceived social support. Results showed that social self-efficacy was a significant mediator for both attachment anxiety and attachment avoidance.

Procrastination

Procrastination is a specific behavior that can be easily observed within the classroom. As time management and planning are prevalent topics for academic success centers and freshman seminar courses within higher education, it is apparent that procrastination is a major concern/obstacle for college students. Research on procrastination and academic success has shown that students who procrastinate have higher rates of course withdrawals, lower academic performance, and poorer health (Pychyl, Morin, & Salmon, 2000). One specific experiment on procrastination and

academic success involved the effect of procrastination on mathematics achievement. Akinsola, Tella, and Tella (2007) used a thirty-five item academic procrastination scale with a group of 150 students. The data were analyzed in conjunction with each student's grades from their mathematics courses. The analysis showed a significant correlation between academic procrastination and achievement in mathematics. Furthermore, different levels of procrastination also significantly correlated with different levels of achievement. High procrastinators score the worst, conversely, low procrastinators score the best. In addition, according to Klassen, Krawchuk, and Rajani (2008), students who were classified as high procrastinators had lower GPAs, lower class grades, higher levels of procrastination, and lower levels of self-efficacy for self-regulation. Furthermore, after controlling for GPA, self-efficacy predicted the negative impact of procrastination.

While there is not extensive research involving attachment and procrastination, it is clear that a relationship does exist. According to Mikulincer and Shaver (2007), individuals who score higher on attachment avoidance and/or attachment anxiety tended to score lower on tasks including problem solving, task concentration and persistence, and behavioral reorganization. Additionally, they received higher scores on procrastination. In fact, according to Burka and Yuen (1983), procrastination can be seen as a way of creating a barrier between oneself and others and can be seen in both insecure avoidant and insecure anxious individuals within a variety of decision-making situations.

Individuals who are high in attachment anxiety are characterized as having a negative view of self and therefore may be unsure about their own abilities and actions. This uncertainty may in turn cause them to delay (or procrastinate) any decisions they may make due to fear of making a wrong decision and thus further alienating themselves

from others by not fitting in. They may also delay performing activities and making

decisions if the activity or decision will cause a separation from an attachment figure.

Procrastination can also be seen in relationships as insecure anxious individuals may

delay ending a relationship because of their fear of being alone. This tendency to

procrastinate is also quite prevalent in the world of academia as the activity may range

from a simple matter such as working on a homework assignment to choosing which

college to attend. They may also procrastinate in terms of their studies to avoid another

transitional experience as they move on to the real world and face further independence

which could cause further separation anxiety.

Other research has shown that procrastination is associated with avoidant

attachment. Avoidant individuals have a negative view of others, and they may therefore

procrastinate to avoid possible scrutiny by others. Procrastination can also be clearly

seen in regards to relationships as avoidants may also delay entering into a relationship

with the fear of allowing themselves to be close to another. Simultaneously, avoidants

may procrastinate with work as an excuse that they cannot be involved in a relationship

because they have too many things that they need to accomplish (Hazan & Shaver, 1990).

Similarly, avoidant students who procrastinate with their school work will have an excuse

to avoid socializing with others as they have too much work to do.

While there are clear relationships between factors such as procrastination and

self-efficacy and academic success and attachment, there has not been any research

looking at the possible mediation or moderation role of these factors. According to

Baron and Kenny (1986) a moderator is often a quantitative or qualitative variable that

affect either the strength or direction of the relationship between an independent and

dependent variable. Meanwhile a mediator is a variable that actually accounts for (and explains why) the relationship between the predictor variable and the criterion (Baron and Kenny (1986). Specifically, a moderator will specify when a specific effect will hold, while a mediator will explain how or why a certain effect occurs. Thus, the goal of this study is to examine the possible role that both procrastination and self-efficacy have within the relationship between attachment and academic success and how it can be observed within the classroom setting.

Method

Participants

This study recruited students enrolled in a Principles of Psychology 102 course at Rutgers University – Newark in the Fall 2011 semester. There were 184 students who met together twice per week in a large lecture hall. In addition, the larger class is divided into eight recitation classes, each led by an advanced undergraduate psychology major or graduate teaching assistant (TA), chosen for this purpose and provided with substantial pedagogical materials and instruction. Of the 184 students, 161 completed all of the required materials for the study. There were 59 males (37%), 97 females (60%), and 5 who did not report their gender (3%). The average age was 19.3 (SD = 2.98). In terms of ethnicity, 40 (24.8%) were Asian / Asian-American, 35 (21.7%) White / non-Hispanic, 27 (16.8%) Hispanic / Latino(a), 18 (11.2%) were Black / African American, 17 (10.6%) Middle Eastern / Arabic / Persian, and 24 (14.9%) defined themselves as other.

Materials

Through prescreening, the students completed the following online surveys: the (ECR-R) Adult Attachment Questionnaire (Fraley, Waller, & Brennan. 2000) which is

used to measure avoidance and anxiety of attachment, the General Self-Efficacy – Sherer

(GSESH) questionnaire (Sherer, Maddux, Mercadante, Prentice-Dunn, Jacobs, & Rogers,

1982) which consisted of 12 questions on a 5-point Likert scale ($\alpha = .726$), the

Procrastination Assessment Scale—Students (PASS) (Solomon & Rothblum, 1984)

which consisted of 18 questions on a 5-point Likert scale ($\alpha = .904$). The TAs were blind

to the responses of their students on all of these measures.

Procedure

Students were required to complete all of the online surveys through a

prescreening process at the beginning of the semester. At the end of the course, lecture

and recitation attendance and lateness was collected by the TAs. Attendance was

operationalized as whether or not the student came to class on a particular day. Students

were marked late if they arrived to class more than fifteen minutes after the scheduled

start of the class. Both lateness and attendance were also submitted to the experimenter.

All students enrolled in Principles of Psychology are required to earn seven

research points (R-points). Each student earns a specific number of points depending on

the study for which they volunteer. At the end of the course, a list of all of the students'

codes and the dates and times that they completed their R-point requirements was

obtained. The date and time of the R-point completion was used to operationalize

procrastination. Specifically, the first day of the semester was counted as day one.

In addition, during the second class of the semester, the instructor offered the

students an optional extra credit assignment due prior to the first major exam. The

assignment was posted on Blackboard (Bb). The assignment was to read Milgram's

Behavioral Study of Obedience (Milgram, 1963). The students were given an option of

writing a two-page summary of the article (lower level of Bloom's Taxonomy; Bloom,

1956) or to write a five-page paper summarizing the article and asking the students to

design a similar experiment (higher level of Bloom's Taxonomy) looking at obedience.

Prior to the semester, a survey was created to ensure that the more difficult assignment

was rated as such. A group of 32 students were asked to rate the difficulty of the two

assignments. All 32 students rated the second option as being more challenging The

students were told that the first option, if chosen, would be worth a maximum of two

extra credit points and that the second option, if chosen, would be worth a maximum of

five extra credit points. The article was available on Bb and if completed, was submitted

through Bb as well. A list of the students who attempted each assignment and the grade

earned on the assignment were collected. The list also included the date and time stamp

as to when the assignment was submitted. Students were identified by a code known

only to the TAs. Students' choice of assignment (easier or more difficult) was used to

operationalize self-efficacy as it is believed that students high in self-efficacy will more

readily attempt the more difficult assignment as they are more confident in their ability to

successfully complete the assignment. Simultaneously, students who are low in self-

efficacy are more likely to choose the easier assignment.

Statistical Analysis

For this study ANOVA, *t*-tests, correlational analysis, and regression analysis

were used to test for relationships between variable and the effect of procrastination and

self-efficacy had in mediating and/or moderating the relationship between attachment and

academic success with the classroom.

<p style="text-align: center;">**Hypotheses**</p>

The main hypotheses involve testing whether self-efficacy or procrastination act as mediators or moderators for the relationship between attachment and academic success. Specific hypotheses are as follows:

1. Measures of attachment will correlate with measures of academic success. Specifically:

    a. Students high in attachment anxiety will have lower final grades in the class.

    b. Students high in attachment anxiety will have lower cumulative GPAs.

    c. Students high in attachment avoidance will have lower final grades in the class.

    d. Students high in attachment avoidance will have lower cumulative GPAs.

2. Measures of attachment will correlate with measures of procrastination and self-efficacy. Specifically:

    a. Higher levels of attachment anxiety correlate with higher levels of procrastination.

    b. Higher levels of attachment anxiety correlate with lower levels of self-efficacy.

    c. Higher levels of attachment avoidance correlate with higher levels of procrastination.

    d. Higher levels of attachment avoidance correlate with lower levels of self-efficacy.

3. Higher levels of procrastination will correlate with later R-point completion.

4. Measures of self-efficacy correlate with the choice of extra credit assignment (to complete it at all and which assignment is chosen).

5. It is hypothesized that procrastination and/or self-efficacy can serve as a moderating factor within the relationship between attachment and academic success. Specifically:

    a. Self-efficacy, as measured through the self-efficacy survey, moderates the relationship between attachment anxiety and the students' final grade in their class.

    b. Self-efficacy, as measured through the self-efficacy survey, moderates the relationship between attachment anxiety and the students' cumulative GPA.

    c. Self-efficacy, as measured through the self-efficacy survey, moderates the relationship between attachment avoidance and the students' final grade in their class.

    d. Self-efficacy, as measured through the self-efficacy survey, moderates the relationship between attachment avoidance and the students' cumulative GPA.

    e. Procrastination, as measured through the procrastination survey, moderates the relationship between attachment anxiety and the students' final grade in their class.

    f. Procrastination, as measured through the procrastination survey, moderates the relationship between attachment anxiety and the students' cumulative GPA.

    g. Procrastination, as measured through the procrastination survey, moderates the relationship between attachment avoidance and the students' final grade in their class.

    h. Procrastination, as measured through the procrastination survey, moderates the relationship between attachment avoidance and the students' cumulative GPA.

6. It is hypothesized that procrastination and/or self-efficacy can serve as a mediating factor within the relationship between attachment and academic success. Specifically:

    a. Self-efficacy, as measured by extra credit assignment choice, mediates the relationship between attachment anxiety and the students' final grade in their class.

    b. Self-efficacy, as measured by extra credit assignment choice, mediates the relationship between attachment anxiety and the students' cumulative GPA.

    c. Self-efficacy, as measured by extra credit assignment choice, mediates the relationship between attachment avoidance and the students' final grade in their class.

    d. Self-efficacy, as measured by extra credit assignment choice, mediates the relationship between attachment avoidance and the students' cumulative GPA.

e. Procrastination, as measured by the time it took for students to compete their R-point requirements, mediates the relationship between attachment anxiety and the students' final grade in their class.

f. Procrastination, as measured by the time it took for students to compete their R-point requirements, mediates the relationship between attachment anxiety and the students' cumulative GPA.

g. Procrastination, as measured by the time it took for students to compete their R-point requirements, mediates the relationship between attachment avoidance and the students' final grade in their class.

h. Procrastination, as measured by the time it took for students to compete their R-point requirements, mediates the relationship between attachment avoidance and the students' cumulative GPA.

Results

All of the initial questionnaires examined variables on a continuous scale to provide for slight variations. Hypothesis 1 stated that measures of attachment will correlate with measures of academic success. Table 8 shows that students high in attachment anxiety had lower final grades in the class ($r = .161$, $p = .041$), but did not have lower cumulative GPAs ($r = .111$, $p = .162$). It was also found that students high in attachment avoidance had lower final grades in the class ($r = .157$, $p = .047$) and lower cumulative GPA's ($r = .252$, $p = .001$).

Hypothesis 2 stated that measures of attachment will be correlated with procrastination and self-efficacy. The results indicated that (see Table 8) students high in attachment anxiety correlated with higher levels of procrastination ($r = .202$, $p = .010$)

and low self-efficacy (r = -.195, p = .013). However, the results indicated that students high in attachment avoidance did not correlate with higher procrastination (r = .117, p = .140) nor with lower self-efficacy. (r = .098, p = .217).

Hypothesis 3 stated that measures of procrastination correlate with measures of R-point completion. Using correlational analysis it was determined that students who scored high in procrastination also took longer to compete their R-point requirements (r = .192, p = .015). High and low levels of procrastination were determined by examining all students who were one standard deviation above and below the mean. These results were also confirmed using a t-test (see Figure 11) which shows that students scoring high in procrastination also took longer to complete their R-point requirements [t (1,158) = 2.094, p = .038].
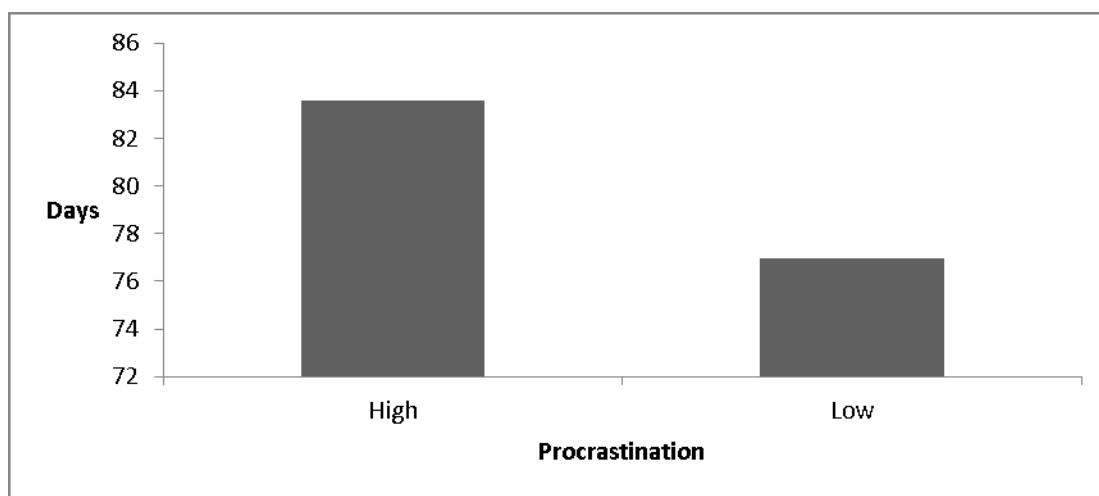
Figure 11. Days needed to complete R-points by level of procrastination

Hypothesis 4 stated that measures of self-efficacy correlate with the choice of extra credit assignment. There was no correlation between students high in self-efficacy and whether or not they chose to complete the extra credit assignment (r = .016, p = .839). There was also no correlation between students high in self-efficacy and which

assignment (easy or hard) that they chose ($r = .283$, $p = .105$). Although a One-way

ANOVA showed no significant difference between students who did not attempt the

extra credit assignment, those that chose the easier assignment, and those who chose the

harder assignment [$F(2, 158) = .898$, $p = .409$], a t-test (see Figure 12 below) showed

that there was a trend for students high in self-efficacy to attempt the more difficult extra

credit assignment [$t(1,32) = 1.711$, $p = .098$].
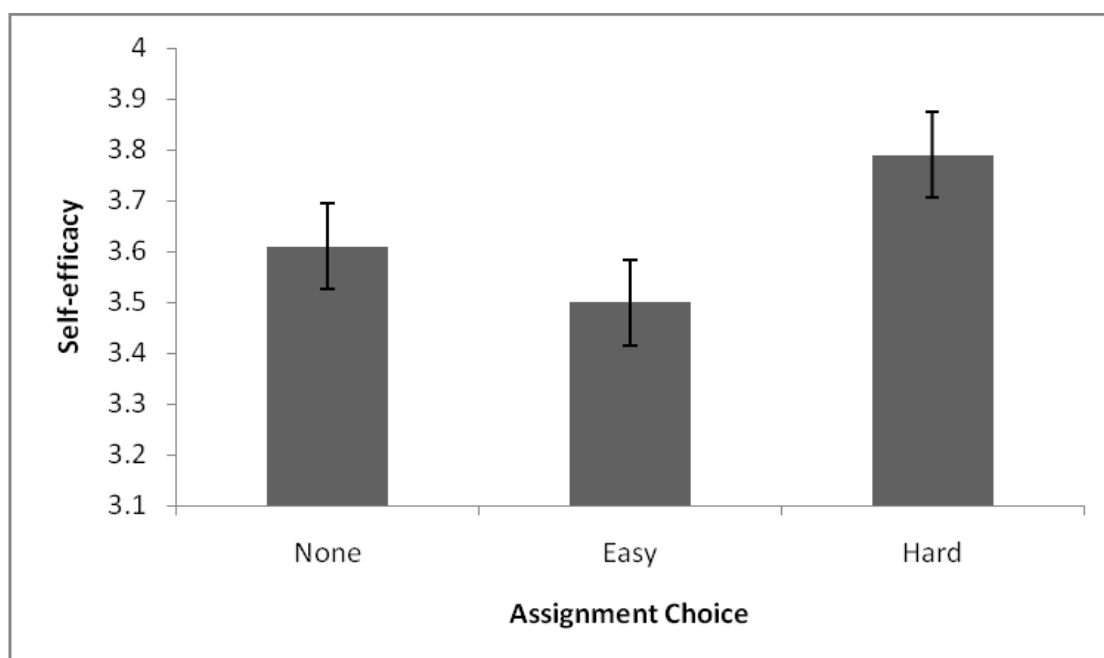
Figure 12. Level of self-efficacy as a product of level of difficulty of assignment chosen

Hypothesis 5 stated that procrastination and/or self-efficacy would serve as a

moderating factor within the relationship between attachment and academic success. To

test for moderation, hierarchical multiple regression analysis (Baron & Kenny, 1986) was

used to examine the effect of the moderators (procrastination and self-efficacy) on the

relationship between attachment (measured by attachment anxiety and attachment

avoidance scales) and academic success (measured by final grade and GPA). For each

test of moderation a new variable was created by multiplying the attachment measure by

the proposed moderator. As there are two proposed attachment measurements and two proposed moderators, four new variables were created (attachment anxiety x procrastination, attachment anxiety x self-efficacy, attachment avoidance x procrastination, attachment avoidance x self-efficacy). After the new variable(s) was created, a two-step regression analysis was performed. For each hypothesis, first a regression analysis was conducted using both the attachment measurement and the moderator as the independent variable and the predicted dependent variable (final grade and cumulative GPA) as the dependent variable. Second, a regression analysis was performed using the attachment measurement, the moderator, and the new interactive variable (for each attachment measure and moderator), and the predicted dependent variable (final grade and cumulative GPA) as the dependent variable. Once completed the relationship between the new variable and the dependent variable was checked for significance. To avoid a type II error, a level of significance of .1 has been used to test for significance.

Of the eight proposed hypotheses, five were significant (hypothesis a, b, d, f, h), and three were not significant (hypothesis c, e, g). Specifically, hypothesis 5a stated that self-efficacy, as measured through the self-efficacy survey, will moderate the relationship between attachment anxiety and the students' final grade in their class (see Table 9). The results of this test were significant (see Figure 13 below). The simple slope of the high self-efficacy is $t = .211$ ($p = .833$) and the simple slope for the low self-efficacy is $t = -2.316$ ($p = .022$).
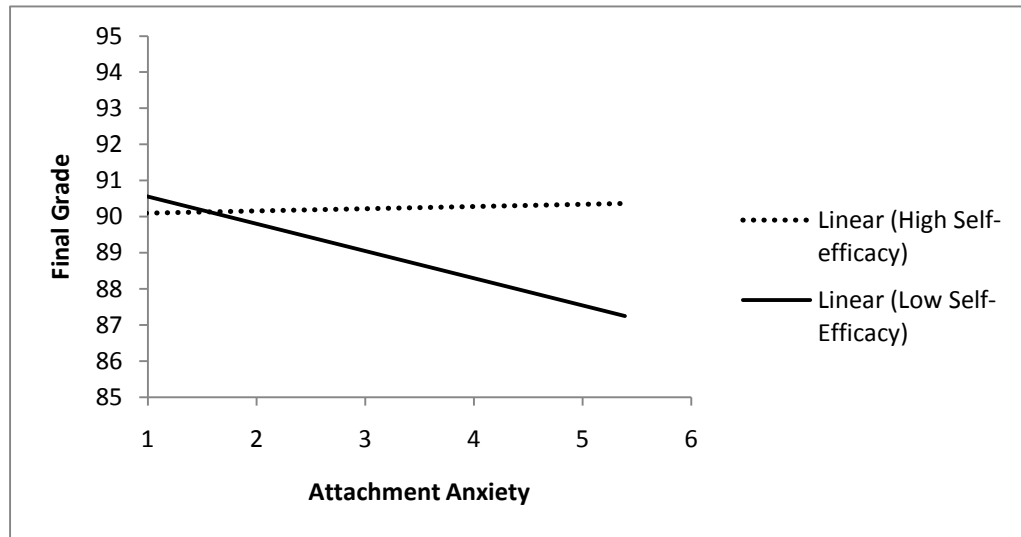
Figure 13. Final Grade as a function of Attachment Anxiety and Self-efficacy

Hypothesis 5b stated that self-efficacy, as measured through the self-efficacy survey, will moderate the relationship between attachment anxiety and the students' cumulative GPA (see Table 10). The results of this test also indicated that this was significant (see Figure 14 below). The simple slope of the high self-efficacy is $t = 1.498$ ($p = .050$) and the simple slope for the low self-efficacy is $t = -1.906$ ($p = .052$).
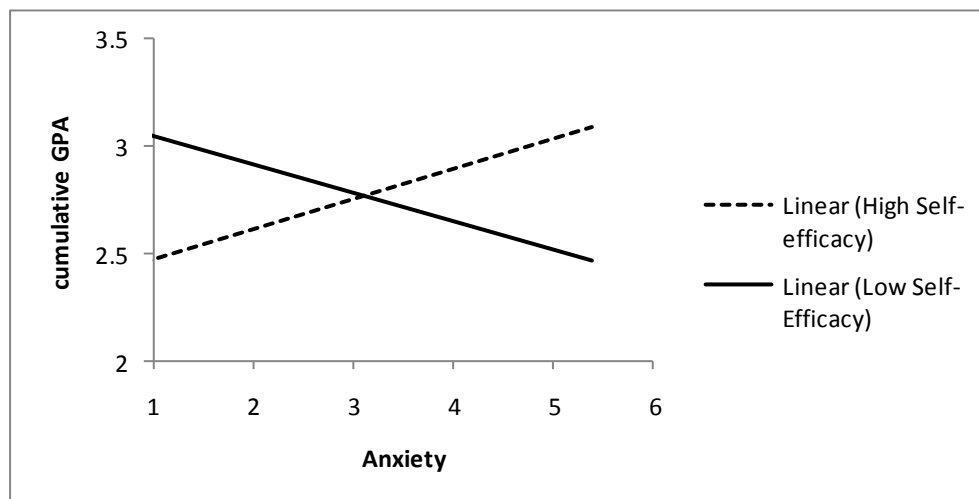
Figure 14. Cumulative GPA as a function of Attachment Anxiety and Self-efficacy

Hypothesis 5d stated that self-efficacy, as measured through the self-efficacy survey, will moderate the relationship between attachment avoidance and students' cumulative GPA (see Table 11). The results of this test were found to be significant (see Figure 15 below). The simple slope of the high self-efficacy is $t = .436$ ($p = .558$) and the simple slope for the low self-efficacy is $t = -4.127$ ($p = .000$).
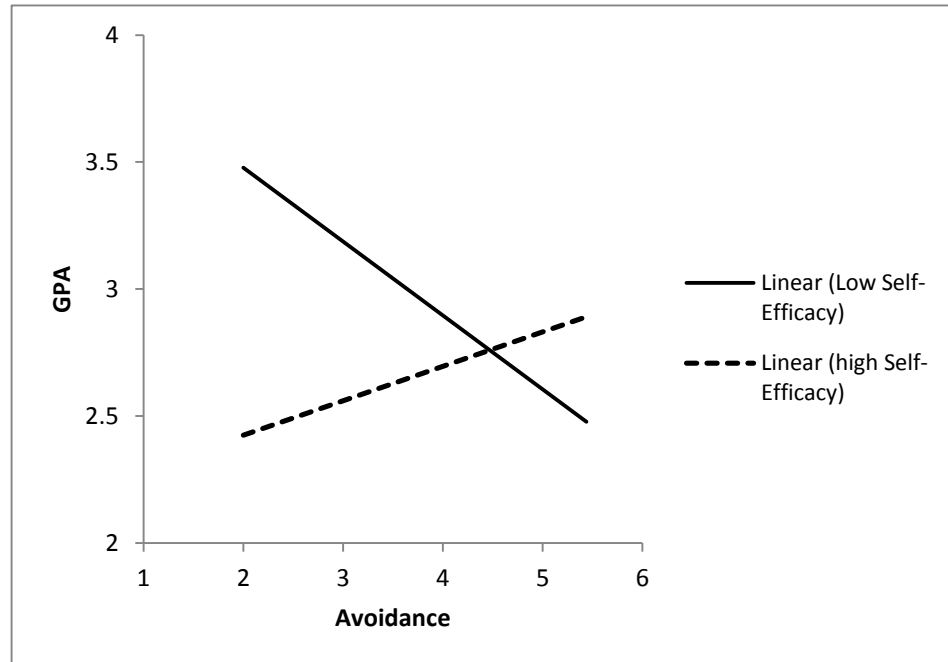
Figure 15. Cumulative GPA as a function of Attachment Avoidance and Self-efficacy

Hypothesis 5f stated that procrastination, as measured through the procrastination survey, will moderate the relationship between attachment anxiety and the students' cumulative GPA (see Table 12). The results of this test were found to be significant (see Figure 16 below). The simple slope of the high procrastination is $t = -3.159$ ($p = .002$) and the simple slope for the low self-efficacy is $t = 3.109$ ($p = .014$).
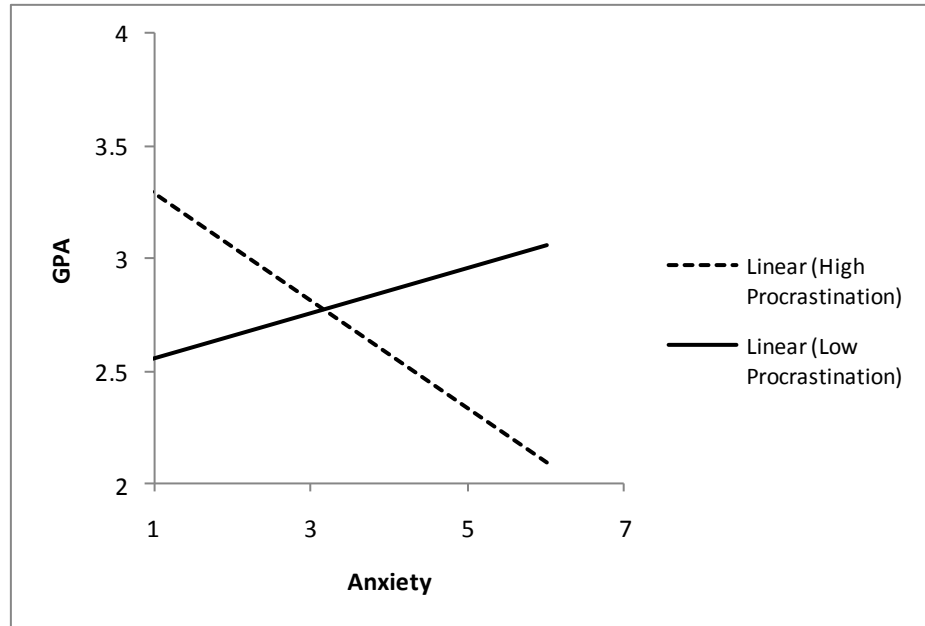
Figure 16. Cumulative GPA as a function of Attachment Anxiety and Procrastination

Hypothesis 5h stated that procrastination, as measured through the procrastination survey, will moderate the relationship between attachment avoidance and the students' cumulative GPA (see Table 13). The results of this test were significant (see Figure 17). The simple slope of the high procrastination is $t = -3.767$ ($p = .000$) and the simple slope for the low self-efficacy is $t = -2.419$ ($p = .017$).
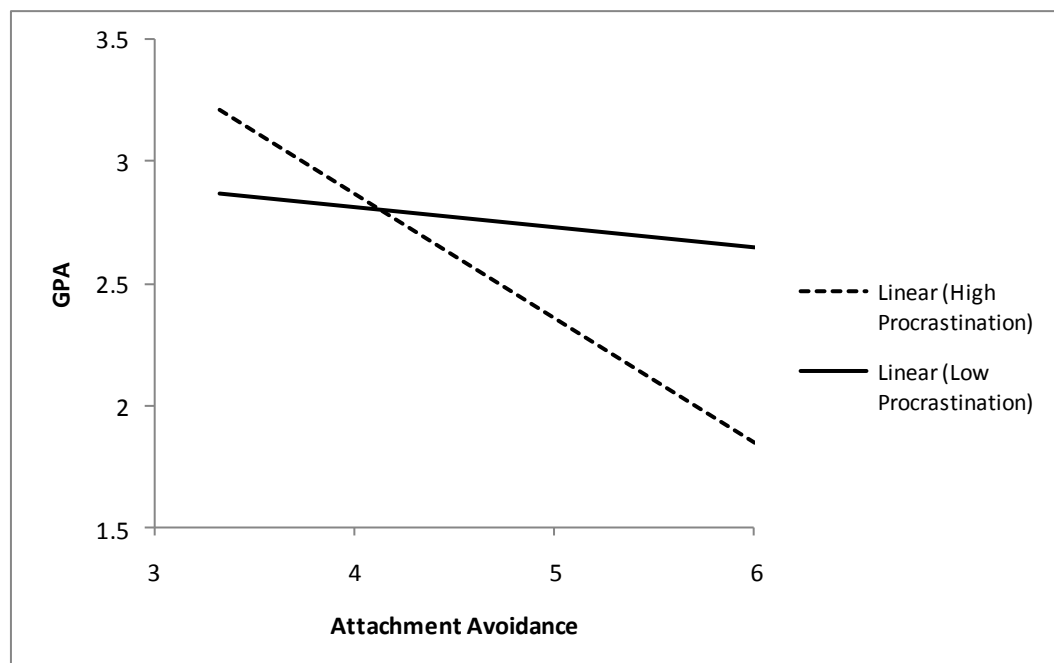
Figure 17. Cumulative GPA as a function of Attachment Avoidance and Procrastination

Hypothesis 5c stated that self-efficacy, as measured through the self-efficacy survey, will moderate the relationship between attachment avoidance and the students' final grades in their class. The results of this test were found not to be significant. Hypothesis 5e stated that procrastination, as measured through the procrastination survey, will moderate the relationship between attachment anxiety and the students' final grade in their class. The results of this test were found not to be significant. Hypothesis 5g stated that procrastination, as measured through the procrastination survey, will moderate the relationship between attachment avoidance and the students' final grade in their class. The results of this test were found not to be significant.

Hypothesis 6 stated that procrastination and/or self-efficacy serves as a mediating factor within the relationship between attachment and academic success. In testing for mediation, the operationalized variable for procrastination (R-point completion time) and self-efficacy (choice of extra credit assignment) were used. According to Baron and

Kenny (1986), testing for mediation is a four-step process. First, regression analysis was used to examine the effects of the independent variable (attachment measures of anxiety and avoidance) on the dependent variable (academic success as measured by final grade and cumulative GPA. For step two, regression analysis was performed using the attachment measure as the independent variable and the hypothesized mediator (procrastination / self-efficacy) as the dependent variable. Third, regression analysis was conducted using the hypothesized mediator as the independent variable and academic success as the dependent variable. At each of the first three steps of the analysis, there must be a significant finding in order to continue with the mediation analysis. If any of the findings are not significant, then one cannot find mediation. The final step involves running a regression analysis using both the attachment measurement and the moderator as independent variables and academic success as the independent variable. Once run, a comparison is made to see if the coefficient form step for is less than the coefficient from step one. If the coefficient for step two is 0, then mediation is confirmed. If the coefficient is less than the coefficient established in step one, but greater than zero, then partial mediation has been established. For this study, none of the eight hypotheses involving mediation were supported. Each of the hypotheses was unable to find significance in the first three steps of the process.

Discussion

The current results show that both attachment anxiety and attachment avoidance were related to how successful students were in terms of their final grades. There was a strong relationship between attachment anxiety and both self-efficacy and procrastination. Students who indicated that they had high levels of attachment anxiety

also had high levels of procrastination and low levels of self-efficacy. However, there was no correlation between attachment avoidance and measures of procrastination or self-efficacy. Attachment avoidance was also related to students' overall cumulative GPA.

One of the main purposes of this study was to determine if procrastination and/or self-efficacy moderated the relationship between attachment and academic success. There is a strong indication that both procrastination and self-efficacy do have moderating effects. Specifically, in terms of attachment anxiety, self-efficacy moderated the relationship with final grade and cumulative GPA. For students who are low in self-efficacy, as their attachment anxiety increases, their final grade decreases while for students high in self-efficacy, attachment anxiety has no effect on their final grade. In terms of the results regarding cumulative GPA, similar to the final grade, for students who are low in self-efficacy, their cumulative GPA decreases as their anxiety increases. However, for students high in self-efficacy, while their attachment anxiety increases, so does their GPA.

For students with high levels of self-efficacy, attachment anxiety appears to be of lesser importance overall academic success in college. Perhaps high self-efficacy is able to cancel out any negative effects of high attachment anxiety. It may also be that attachment anxiety has more of an effect on an individual class as compared to an overall GPA as there are so many more factors that affect a student over the course of their enrollment at college as compared to a four month period within one class. There also could be some effect regarding the type of class that the student is enrolled in. Perhaps when it comes to performance in a psychology class, students are more focused with the

content. Taking a psychology class may permit students to look further into themselves as they study a variety of topics that are used to examine how people think behave, and feel. Possibly students high in self-efficacy are able to better explore and maneuver around their own psychological needs and be more successful. This psychology course is not a required course, but instead is an elective chosen by the student. They may have selected the course as they feel more confident in their ability to be successful within the class.

Self-efficacy also was shown to be a moderator of GPA and attachment avoidance. Similar to the results with attachment anxiety, high levels of self-efficacy may have prevented a student's insecure (avoidant) attachment from negatively affecting their GPA. As this has been the case for both individuals with high attachment anxiety and attachment avoidance, perhaps high levels of self-efficacy can actually contradict the effects of attachment insecurity on academic success. As per Schunk and Pajares (2002), self-efficacy is comprised of a variety of components that include one's perception of their own ability and self-assessment. Therefore a high level of self-efficacy may have been created from a positive view of self, a key component of a secure attachment.

Two results also support the hypothesis that procrastination moderates the relationship between attachment and academic success (in terms of overall cumulative GPA). For insecurely attached students (both high in attachment avoidance and for students high in attachment anxiety), high levels of procrastination were strongly related to lower GPA's. It would seem that attachment avoidance has a detrimental effect for students with high levels of procrastination, which lead to lower GPA's. If one is high on attachment avoidance, they may study alone more often and lose the ability to have peer

support and assistance in preparing for exams or completing assignments. If they are also high on procrastination, they might leave too much information to learn for the very last minute. A study group might help them deal with this problem, but these individuals would prefer to do things on their own.

Students high in attachment anxiety may, on the other hand, constantly seek out others with whom to study. If they are also high on procrastination, they may wait to study until they are with others, leaving them more susceptible to having poorer individual study habits and wanting to wait for others to assist them. In contrast, if an avoidant student (characterized by having a negative view of others) felt confused or unclear about a topic or problem and needed help, he/she may be less willing to approach a fellow classmate or professor. That coupled with high procrastination may cause them to delay finding the help they need until it is too late. Similarly, students high in attachment anxiety (characterized by having a negative view of self) may also not feel comfortable approaching a professor or another student as it would be putting themselves out there for scrutiny. They would not want to appear as if they are unsure or confused as it may further support their negative view of self. If the students are also high in procrastination, similar to the avoidant students, they may delay getting the help they need.

In this study, R-point completion was used to operationalize procrastination. According to the results, there was a strong relationship between levels of procrastination and time it took to complete the R-point requirements. This may indicate that R-point requirements are a good indicator of one's tendency to procrastinate. The results also indicated a weak relationship between self-efficacy and choice of extra credit assignment.

While the results were not significant, they did show a trend in which students who scored higher in self-efficacy were also more willing to attempt the more challenging assignment. It is possible that if an individual has high levels of self-efficacy, then that would foster more confidence in one's ability to succeed on a more difficult assignment.

One of the main hypotheses tested whether procrastination or self-efficacy served as a mediator in the relationship between attachment and student academic success. Using the measures of R-point completion for procrastination and the measures of extra credit assignment attempted for self-efficacy, the results did not support these hypotheses. In regards to procrastination, one would assume that R-point completion was a good indicator of procrastination. However, perhaps, there were other intervening factors as well. For example, R–point completion is not necessarily a precise measure. In attempting to complete the required R-points, some of the ability to complete the R-points is within one's control, and some is not. It may be that a student is at the mercy of external factors. If a researcher who is leading a particular project does not schedule his/her session until late in the semester, then a student's R-point completion may in reality have no relation to levels of procrastination. Or it may also be that students with certain qualities (as determined in the prescreening process) are not the right fit for a particular research project being conducted and therefore may not be selected in a timely fashion, again causing a delay in their ability to complete their R-point requirements. It may also be that a project that a student has signed up for will not award R-points until late in the semester (i.e., if a research project requires a student to return later in the semester). Therefore, perhaps a better indicator of procrastination would be to record

when the student signs up for the experiment as compared to when it was actually completed.

An argument could be made that the measurement of self-efficacy, as operationalized by the choice of extra credit assignment, may not be a good measurement. While there seemed to be a trend in the relationship between self-efficacy and extra credit choice, it was not significant. Other factors could be at play. One could argue that if an individual is high in self-efficacy, that perhaps he or she feels very confident with their ability to successfully pass the course. Therefore, they will not feel the need to attempt the extra credit assignment, or, if attempted, may not feel the need to attempt the more difficult assignment.

Overall in looking at the results from Study 4, it is clear that self-efficacy, procrastination, and attachment all play a role in students' academic success. Specifically, procrastination and self-efficacy have been shown to moderate the relationship between attachment and academic success. By finding ways to increase students' self-efficacy and decrease their procrastination tendencies, attachment insecurity may have less of an effect on student success and thus lead to higher levels of academic success.

Table 9 Correlational analysis of major variable (n=161)

Correlations

	Avoidance	Procrast	Self-Efficacy	Final Grade	GPA	Assignment completion	Assignment chosen	R point completion
Anxiety	-.301**	.202*	-.195*	-.161*	-.111	-.004	.021	.096
Avoidance		.117	-.098	-.157*	-.252**	.079	-.190	.101
Procrast			-.160*	-.111	-.190*	.002	-.166	.192*
Self-Efficacy				.209**	.255**	-.016	.283	-.154
Final Grade					.032	-.339**	.062	-.315**
GPA						-.059	.208	-.107
Assignment completion							.164	.086
Assignment chosen								-.167

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

Table 10 Hierarchal multiple regression analysis of attachment anxiety and self-efficacy on final grade.

	b	SE	β	sig
1. Anxiety	-1.300	.820	-.125	.115
Self-Efficacy	2.775	1.180	.185	.020
2. Anxiety	-.940	.833	-.090	.261
Self-Efficacy	1.986	1.239	.132	.111
Anxiety x Self-Efficacy	1.789	.922	.163	.054

NOTE: R^2 change from .059 to .081

Table 11 Hierarchal multiple regression analysis of attachment anxiety and self-efficacy on cumulative GPA.

	b	SE	β	sig
1. Anxiety	-.055	.068	-.063	.420
Self-Efficacy	.303	.098	.242	.002
2. Anxiety	.000	.067	.000	.998
Self-Efficacy	.182	.100	.146	.070
Anxiety x Self-Efficacy	.274	.074	.300	.000

NOTE: R^2 change from .069 to .143

Table 12 Hierarchal multiple regression analysis of attachment avoidance and self-efficacy on cumulative GPA.

	b	SE	β	sig
1. Avoidance	-.373	.123	-.229	.003
Self-Efficacy	.291	.094	.232	.002
2. Avoidance	-.290	.123	-.178	.020
Self-Efficacy	.186	.099	.148	.063
Avoidance x Self-Efficacy	.339	.119	.231	.005

NOTE: R^2 change from .117 to .160

Table 13 Hierarchal multiple regression analysis of attachment anxiety and procrastination on cumulative GPA.

	b	SE	β	sig
1. Anxiety	-.065	.069	-.075	.345
Procrastination	-.200	.091	-.175	.029
2. Anxiety	.630	.229	.725	.007
Procrastination	-.159	.089	-.139	.076
Anxiety x Procrastination	-.237	.075	-.843	.002

NOTE: R^2 change from .042 to .099

Table 14 Hierarchal multiple regression analysis of attachment avoidance and procrastination on cumulative GPA.

	b	SE	β	sig
1. Attachment Avoidance	-.379	.125	-.233	.003
Procrastination	-.187	.087	-.163	.034
2. Avoidance	.191	.332	.117	.567
Procrastination	-.182	.087	-.159	.038
Avoidance x Procrastination	-.191	.103	-.377	.066

NOTES: R^2 change from .090 to .109

GENERAL DISCUSSION

In 1990, Hazan and Shaver (1990) conducted a study looking at the influence of attachment on employees. Results from their study showed that securely attached individuals were more successful within their work environment. Specifically, it was shown that secure individuals enjoyed their work and were less fearful of failure. They did not allow work to interfere with relationships nor did they use work to avoid social interactions. They had a greater overall well-being and were less likely to be sick or experience depression, loneliness, or anxiety. However, insecure anxious individuals had a greater fear of failure, allowed relationships to interfere with work, and earned lower salaries as compared to non-anxious individuals. Avoidant individuals used work activities to avoid social interactions. While their salaries were at similar levels as secure individuals, they had lower job satisfaction and were the least likely of the three styles to enjoy vacations. Overall, the findings of this study indicated that secure individuals (low in attachment anxiety and attachment avoidance) were more successful (economically, socially, psychologically) within their jobs as compared to anxious and avoidant colleagues. For the average 18-25 year old, college is very similar to having a job (see Figure 18 below). Therefore, one could draw a parallel between attachment and success within the work environment for adults and attachment and college success for college aged students. If attachment can have an effect on adults' successful experiences within their jobs, then attachment would also influence college students' success.

	Adulthood job	College student
Expected hours per week	40	45
Location	Away from home, within an office	Away from home, on a college campus
Colleagues	Coworkers, usually strangers thrown together	Fellow students, usually stranger thrown together
Possible psychological challenges	Depression, anxiety, loneliness, stress, fear of failure	Depression, anxiety, loneliness, stress, fear of failure
Deadlines	Projects and reports	Papers, exams, presentations
Rewards	Salary raises, promotions	Grades, honors, future career / graduate school

Figure 18. Comparison of work and college

All four studies of this dissertation have supported the notion that attachment can have an effect on college student success. Study 1 examined the influence of attachment on college student success during the transition to college. In doing so, it was found that attachment was related to academic achievement, psychological well-being, and ethical thinking during the transition to college. Study 2 further examined the relationship between attachment and ethics as it built upon the results of Study 1 on the relationship between attachment and ethical behavior at college. It was found that not only was attachment related to ethical cognition, but to ethical behavior as well. Study 3 continued to follow students over their four years of college further examining academic related measures including GPA, credits earned, retention, and graduation information. Study 3 showed a close relationship between attachment and academic success as secure students had higher GPAs, were retained better, and graduated sooner as compared to insecure students. Study 4 took a closer look at attachment within a classroom setting by examining the roles of procrastination and self-efficacy within the relationship of attachment and academic success. It was found that self-efficacy and procrastination

served as moderators of this relationship. The real questions for discussion are regarding why are these findings interesting, what do they mean, and where do we go from here.

Many of these "successes" can be attributed to very nature of secure individuals. Individuals with more secure attachment styles, as characterized by lower attachment avoidance and lower attachment anxiety, are better prepared for the challenges that lie ahead of them and more specifically as they transition to and proceed through college. Research has shown, as compared to insecure individuals, secure individuals have higher self-esteem (Brennan & Morns, 1997), self-efficacy (Davidovitz, et al., 2007), and self-confidence (Mattanah, Hancock, & Brand, 2004). In addition, secure individuals have higher motivation (Linnenbrink & Pintrich, 2002), have higher emotional intelligence (Parker, Summerfeldt, Hogan, & Majeski, 2004), are more willing to explore (Aspelmeier & Kerns, 2003), are more persistent (Larose, Bernier, & Tarabulsy, 2005), are less prone to procrastinate (Mikulincer & Shaver, 2007), and have high levels of academic (Fass & Tubman, 2002) and social competency (Bernier, Larose, Boivon, & Soucy, 2004). All of these traits help explain why secure individuals have shown to be better prepared for the psychological, social, ethical, and academic challenges and rigors that they will encounter within a university setting.

Individuals who had not been able to form or maintain secure attachment bonds face a more difficult transition to and through college. Insecure anxious individuals are characterized as having higher levels of attachment anxiety and a less positive view of themselves. During the transition to and through college they may often find themselves having issues with adjusting to new social interactions, more challenging academic demands, and psychological challenges. As these students transition, they will find

themselves having to leave their old support system behind (friends and family) and find new ones. From a social/relationship standpoint, they may spend a great deal of their time focused on trying to develop these relationships to the point of interfering with other demands. Insecure anxious individuals will attempt to find constant approval and may become overly involved with social organizations, student groups, parties, etc. in an attempt to fulfill their emotional needs of attachment (Bernier, Larose, & Boivin, 1998). Students who are insecure avoidant are characterized as having high attachment avoidance and a negative view of others. In transitioning to and through college these students may be apprehensive about forming new relationships and most likely not seek out new relationships. They will be less likely to get involved with others and would more likely rely on themselves. Socially, they will not be involved with student organizations, study groups, and student activities and therefore will not create social bonds to assist with the challenges involved with being a college student (Bernier, Larose, & Boivin, 1998).

According to research on student academic success, students who get involved on campus (student groups, athletics, etc.) tend to do better academically (Farber, 2012); however, one's attachment style may dispute that finding. For example, regarding academic challenges, secure students generally have better learning dispositions and are more persistent as compared to insecure students. In addition, they do not allow relationships to interfere with academic coursework. On the contrary, insecure anxious students often allow social relationships to interfere with academic pursuits. They may prefer to be more socially active than academically focused, leaving them with poor study habits. This coupled with their general lack of academic competency could lead to a

poorer academic performance. In addition, from an academic perspective, insecure avoidant students will be less effective with group projects, will more often study alone than within groups, and will be less likely to approach a professor for help. These could all have extremely detrimental effects on their academic success.

When it comes to psychological challenges, secure individuals generally feel more positively about themselves and others and have shown to have greater academic (Aspelmeier & Kerns, 2003) and social competence (Larose & Bernier, 2001). They will be able to better explore their environment, more readily adjust to new social relationships, and feel more comfortable approaching staff and faculty for assistance and support. In addition, with greater ego-resistance, higher levels of persistence, and healthy peer and parental support, secure students are able to better handle the psychological challenges of college (loneliness, depression, anxiety, drug and alcohol abuse, etc.). Conversely, insecure anxious individuals may be more prone to psychological stressors including anxiety and depression. They may be more anxious about their place within the college community, how they fit in with friends, and how well they will be able to achieve. Insecure anxious students may also deal more frequently with bouts of depression if they are unable develop positive social relationships. They may even turn to drinking and drug use in an attempt to better fit in with and receive the approval of their peers. Similarly, without forming positive social relationship, avoidant students may also struggle as they may spend more time alone which may result in increased loneliness and depression. They may turn to alcohol and drugs to fulfill their lack of relationship needs.

According to data from study four, it may be that other psychological variables have the ability to counter attachment deficiencies. While this has been shown with self-efficacy as it relates to academic success, perhaps self-efficacy or other similar variables (e.g., self-esteem, self-confidence) can be better utilized to counteract the negative effects of insecure attachment. While one can work on ways to move individuals towards attachment security, it would also be crucial to move individuals towards higher self-efficacy and lower procrastination.

From an ethical perspective, ethical thinking and behavior come from the very nature of human civilization. Secure individuals tend to think positively of themselves and others and therefore, will less often engage in unethical behavior at college. With positive self-esteem, high academic competency, and high self-efficacy, secure students do not feel the need to cheat. They are already high achievers and care about the merit of higher education and the value of succeeding based on one's ability. Insecure anxious individuals may be more willing to break rules (legal, social, moral) if it will allow them to fulfill their attachment needs. If one is seeking others' approval and they feel that they could receive some sort of positive reassurance, they may very well be willing to allow someone to copy their paper or cheat off of them. The insecure anxious students may also be more willing to cheat if in doing so they are able to achieve higher grades and perhaps receive more approval from their attachment figure. From an ethical point of view, the essence of honesty and academic integrity within a university is based upon the view of one's institution and the merit of higher education. Avoidant students may not worry or care as much about the fairness to other students and thus would be more

willing to engage in unethical decision making if the result could benefit them (Albert & Horowitz, 2010).

While individuals, cultures, and societies may differ as to what may be considered ethical or unethical, it is clear that one's mental models of self and others affect their moral development and ethical reasoning. Depending upon one's attachment style, individuals develop specific mental models that affect their ethical reasoning as to what is "right" or "wrong". Even though all people have the capacity of achieving higher levels of moral development, individuals rely upon relationships between self and others to help develop greater levels of moral reasoning (Parikh, 1980). Individuals develop schemas as to how they see themselves and others in the world and how their actions will be perceived. Research has shown that individuals, who are more insecurely attached, tend to engage in more unethical behaviors as displayed through an assortment of unethical behaviors including moral reasoning, business practices, academic dishonesty, and infidelity. So strong is the relationship between attachment theory and ethical reasoning that according to Watson, Battistich, and Soloman (2000), various communities use attachment theory to build a school community that is nurturing and sensitive to students in order to develop highly ethical students. Therefore, it is critical to develop and foster secure attachments to assure proper moral development and ethical reasoning.

Much of the research on college student academic success shows that academic success is related to a wide variety of psychological variables including self-regulation, motivation, persistence, and self-efficacy as well as specific behavioral variables including time management, goal setting, help seeking, and peer role models/mentorship (Kitsantas, Winsler, & Huie, 2008). While attachment theory has not been listed above,

research has shown it to be related a variety of those psychological variables. Therefore, if an individual was of a secure attachment styles, they would more likely excel in a number of those factors. While a college could assist students directly through helping them develop time management and goal setting skills along with providing peer mentorship, many of the psychological variables cannot be easily addresses. However, if researchers could develop a model for increasing attachment security, then all of these variables could also subsequently improve as well. Therefore, while attachment theory may not be a variable quickly considered, it could very well be one of the most important factors in developing student academic success.

Increasing attachment security by moving towards lower levels of attachment avoidance and attachment anxiety is a critical component to increasing academic success. However, the question is as to which aspect of attachment security is most critical: attachment avoidance or attachment anxiety. While both are related and often detrimental, it is believed that attachment anxiety may be the more important of the factors. Most of the psychological variables that affect academic success are based upon the self (e.g. self-efficacy, motivation, persistence, self-esteem). Therefore, having a positive view of oneself (low attachment anxiety) would be a stronger factor of success. Certainly individuals with negative view of self (high attachment anxiety) can be academically successful; however, they will have greater struggles to be so. In fact very often their attachment needs may cloud their ability to focus on academic tasks and assignments causing them to doubt their own abilities, have a high fear of failure, and be less persistent, and less motivated that those who are low in attachment anxiety. Therefore, if programs could be developed to focus on lowering either attachment anxiety

of attachment avoidance, it would be more beneficial to develop initiatives to lower attachment anxiety and increase one's view of self.

Future directions

Future research may want to further examine these relationships between attachment and academic, psychological, and ethical success. Research can attempt to use real data collected from a university as opposed to basic surveys that are self-reported. In reviewing the complexity of attachment theory as it relates to so many different factors, it would be important to expand upon several of these studies to develop deeper knowledge in this area. For instance, one could recreate Study 3 while also taking various psychological measurements through the longitudinal experiment. This would give the researcher a better understanding of the items that influence college students throughout the college experience. In addition, one could also hold an interview with each student multiple times through the year to assess other aspects of their life. Questions about life at home, friends and relationships, and social involvement would also be able to be assessed. Another experiment could further explore the attachment within the classroom research to encompass more psychological variables such as self-confidence, social-efficacy, and locus of control. It may be possible to identify early on, and create an intervention for, those students who may display attachment or psychological needs that may negatively affect their academic achievement. In addition, it would be interesting to see if results are similar across other courses and semesters.

The real challenge will be how to best utilize these findings to help students be more successful. In reflecting on the research involved within the classroom, it may be that one could devise some basic interventions for students to increase their self-efficacy

and decrease procrastination within the classroom. Perhaps classes can be constructed such that educators use cooperative learning strategies (e.g. small group work), which are proven to increase self-efficacy (Margolis & McCabe, 2006) which then in turn may be able to increase academic success. Another possibility that could be implemented separately or simultaneously would be to have instructors require students to meet multiple deadlines on extensive projects throughout the semester. For instance, for a final paper, the instructor could insist that students turn in parts of the paper periodically throughout the semester as they learn and construct the knowledge needed for the paper throughout the semester. This would force the students to not procrastinate and leave the paper to the end of the semester. According to the research, if one could decrease procrastination, then academic achievement would increase.

While interventions within the classroom could be successful, it is equally important (if not more so) to look at possible attachment interventions on a macro-level. A common belief in education states that class size is a factor in determining student academic success. The argument is that the advantage of creating a smaller class size will better create a relationship between the student and the professor, but perhaps the real need is to foster a bond between the student and the culture of the school, through advising, activities, etc. If a student is able to find one or two attachment figures (professor or staff member) who he/she can form a bond with in which his/her attachment needs (feel good about self and others) could be met, then the student would be more "secure" in their academic journey. As research suggests, higher levels of attachment security lead to higher academic achievement, thus increasing retention and graduation rates. While attachment theory should not be thought of as the resolution to the

complexity of developing a successful student, it is certainly a factor that should be

explored further in higher education.

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APPENDIX A

The Experiences in Close Relationships-Revised (ECR-R) Questionnaire

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item-response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, *78*, 350-365.

Scoring Information: The first 18 items listed below comprise the attachment-related anxiety scale. Items 19 – 36 comprise the attachment-related avoidance scale. In real research, the order in which these items are presented should be randomized. Each item is rated on a 7-point scale where 1 = strongly disagree and 7 = strongly agree. To obtain a score for attachment-related *anxiety*, please average a person's responses to items 1 – 18. However, because items 9 and 11 are "reverse keyed" (i.e., high numbers represent low anxiety rather than high anxiety), you'll need to reverse the answers to those questions before averaging the responses. (If someone answers with a "6" to item 9, you'll need to re-key it as a 2 before averaging.) To obtain a score for attachment-related *avoidance*, please average a person's responses to items 19 – 36. Items 20, 22, 26, 27, 28, 29, 30, 31, 33, 34, 35, and 36 will need to be reverse keyed before you compute this average.

Generic Instructions: The statements below concern how you feel in emotionally intimate relationships. We are interested in how you *generally* experience relationships, not just in what is happening in a current relationship. Respond to each statement by [web: clicking a circle] [paper: circling a number] to indicate how much you agree or disagree with the statement

Special notes: You may wish to randomize the order of the items when presenting them to research participants. The ordering below is simply a convenient one for illustrating which items belong to which scale. Also, some people have modified the items to refer to "others" rather than "romantic partners." This seems sensible to us, and in our own research we commonly alter the wording to refer to different individuals. For example, sometimes we reword the items to refer to "others" or "this person" and alter the instructions to say something like "The statements below concern how you generally feel in your relationship with your mother" or "The statements below concern how you generally feel in your relationship with your romantic partner (i.e., a girlfriend, boyfriend, or spouse)."

1. I'm afraid that I will lose my partner's love.
2. I often worry that my partner will not want to stay with me.
3. I often worry that my partner doesn't really love me.
4. I worry that romantic partners won't care about me as much as I care about them.
5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.

6. I worry a lot about my relationships.

7. When my partner is out of sight, I worry that he or she might become interested in someone else.

8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.

9. I rarely worry about my partner leaving me.

10. My romantic partner makes me doubt myself.

11. I do not often worry about being abandoned.

12. I find that my partner(s) don't want to get as close as I would like.

13. Sometimes romantic partners change their feelings about me for no apparent reason.

14. My desire to be very close sometimes scares people away.

15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.

16. It makes me mad that I don't get the affection and support I need from my partner.

17. I worry that I won't measure up to other people.

18. My partner only seems to notice me when I'm angry.

19. I prefer not to show a partner how I feel deep down.

20. I feel comfortable sharing my private thoughts and feelings with my partner.

21. I find it difficult to allow myself to depend on romantic partners.

22. I am very comfortable being close to romantic partners.

23. I don't feel comfortable opening up to romantic partners.

24. I prefer not to be too close to romantic partners.

25. I get uncomfortable when a romantic partner wants to be very close.

26. I find it relatively easy to get close to my partner.

27. It's not difficult for me to get close to my partner.

28. I usually discuss my problems and concerns with my partner.

29. It helps to turn to my romantic partner in times of need.

30. I tell my partner just about everything.

31. I talk things over with my partner.

32. I am nervous when partners get too close to me.

33. I feel comfortable depending on romantic partners.

34. I find it easy to depend on romantic partners.

35. It's easy for me to be affectionate with my partner.

36. My partner really understands me and my needs.

APPENDIX B

Four Paragraph Attachment survey:

The following are four general relationship styles that people often report. Please read each one and rate the extent to which you think it corresponds to your dating partner.

Please use the following scale and place a number from 1 to 7 in the space next to each description.

1	2	3	4	5	6	7

Not at all   Somewhat   Very much
like him/her   like him/her   like him/her

_____ It is easy for him/her to become emotionally close to me. He/she is comfortable depending on me and having me depend on him/her. He/she doesn't worry about being alone or having me not accept him/her.

_____ He/she is not comfortable getting close to me. He/she wants emotionally close relationships, but he/she finds it difficult to trust me completely or to depend on me. He/she worries about being hurt if he/she becomes too close to me.

_____ He/she wants to be completely emotionally intimate with me, but he/she often finds that I am reluctant to get as close as he/she would like. He/she is uncomfortable being without close relationships, but he/she sometimes worries that I don't value him/her as much as he/she values me.

_____ He/she is comfortable without close emotional relationships. It is very important for him/her to feel independent and self-sufficient, and he/she prefers not to depend on me or have me depend on him/her.

APPENDIX C

Student Life and Student Activities Survey:

If you had a chance, how interested would you be in doing the following:

1	2	3	4	5
No Interest		Moderate Interest		Very Interested

_____   1.   Engage in social / political debates with friends.
_____   2.   Visit a distant state
_____   3.   Become more involved with own religion.
_____   4.   Pursue friendships with someone of a different background than your own.
_____   5.   Consider enrolling in a research / honors / independent study.
_____   6.   Use hard drugs (i.e. heroine, cocaine)
_____   7.   Consider joining political organizations.
_____   8.   Try novel sex activities with new partner.
_____   9.   Drink to get drunk.
_____   10.   Date someone parents do not like.
_____   11.   Approach a professor for help.
_____   12.   Read books not required for your courses.
_____   13.   Visit a different shopping center / mall.
_____   14.   Eat at a different restaurant.
_____   15.   Consider an appearance alteration (i.e. hair, style of clothing)
_____   16.   Gather information about career options for yourself.
_____   17.   Consider joining college, major, and career organizations.
_____   18.   Participate in a church activity.
_____   19.   Follow political events in news.
_____   20.   Pursue a sexual orientation (i.e. homosexual, heterosexual, bisexual) other than yours.
_____   21.   Attend parties where you don't know many people.
_____   22.   Visit a foreign country.
_____   23.   Drink alcohol because you like the taste.
_____   24.   Read news magazines / newspapers
_____   25.   Use light drugs (i.e. marijuana)
_____   26.   Discuss personal problems with professor.
_____   27.   Meditate / pray
_____   28.   Dating relationship with someone of a different background than your own.
_____   29.   Learn about other religions than your own.
_____   30.   Plan marriage with current dating partner.
_____   31.   Play computer games.
_____   32.   Watch erotic movie / read erotic material.
_____   33.   Shoplift
_____   34.   Browse internet / send e-mail

_____	35.	Consider joining social organizations.
_____	36.	Rent a video / see a movie.
_____	37.	Visit a local state (i.e. NYC).
_____	38.	Consider getting a tattoo or body piercing.
_____	39.	Try a novel sex activity with current partner, if any.
_____	40.	Attend an art exhibit / museum / play.
_____	41.	Masturbate.
_____	42.	Consider joining a sorority or fraternity.
_____	43.	Plan parenthood with current dating partner (if not already a parent).
_____	44.	Engage in artistic activity.

APPENDIX D

Beck's Anxiety Inventory:

Below is a list of common symptoms. Please read each item in the list. Indicate how much you have been bothered by that symptom during the past week, including today, by circling the number in the corresponding space in the column next to each symptom.

	Not at All	Mildly, but it didn't bother me much	Moderately - it wasn't pleasant at times	Severely – it bothered me a lot
Numbness or tingling	0	1	2	3
Feeling hot	0	1	2	3
Wobbliness in the legs	0	1	2	3
Unable to relax	0	1	2	3
Fear of worst happening	0	1	2	3
Dizzy or lightheaded	0	1	2	3
Heart pounding / racing	0	1	2	3
Unsteady	0	1	2	3
Terrified or afraid	0	1	2	3
Nervous	0	1	2	3
Feeling of choking	0	1	2	3
Hands trembling	0	1	2	3
Shaky / unsteady	0	1	2	3
Fear of losing control	0	1	2	3
Difficulty in breathing	0	1	2	3
Fear of dying	0	1	2	3
Scared	0	1	2	3
Indigestion	0	1	2	3
Faint / lightheaded	0	1	2	3
Face flushed	0	1	2	3
Hot / cold sweats	0	1	2	3

APPENDIX E

Beck's Depression Inventory:

Choose one statement from among the group of four statements in each question that **best** describes how you have been feeling during the **_past week._** Circle the number beside your choice.

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

2. 0 I am no particularly discouraged about the future.
    1 I feel discouraged about the future.
    2 I feel I have nothing to look forward to.
    3 I feel that the future is hopeless and that things cannot improve.

3. 0 I do not feel like a failure.
    1 I feel I have failed more than the average person.
    2 As I look back on my life, all I can see is a lot of failure.
    3 I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to.
    1 I don't enjoy things the way I used to.
    2 I don't get any real satisfaction out of anything anymore.
    3 I am dissatisfied or bored with everything.

5. 0 I don't feel particularly guilty.
    1 I feel guilty a good part of the time.
    2 I feel quite guilty most of the time.
    3 I feel guilty all of the time.

6. 0 I don't feel I am being punished.
    1 I feel I may be punished.
    2 I expect to be punished.
    3 I feel I am being punished.
7. 0 I don't feel disappointed in myself.
    1 I am disappointed in myself.
    2 I am disgusted with myself.
    3 I hate myself.

8. 0 I don't feel I am any worse than anybody else.
    1 I am critical of myself for my weaknesses or mistakes.
    2 I blame myself all the time for my faults.

3   I blame myself for everything bad that happens.

9. 0   I don't cry any more than usual.
    1   I cry more now than I used to.
    2   I cry all the time now.
    3   I used to be able to cry, but now I can't cry even though I want to.

10. 0   I am no more irritated by things than I ever am.
    1   I am slightly more irritated now than usual.
    2   I am quite annoyed or irritated a good deal of the time.
    3   I feel irritated all the time now.

11. 0   I have not lost interest in other people.
    1   I am less interested in other people than I used to be.
    2   I have lost most of my interest in other people.
    3   I have lost all of my interest in other people.

12. 0   I make decisions about as well as I ever could.
    1   I put off making decisions more than I used to.
    2   I have greater difficulty in making decisions than before.
    3   I can't make decisions at all anymore.

13. 0   I don't feel that I look any worse than I used to.
    1   I am worried that I am looking old or unattractive.
    2   I feel that there are permanent changes in my appearance that make me look
    unattractive.
    3   I believe that I look ugly.

14. 0   I can work about as well as before.
    1   It takes an extra effort to get started at doing something.
    2   I have to push myself very hard to do anything.
    3   I can't do any work at all.

15. 0   I can sleep as well as usual.
    1   I don't sleep as well as I used to.
    2   I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
    3   I wake up several hours earlier than I used to and cannot get back to sleep.

16. 0   I don't get more tired than usual.
    1   I get tired more easily than I used to.
    2   I get tired from doing almost anything.
    3   I am too tired to do anything.

17. 0   My appetite is no worse than usual.
    1   My appetite is not as good as it used to be.
    2   My appetite is much worse now.

3 I have no appetite at all anymore.

18. 0 I haven't lost much weight, if any, lately.
    1 I have lost more than five pounds.
    2 I have lost more than ten pounds.
    3 I have lost more than fifteen pounds.
    (Score 0 if you have been purposely trying to lose weight.)

19. 0 I am no more worried about my health than usually.
    1 I am worried about physical problems such as aches and pains, or upset stomach, or constipation.
    2 I am very worried about physical problems, and it's hard to think of much else.
    3 I am so worried about my physical problems that I cannot think about anything else.

20 0 I have not noticed any recent change in my interest in sex.
    1 I am less interested in sex now.
    2 I am much less interested in sex now.
    3 I have lost interest in sex completely.

APPENDIX F

Rosenberg Self-esteem Scale:

After each statement, please circle the number of the response that best describes how you feel.

1. I feel that I'm a person of worth, at least on an equal plane with others.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

2. I feel that I have a number of good qualities.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

3. All in all, I am inclined to feel that I am failure.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

4. I am able to do things as well as most other people.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

5. I feel I do not have much to be proud of.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

6. I take a positive attitude toward myself.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

7. On the whole, I am satisfied with myself.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

8. I wish I could have more respect for myself.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

9. I certainly feel useful at times.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

10. At times I think I am no good at all.

Strongly Agree	Agree	Disagree	Strongly Disagree

1	2	3	4

APPENDIX G:

Academic Locus of Control questionnaire

Please circle the number in the corresponding space in the column indicating to what degree the statement is reflective of you.

		Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree
1	College grades most often reflect the effort you put into classes.	1	2	3	4	5
2	I came to college because it was expected of me.	1	2	3	4	5
3	I have largely determined my own career goals.	1	2	3	4	5
4	Some people have a knack for writing, while others will never write well no matter how hard they try.	1	2	3	4	5
5	I have taken a course because it was an easy good grade at least once.	1	2	3	4	5
6	Professors sometimes make an early impression of you and then no matter what you do, you cannot change that.	1	2	3	4	5
7	There are some subjects in which I could never do well.	1	2	3	4	5
8	Some students, such as student leaders and athletes get free rides in college classes.	1	2	3	4	5
9	I sometimes feel that there is nothing I can do to improve my situation.	1	2	3	4	5
10	I never feel really hopeless – there is always something I can do to improve my situation.	1	2	3	4	5
11	I would never allow social activities to affect my studies.	1	2	3	4	5
12	There are many more important things for me than getting good grades.	1	2	3	4	5
13	Studying every day is important.	1	2	3	4	5
14	For some classes it is not important to go to class.	1	2	3	4	5
15	I consider myself highly motivated to achieve success in life.	1	2	3	4	5
16	I am a good writer.	1	2	3	4	5
17	Doing work on time is always important to me.	1	2	3	4	5
18	What I learn is more determined by college and course requirements than by what I want to learn.	1	2	3	4	5
19	I have been known to spend a lot of time making decisions	1	2	3	4	5

	which others do not take seriously.					
20	I am easily distracted.	1	2	3	4	5
21	I can be easily talked out of studying.	1	2	3	4	5
22	I get depressed sometimes and then there is no way I can accomplish what I know I should be doing.	1	2	3	4	5
23	Things will probably go wrong for me some time in the near future.	1	2	3	4	5
24	I keep changing my mind about my career goals.	1	2	3	4	5
25	I feel I will someday make a real contribution to the world if I work hard at it.	1	2	3	4	5
26	There has been at least one instance in school where social activity impaired my academic performance.	1	2	3	4	5
27	I would like to graduate from college, but there are more important things in my life.	1	2	3	4	5
28	I plan well and I stick to my plans.	1	2	3	4	5

APPENDIX H

Procrastination Assessment Scale for Students (PASS)

Areas of Procrastination

For each of the following activities, please rate the degree to which you delay or procrastinate. Rate each item on an "a" to "e" scale according to how often you wait until the last minute to do the activity. Then indicate on an "a" to "e" scale the degree to which you feel procrastination on that task is a problem. Finally, indicate on an "a" to "e" scale the degree to which you would like to decrease your tendency to procrastinate on each task.

I. WRITING A TERM PAPER

1. To what degree do you procrastinate on this task?

Never Procrastinate	Almost Never	Sometimes	Nearly Always	Always Procrastinate
a	b	c	d	e

2. To what degree is procrastination on this task a problem for you?

Not At All a Problem	Almost Never	Sometimes	Nearly Always	Always a Problem
a	b	c	d	e

3. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want to Decrease		Somewhat		Definitely Want to Decrease
a	b	c	d	e

II. STUDYING FOR EXAMS

4. To what degree do you procrastinate on this task?

Never Procrastinate	Almost Never	Sometimes	Nearly Always	Always Procrastinate
a	b	c	d	e

5. To what degree is procrastination on this task a problem for you?

Not At All a Problem	Almost Never	Sometimes	Nearly Always	Always a Problem
a	b	c	d	e

6. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want to Decrease		Somewhat		Definitely Want to Decrease
a	b	c	d	e

III. KEEPING UP WITH WEEKLY READING ASSIGNMENTS

7. To what degree do you procrastinate on this task?

Never Procrastinate	Almost Never	Sometimes	Nearly Always	Always Procrastinate
a	b	c	d	e

8. To what degree is procrastination on this task a problem for you?

Not At All a Problem	Almost Never	Sometimes	Nearly Always	Always a Problem
a	b	c	d	e

9. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want to Decrease		Somewhat		Definitely Want to Decrease
a	b	c	d	e

IV. ACADEMIC ADMINISTRATIVE TASKS: FILLING OUT FORMS, REGISTERING FOR CLASSES, GETTING ID CARD

10. To what degree do you procrastinate on this task?

Never Procrastinate	Almost Never	Sometimes	Nearly Always	Always Procrastinate
a	b	c	d	e

11. To what degree is procrastination on this task a problem for you?

Not At All a Problem	Almost Never	Sometimes	Nearly Always	Always a Problem
a	b	c	d	e

12. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want to Decrease		Somewhat		Definitely Want to Decrease
a	b	c	d	e

V. ATTENDANCE TASKS: MEETING WITH YOUR ADVISOR, MAKING AN APPOINTMENT WITH A PROFESSOR

13. To what degree do you procrastinate on this task?

Never Procrastinate	Almost Never	Sometimes	Nearly Always	Always Procrastinate
a	b	c	d	e

14. To what degree is procrastination on this task a problem for you?

Not At All a Problem	Almost Never	Sometimes	Nearly Always	Always a Problem
a	b	c	d	e

15. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want to Decrease		Somewhat		Definitely Want to Decrease
a	b	c	d	e

VI. SCHOOL ACTIVITIES IN GENERAL

16. To what degree do you procrastinate on this task?

Never Procrastinate	Almost Never	Sometimes	Nearly Always	Always Procrastinate
a	b	c	d	e

17. To what degree is procrastination on this task a problem for you?

Not At All a Problem	Almost Never	Sometimes	Nearly Always	Always a Problem
a	b	c	d	e

18. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want to Decrease		Somewhat		Definitely Want to Decrease
a	b	c	d	e

APPENDIX I

General Self-Efficacy - Sherer (GSESH)

Please circle the number in the corresponding space in the column indicating to what degree the statement is reflective of you.

		Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree
1	If something looks too complicated, I will not even bother to try it.	1	2	3	4	5
2	I avoid trying to learn new things when they look to difficult.	1	2	3	4	5
3	When trying something new, I soon give up if I am not initially successful.	1	2	3	4	5
4	If I can't do a job the first time, I keep trying until I can.	1	2	3	4	5
5	When I make plans, I am certain I can make them work.	1	2	3	4	5
6	When I have something unpleasant to do, I stick to it until I finish it.	1	2	3	4	5
7	When I decide to do something, I go right to work on it.	1	2	3	4	5
8	Failure just makes me try harder.	1	2	3	4	5
9	When I set important goals for myself, I rarely achieve them.	1	2	3	4	5
10	I do not seem to be capable of dealing with most problems that come up in my life.	1	2	3	4	5
11	When unexpected problems occur, I don't handle them very well.	1	2	3	4	5
12	I feel insecure about my ability to do things.	1	2	3	4	5

APPENDIX J

Directions for Extra Credit Option

Directions for more difficult extra credit

I am providing each student with the opportunity to earn extra credit for this class. The purpose of this extra credit is to allow you to gain insight into research that psychologists do. The extra credit consists of reviewing the journal article *Behavioral Study of Obedience* (Milgram, 1963). After you have read the article, you will write a 5 page paper. There will be two parts to the assignment. First you will summarize (not plagiarize!!!) the authors' methods, their rationale for the study, and their overall conclusions of the study. Second, you will develop your own idea for a future research study based on the conclusions of the authors of the article that you have chosen. This must be an ORIGINAL IDEA. This idea needs to be presented to me in 5 typed pages double spaced. You need to include what the authors of the article found and provide justification for your new study. This is for extra credit only. You may earn up to 5 points.

Directions for easier extra credit

I am providing each of you with the opportunity to earn extra credit for this class. The purpose of this extra credit is better familiarize yourself with journal articles, including how to read, review, and comprehend them. Your task is to read the article *Behavioral Study of Obedience* (Milgram, 1963) and then write a 2 page paper summarizing (not plagiarize!!!) the authors' methods, their rationale for the study, and their overall conclusions of the study. This project is worth 2 points toward your final grade.

CURRICULUM VITAE

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2012   Ph.D., Psychology
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PROFESSIONAL EXPERIENCE

2005 – present   Rutgers University, Office of Academic Services, Newark, NJ
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2003 – 2005   Centenary College, Adult and Professional Studies, Parsippany, NJ
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2001 – 2003   Kean University, Office of Undergraduate Admissions, Union, NJ
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1999 – 2001   Bloomfield College, Office of Admissions, Bloomfield, NJ
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