RELATIONSHIPS OF ATTACHMENT STATUS AND GENDER TO PERSONAL MEANING, DEPRESSIVENESS AND TRAIT-ANXIETY AMONG COLLEGE STUDENTS

By

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This dissertation is dedicated to the loving memory of my mother, Fate’ Alsore’,
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There have been many persons whose empowerment gave me the strength and inspiration while working on this project. Without their presence and support such a challenging process would not turn into a rewarding one.

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At a time of increased need for efficient mental health services for college students, empirical studies informing these services are vital. Therefore, the purpose of this study was to investigate the interrelationships between some major personality constructs of college students. Studies with attachment theory propose that how individuals experience close relationships has relevance to other areas of their functioning. Finding empirical evidence linking attachment to measures of wellbeing and psychopathology will help psychotherapists attain further clarity in interrelationships between major areas of human functioning. Such clarity will, in turn, strengthen efficacy of therapeutic interventions with college students. Therefore, this study investigated if college students’ attachment styles and their gender were related to measures of wellbeing and vulnerability to psychopathology. Personal meaning was elected as the measure of wellbeing, whereas depressiveness and trait-anxiety were indicators of vulnerability to psychopathology. In this study, attachment consisted of dimensions of anxiety and avoidance.
It was viewed as individuals’ tendencies and preferences with respect to anxiety and avoidance in close-romantic relationships. Personal meaning was conceptualized as the degree to which one perceives his or her life as purposeful and fulfilling. Depressiveness consisted of factors of self-criticism and dependency. Self-criticism refers to tendencies of perfectionism, whereas dependency has to do with excessive need and concerns about approval and availability of others for one’s sense of identity and wellbeing. Trait-anxiety was viewed as one’s vulnerability to conceive a variety of life situations as threatening and to react to such situations with elevated degrees of fear, tension and anxiety.

A convenience sample of college students in personal growth classes in the College of Education at the University of Florida was used. Surveys of the study were given to 166 voluntary participants. After attrition, responses of 155 students were included in the analyses. One hundred seven of these students were female and 48 were male. Data obtained from these students were analyzed using the simultaneous multiple regression analysis, multinomial and binary logistic regression analyses, independent t-tests, and correlation matrix.

There were results mixed results regarding the relationship between attachment and personal meaning. Factors of attachment and factors of depressiveness were for the most part significantly related. There was no significant relationship between attachment and trait-anxiety. Males and females differed only on attachment-related avoidance, dependency factor of depressiveness and trait-anxiety. Personal meaning was not significantly related to depressiveness. Implications of these results, limitations of the study and directions for future research were discussed.
CHAPTER 1
INTRODUCTION

College experience constitutes a developmentally crucial period for traditional age students (17-23 years of age). The importance of this period is twofold. First, this time is marked with essential developmental tasks such as identity formation and career decision making. Second, in addition to such normative challenges, the college experience itself provides an array of challenges and tasks. College students “are not merely adolescents who happen to have entered college, nor are they adults who happen to have not yet finished school-they are adolescents who are in the process of becoming young adults” (GAP; Group for the Advancement of Psychiatry, 1990, p. 5). For many students, college is the first time they leave home and encounter major challenges of adjusting to a new environment and succeeding both personally and academically on their own.

The period of 17-23 years of age is often referred to as late adolescence and is characterized by remarkable interpersonal and intrapersonal activity. Many individuals form their first long term romantic relationships, take on considerable educational challenges, and leave home to pursue education.
With all these activities college students are “engaged in a process of self-definition and are attempting to forge a sense of identity in the context of their previous experiences, current relationships, and future expectations” (Kenny & Rice, 1995, p. 433).

In last few decades the nature of college experience has been of great interest to various professionals including those from the fields of education and mental health. Sanford’s (1962, 1966) work has had great impact on research with college student development (Chickering & Reisser, 1993). He strongly emphasized the importance of balancing the support and challenges college students encounter in order to foster optimum growth. This concept stems from the idea that if learners encounter challenges that exceed their perceived resources, their performance is not likely to be optimal. Similarly, optimal learning cannot be attained if the resources are too plentiful and there are not enough challenges. This notion of balance has guided research and services pertaining to college students. Given the unique challenges of contemporary college students, it is essential to attain greater understanding of their handling of such challenges.

Since the attachment theory is a theory of survival and adaptation, it can provide insight into college students’ efforts toward adjusting to and surviving through such a developmentally significant experience. Similar to attachment, the concept of personal meaning is also closely associated with adaptation and survival. This study examines the relationships of attachment status to indicators of well-being and proneness to psychopathology. More specifically, personal meaning will be used as an indicator of psychological well-being, while depressiveness and trait-anxiety will be the two measures of psychopathology.
The reason for the selection of these two issues is twofold. The first reason has to do with the prevalence of depression and anxiety among college students (Fulkerson, 1986; Archer & Cooper, 1998). The second reason for this choice is the fact that these two constructs (depressiveness and trait-anxiety) are personality traits. Since the literature more commonly involves studies with states, an examination of these two traits’ relations to attachment and personal meaning can make unique contributions to research.

Scope of the Problem

Despite the increased attention attachment theory has received during the last decade, attachment research is yet to grow beyond basic research inquiries. In addition, in a time of limited resources for mental health services (Friedman, 1997), the development of time-effective interventions is only possible with sufficient empirical knowledge. Similarly, attachment theory can contribute to clinical practice only when sufficient progress is made in attachment research. Part of such progress involves studies of various populations regarding an array of mental health issues. Hence, this study will contribute to this advancement in attachment research and college student mental health.

Attachment Theory

Attachment theory originated from research on the infant-caregiver relationship. Robertson and Bowlby (1952) identified infants’ behavioral patterns followed by separations from their mothers. These observations led Bowlby to pay close attention to the importance of the bond between the infant and care-giver. In addition to these observations, Bowlby (1960, 1969) benefited from multiple disciplines in constructing the attachment theory. Lopez (1995) indicates that Bowlby drew from the developmental views of Jean Piaget (1950, 1972) and Erik Erikson (1968), the ethological research of
Konrad Lorenz (1952) and Harry Harlow and Zimmerman (1959), and the general systems theory of Ludwig von Bertalanffy (1968). Bowlby concluded that behaviors by which infants sought and maintained proximity to caregivers were keys to evolutionary survival of the human species. He viewed such behaviors as vital strategies that help survival in species with developmentally immature and dependent offspring (Simpson, 1999). He used the term attachment behavioral system to refer to a species-specific and organized set of behaviors that enable human infants seek proximity to their caregiver. Attachment theorists have paid particular attention to three behavioral systems, attachment, fear/wariness, and exploration (Cassidy, 1999).

Along with John Bowlby, Mary Ainsworth (1964, 1967, & 1990) is considered to be another founder of the attachment theory. Ainsworth furthered attachment theory with her studies in laboratory conditions (the Strange Situation; Ainsworth et al., 1978) and with first multicultural comparisons of infants’ attachment behaviors. Along with her colleagues, Ainsworth was the first researcher to identify attachment orientations, which she delineated as secure, avoidant and anxious ambivalent (Ainsworth et al., 1978). These researchers used laboratory observations through a standardized procedure, also known as the Strange Situation (Ainsworth et al., 1978). The procedure was consisted of two separations and reunions between infants and their caregivers. Infants’ behaviors following separations and reunions were carefully recorded and significant individual differences found were classified into three distinct styles of attachment; secure, anxious-ambivalent, and avoidant. Moreover, Ainsworth and colleagues (1978) confirmed these laboratory findings with their home-observations of infants and caregivers (Goldberg, Muir, & Kerr, 1995).
The secure infants were more likely to use the mother as a secure base for exploration. They showed signs of missing the caregiver upon reunion and actively sought contact and comfort from the caregiver. Avoidant infants were characterized with readily having exploratory behavior independent of the caregivers’ presence. They also seemed to have little display of affect or secure base behavior. These infants did not show signs of distress when caregiver departed nor did they show much interest in the caregiver’s return. Finally, the anxious-ambivalent infants did not display much exploratory behavior, and appeared passive. Upon separation from the parent they displayed distress. However, when the parent returned these infants often displayed signs of anger and tantrums, and seemed to have difficulty finding comfort in the parent.

Following this initial focus on infant-caregiver relationship, attachment theory has evolved to address various periods of the lifespan development. Furthermore, this remarkable blooming in attachment research has embraced a variety of groups and mental health issues. The relationship of attachment to adult romantic love (Hazan & Shaver, 1987), adults’ relational representations (Main, 1995), developmental psychopathology (Petersen, Kennedy, & Sullivan, 1991), severe psychopathology (Dozier, 1990), family dysfunction and parental alcoholism (Mothersead, Kivlghan, & Wynkoop, 1998), adjustment to college (Kenny, 1987; Kenny & Perez, 1996; Kenny & Rice, 1995), and same sex romantic relationships (Mohr, 1999) are only a few examples of the growth in attachment research. Such studies have examined the relationships of adult attachment to development of adult psychopathology and to adult functioning and well-being. Similarly, the present work focused on two major issues of psychopathology (depression and anxiety) and their possible relations to college students’ attachment orientations.
In addition, it looked into college students’ attachment orientation as it relates to their degree of personal meaning.

Attachment theory has been applied to college experience in a variety of ways. For instance, some researchers have examined adjustment to college and perceived parental availability (Hazan & Hutt, 1993). Attachment theory looks at this availability based on the notion of secure base (Ainsworth, 1989). The term secure base is one of the key concepts in attachment theory. It was originally defined as an infant’s perceived availability of the caregiver as a safe haven to return to in the face of distress or danger. Perceiving family and friends as a secure base to return to for reassurance and support might be of significant importance in fostering young adults’ normative risk taking behavior and exploration in various areas of their lives, such as academic, social, personal and the like.

Attachment theorists view a perceived secure base to also have indirect contributions to one’s development and experience in college. Such contributions are thought to be through internal working models of the self and other. Attachment theory (Bowlby, 1980) argued that when the attachment figure is available, responsive and reliable the child will form an image/representation of self as good, worthy, and lovable. Attachment theory also maintains that such a person will have an internal model of other as trustworthy, responsive and reliable. Thus it is assumed that individuals with such representations will be more likely to establish and utilize supportive interpersonal relations.
For traditional age college students, starting college is a significant experience of separation (Lapsley & Edgerton, 2002; Rice, FitzGerald, Whaley, & Gibbs, 1995). According to traditional developmental theories (i.e. Erikson, 1968) separation is the prerequisite to individuation, which refers to the process of becoming one’s own person. From an attachment theory standpoint, college is an experience of exploring the world and, thus is a modern rite of passage toward seeking one’s identity and place in the adult world. Attachment theory claims that in this process, the young college student’s relational orientation will impact his or her adaptation and functioning as a result of his or her perception of self and others which are presumed to have been formed in early close relationships. For instance, it is hypothesized that compared with individuals with insecure attachment, securely attached ones would be more likely to form new secure bases in their new environment.

The connection between internal working models and psychological well-being is established with the assumption that internal working models influence ways in which one perceives subsequent life events. Thus it is thought that a person with a negative internal working model of self would have a predisposition to perceive negative events as his or her failure, which would in turn perpetuate distress. Conversely, based on these assumptions Kenny and Rice (1995) postulate that college students who possess positive internal working models will be less vulnerable to experience inevitable situational stressors, such as rejection by their peers or receiving undesirable grades in ways that would be disempowering to the self. The authors add that those who anticipate others to be trustworthy may be better equipped to form supportive relationships with peers and faculty.
Considering such assumptions and Sanford’s (1962, 1966) notion of balance between challenges and support, it is likely that students with positive internal working models would be better able to recognize existing support or obtain further social support as needed.

In addition, college students use internal working models of self and other “as filters through which self-perceptions are developed and level of social support from others is judged” (Rice & Cummings, 1996, p. 51). Such perceptions of self and others are crucial since college experience is a period of identity formation (Chickering & Reisser, 1993). That is to say, the quality of such schemas will impact one’s sense of self and how college is experienced. Consequently, the quality of college years could greatly affect how young adults construct a sense of identity.

Psychopathology is often developed or exacerbated during transitional times such as adolescence and young adulthood. One of the important factors influencing the development of psychopathological symptomatology is the extent to which individuals resist ongoing stressors by utilizing internal and external resources (Kenny & Rice, 1995). Attachment orientation can directly or indirectly influence the quality of such resources.

Attachment theory proposes that parental attachment may “indirectly influence coping resources through their contributions to internal working models of self and other” (Kenny & Rice, 1995, p. 436). In their literature review Mikulincer, Horesh, Eilati, and Kotler (1999) document studies finding associations between attachment organization and management of distress. Securely attached persons have been found to utilize constructive stress management strategies and seek help from others when needed.
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(Mikulincer & Florian, 1998); have positive expectations about manageability of the distress experienced and strong sense of self-efficacy (Mikulincer & Florian, 1995); and hold positive perceptions about others’ intentions (Bartholomew & Horowitz, 1991). On the other hand, Mikulincer et al. (1999) report that avoidant persons are likely to deactivate attachment needs in dealing with stress, deny negative feelings, inhibit expression of perceived distress, and utilize dissociative coping strategies (Mikulincer & Florian, 1998). Finally, anxious-ambivalent persons deal with stress in hypervigilant ways, hyperactivate negative thoughts and memories, and utilize less active ways of coping. In short, the management of distress seems to be mediated by intrapersonal factors such as a strong sense of self-efficacy and interpersonal factors such as positive perceptions of others. These two sets of factors appear to foster utilization of constructive strategies in dealing with distress.

**Attachment and Well-being**

A great number of studies have confirmed relationships between attachment status and various measures of well-being. Such efforts have focused on attachment’s relationship to social and relational competence (Engels, Finkenauer, Meeus, & Dekovic, 2001); self-esteem (Rice & Cummings, 1996); self-efficacy (Rice & Cummings, 1996); autonomy, competence and relatedness (La Guardia, Ryan, Couchman, & Deci, 2000); health and illness (Feeney, 2000); psychological health of partners in long term marriage or cohabiting relationships (Kotler & Omodei, 1988); lack of symptomatology (Kenny, Lomax, Brabeck, & Fife, 1998; Raja, McGee, & Stanton, 1992); and self-worth (Kenny et al., 1998). These studies found moderate to strong associations between secure attachment and measures of well-being.
Only a few of such studies however focused on attachment and well-being during late adolescence.

This study examined the concept of personal meaning as a measure of well-being in college students for several reasons. First, a sense of meaning is essential in transitional and difficult times (Klinger, 1998). Personal meaning does not only motivate goal-oriented behavior but also buffers against stress, thus promoting a sense of well-being. Second, along with its other roots, personal meaning emerged as a component of the concept of sense of coherence (Antonovsky, 1979). Sense of coherence has been linked to attachment security and adjustment in college students (Rood, 2000). Moreover, personal meaning has been found as the most predictive component of sense of coherence that is associated with well-being and adjustment (Klinger, 1998). Third, similar to attachment, personal meaning seems to be a global and organizational construct. Stated differently, personal meaning has to do with purposefulness. As such, it has the potential to be an integrating personality construct. Consequently, a likely association between attachment and personal meaning could imply a link between attachment and major constructs of personality. Therefore, associations among attachment status, personal meaning, anxiety and depression could inform clinical practice and future research.

It appears likely that one’s perceived level of personal meaning might be essential in motivating one’s involvement in various domains of life, thus creating a circular causation that maintains the chain of meaning-involvement-meaning. Furthermore, such a chain might be fostered in a desirable direction if the person feels belonging to circles of others.
Personal Meaning

Along with the research tradition focusing on development of psychopathological symptomatology there has been a line of research emphasizing the development of adaptive mechanisms. This research was in part inspired by traumatic events such as the experience of German concentration camps during World War II. Researchers intended to find out how some persons managed to survive through such tragic experiences. Dr. Victor Frankl (1963), a survivor of these camps, was a major figure who influenced this school of thought. However, such inquiries date before Dr. Frankl. For instance, the German philosopher Friedrich Nietzsche’s writings impacted scholars like Frankl in their quest to understanding what might enable individuals to endure seemingly unbearable conditions of living.

The decades following the war witnessed a great deal of interest in finding out such buffering effects against high stress situations. Frankl (1963) saw meaning as one of these buffers. In his book *Man’s Search for Meaning* he summarizes this with a quote from Nietzsche: “he who has a why to live for can bear with almost any how” (p. 121).

Klinger (1998) provides linguistic-etymological, philosophical and psychological analyses of the word “meaning”. These analyses indicate that in many languages the words corresponding to the term meaning refer to aim, goal, and intentionality. It is considered a high cognitive entity that has goal-directed, attributional, motivational, and integrative functions. In other words, meaning is closely related to the goal directed nature of human behavior and, thus it is motivational. In addition, it is viewed as connecting and integrating related mental representations, as such having an integrative function. Klinger (1998) notes that without such a function human behavior would be
merely guided by instincts or impulses. In short, meaning making is an evolutionary gain of the human species and it is about certain understandings of things that are specific to humans. Klinger (1998) furthermore claims that the human brain cannot sustain purposeless life. In other words, he believes that meaningfulness is an inevitable need that is essential for human functioning and survival.

Then the question becomes, what happens when individuals lack a sense of such an essential element of living? According Klinger (1998) such deficiency is analogous with not having goals and is associated with psychopathology. Moreover, such outcomes are thought to be plausible in the case of having excessively aversive goals as well.

Klinger (1998) proposes that “a set of goals steers attention, perception, cognition, recall, thought content, and emotional responses, hence, exercises pervasive influence over consciousness” (p. 44). In addition, it is claimed that such a state interferes with the major ingredient of psychological organization. There could be direct and-or indirect connection between lack of meaning and behavioral patterns that are self-destructive. In the face of not having goals and purposes one would resort to other means to improve a sense of well-being (Klinger, 1998). One of the issues often associated with lack of goals and purpose is depression, which is often characterized with excessive self-criticism. Similarly, the lack of meaning or predominantly aversive goals could lead to prolonged negative affective states that may lead to stress and anxiety, thus endangering one’s physical well-being.

Klinger (1998) reports empirical studies that have found associations between the level of personal meaning and various indicators of well-being and psychopathology. A global sense of well-being, substance abuse related issues, and depression are some of
these indicators. There is still a great need for studies focusing on personal meaning and various measures of mental and physical health.

No studies dealing specifically with attachment and personal meaning were located. The only work found is a dissertation study (Rood, 2000) examining the relationship between a sense of coherence and attachment, which involves meaningfulness or personal meaning as a component of coherence. Similarly, relationships between depression or anxiety and personal meaning have only been studied as a part of the concept of sense of coherence (Rood, 2000; Sandell, Blomberg, & Lazaar, 1998). This study examined the relationships of personal meaning, attachment status, depressiveness and trait-anxiety. By so doing, along with its additional objectives, it intends to extend research on personal meaning.

**Attachment and Psychopathology**

Despite the recent interest in adult attachment (Allen, Hauser, & Borman-Spurrell, 1996; Bartholomew & Horowitz, 1991; Cummings & Davies, 1996; Feeney & Noller, 1990; Hazan & Shaver, 1987; Kobak & Hazan, 1991; Magai, Hunziker, Mesias, & Culver, 2000; Main, 1996; Rosenstein & Horowitz, 1996; Pianta, Egeland, & Adam, 1996) there is a need for further exploration on the possible associations between adult attachment and psychopathology (Roberts, Gotlib, & Kassel, 1996; Mothersead, Kivlghan, & Wynkoop, 1998). The existing body of research acknowledges links between insecure attachment and psychopathology. It also ties secure attachment to various indicators of well-being (del Carmen & Huffman, 1996; Rosenstein & Horowitz, 1996). On the other hand, as pointed out by Roberts et al. (1996) the underlying mechanisms of these associations are yet to be examined.
Whether looked at from a linear-traditional perspective or from a pathway developmental perspective, attachment theory suggests that attachment quality plays a crucial role in leading to vulnerability to psychopathology (Rosenstein & Horowitz, 1996).

From a theoretical standpoint, internal working models could at least play a partial role in the link between attachment and psychopathology. As mentioned earlier, internal working models of attachment are representations of the self, and other, which evolve through significant relationships starting from the onset of life. Accordingly, such schemata are thought to also constitute representations about ways in which one thinks or feels about the world in general. Hence, the connection between attachment status and psychopathology might partially be mediated by cognitions that are parts of internal working models (Roberts et al., 1996). For instance, an individual who holds negative notions about self and others would be likely to experience depression and-or anxiety. As acknowledged by Roberts et al. (1996) such reasoning is inline with widely endorsed views of cognitive theorists (i.e. Beck, 1963).

The unique contribution attachment might have in the development of psychopathology could be due to its early formation, which in the case of insecure attachment might lead to deviations from adaptive developmental pathways (Rosenstein & Horowitz, 1996). Hence, such deviations in early years of life might constitute vulnerability to risk factors whether they be genetic or environmental. According to Main (1996) along with genetic (i.e. temperament) and other factors (i.e. psychopathology in the caretaker), early trauma or loss, also leads to development of disorganized attachment.
One way of examining whether there are convincing associations between psychiatric classification and attachment organization, would be to find consistency in specific classifications regarding attachment style. Such efforts have yielded to contradictory outcomes (Rosenstein & Horowitz, 1996). Therefore, such a link is yet to be empirically established. Issues such as depression and anxiety are thought to be due to mechanisms with which distress is directed inward as opposed to outward, to the external world as it is in conduct disorders. Existing literature often links issues resulting from internalization, such as depression, to preoccupied attachment organization (Allen et al., 1996; Cowan, Cohn, Cowan, & Pearson, 1996).

**Attachment and Anxiety**

Since the emergence of attachment theory, researchers have pointed out the link between attachment and affect regulation. Kobak and Sceery (1988) view attachment theory as a model of affect regulation. They reason that attachment styles are differentiated based upon individuals’ responses to stressful situations. The formation of attachment in the infant-caregiver relationship is indeed a process of regulating affect. Attachment literature often associates preoccupied (anxious-ambivalent) attachment pattern with the experience of anxiety. Unlike those with a dismissing style (avoidant), preoccupied persons are thought to continually seek support and acknowledgment from the attachment figure with whom a secure bond has not been established. Furthermore, these individuals do not dissociate memories of negative events and tend to have clear memories of such events. Preoccupied persons hold negative models of self and positive models of others.
Lopez (2001) found relationships between preoccupied attachment style and low self-other differentiation, high levels of emotional reactivity, strong expressed needs for social approval and self-concealment. Such findings are in line with research suggesting these individuals being highly concerned about rejection and approval of others. Lopez recommends that such persons are likely to project their own self-traits onto others in order to feel self-other similarity.

The presumption is that along with directly dealing with anxiety and distressing affect, individuals’ defenses are set to either dismissing such affect or becoming preoccupied with it. Lopez (2001) found these two tendencies to be analogous to avoidance versus anxiousness respectively. Some referred to these two mechanisms as means by which attachment system is deactivated (dismissing/avoidant) or hyperactivated (anxious/preoccupied) (i.e. Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993; Main, 1990).

Many researchers point out the relationship between anxiety issues (i.e. phobias, obsessive-compulsive disorder) and the tendency to have excessive concern about control of emotions (Mantynen, Happonen, & Toskala, 2000). Such self-consciousness and tendency to control feelings is also seen in individuals with preoccupied attachment orientation. Thus there might be a significant link between insecure attachment—particularly preoccupied type, and trait-anxiety. Establishing such association could inform clinicians about the likely presence of one of these factors when the other is reported.
There is a convincing body of research linking insecure attachment and depression (i.e. Carnelley, Pietromonaco, & Jaffe, 1994; Feeney & Noller, 1990; Roberts et al., 1996). Roberts et al. (1996) recommend a model describing association between insecure attachment and depression. The researchers assert “attachment insecurity is associated with dysfunctional attitudes, which in turn decreases self-esteem” (p. 312) thus leading to depressive symptoms. To test this model they conducted a study with a sample of college students. The results indicated that the relationship between attachment and depression was “mediated almost entirely by maladaptive contingencies of worth and self-esteem” (p. 317). Finally, the findings also illustrated that individuals with negative working models of self and positive working models of others were more likely to report clinical depression whereas those with negative working models of both self and others were likely to report nonclinical depression.

Susceptibility to depression is often linked to two personality traits: dependency and self-criticism/perfectionism. Blatt (1974) was the first researcher to formulate this model (Whiffen, Aube, Thomson, & Campbell, 2000). Dependency is referred to as an excessive need for love and approval. Whereas self-criticism or perfectionism is viewed one’s excessive concerns about achievement and success. However, what seems to be problematic is not the mere presence of such needs and tendencies. How these needs lead to vulnerability to depression has to do with the extent to which they dominate one’s personality.

The connection between insecure attachment and depression is assumed to be mediated by internal working models. Cummings and Cicchetti (1990) note that
“disturbances in attachment may play a role in the development, maintenance, and intergenerational transmission of depression” (p. 342). These researchers provide a lengthy review of the history of the work linking attachment and depression. They note that the psychoanalytical tradition has long acknowledged a connection between early childhood experiences with attachment figures and development of depression. Furthermore, this link is more visible when depression is viewed as resulting from actual or perceived loss. Hence, as acknowledged by the object relations tradition such loss is also seen in those who did not internalize positive attributes of significant individuals. Finally, similar to many other scholars Cummings and Cicchetti (1990) state that such sense of loss, which is referred to as object loss, is essential in facilitating vulnerability or resilience to the experience of depression.

Considering the prevalence of depression among college students (Archer & Cooper, 1998), examining associations between attachment styles and depression will strengthen the previous linkages reported in the literature. Furthermore, by focusing on depressiveness as a personality trait rather than a state of depression, the possible links between attachment orientation and depressiveness could imply the necessity of interventions with more psychodynamic and interpersonal focuses along with the commonly used cognitive behavioral strategies.

**Gender**

Starting with the work of Gilligan (1982), researchers have been sensitive to gender issues in psychology. Before such work, traditional developmental models of psychology (i.e. Erikson, 1968) put strong emphasis on individuation at the cost of neglecting interpersonal relatedness. Males are typically thought to be concerned with
separation, whereas females with relationality and connectedness. Thus these early models are criticized for having a significant gender bias in favor of males.

Current literature in various areas of psychology includes a great deal of work addressing gender as a highly important factor in various domains of inquiry. Attachment theory is unique in acknowledging interrelations of individuation and interpersonal connectedness.

Researchers have consistently found differences between male and female behaviors in the context of interpersonal relationships (i.e. Belenky, Clinchy, Goldberger, & Tarule, 1986; Gilligan, 1982). Despite these findings, attachment research has reported mixed results concerning gender differences in the attachment behavioral system. Kenny and Rice (1995) report studies showing the quality of attachment being more “important to the psychological well being (Kenny & Donaldson, 1991) and identity achievement (Benson, Harris, & Rogers, 1991) of women than men” (p. 443).

On the other hand, there are studies, which did not detect any gender differences in attachment related behaviors. There is evidence to conclude that even if there are gender differences they might be manifested differently for each gender. For instance, Rice and Whaley (1994) found that in general, attachment to both parents was more predictive of adjustment to college for female students than it was for males. On the other hand, attachment to the father was a predictor of adjustment only during highly stressful times (i.e. exam period). Other studies have found certain differences between genders. However these differences don not seem to be of a magnitude that would be expected by feminist researchers. Using the IPPA (Inventory of Parent and Peer Attachment; Armsden & Greenberg, 1987) some researchers have found that females in both adolescent (Raja, McGee, & Stanton, 1992) and college samples (Lapsley, Rice, &
Fitzgerald, 1990) scored higher on attachment to peers; trust and communication scales. However, males and females did not differ on several other scales such as attachment to parents. Raja et al. (1992) concluded that perhaps gender differences found in developmental processes of males and females may not be generalized to every area of functioning. For example, these researchers cite studies (i.e. Steinberg & Silverberg, 1986; Williams & McGee, 1991) finding that girls viewed themselves as more autonomous and independent than boys. In sum, there are mixed findings about the claim that female identity is more narrowly based upon attachment to others.

Given the extensive empirical work in gender differences and similarities, and the contrasting research findings pertaining to attachment and gender, further work is needed. The current study examined the relationship of gender to attachment orientation, personal meaning, trait-anxiety, and depressiveness.

**Need for the Study**

The last century has witnessed a great increase of knowledge in the field of psychology. This period, which is also known as the modernist era, has witnessed work by great scholars such as Sigmund Freud, B.F. Skinner, Jean Piaget, Carl Rogers and many others. The inquiry into human functioning gave way to various fields of psychology and related disciplines. In the mean time, great developments in areas such as anthropology, neurology, genetics, etc. have enriched the understanding of human behavior. Given the presence of such accumulated scientific and clinical work, the inquiry of human behavior is faced with the challenge of utilizing multidisciplinary knowledge in understanding specific domains of human functioning. In other words, the existing depth and breath of knowledge in various interrelated fields make it possible to
establish descriptive, causal or predictive models explaining human behavior. Accordingly, there is need “for a metaperspective capable of integrating important personality and developmental constructs in ways that both inform and stimulate our research and practice” (Lopez, 1995, p. 305). The search for such a metaperspective is in fact an effort to identify personality constructs that have the potential to explain and simplify complex dynamics of human functioning, development and well-being. Self-esteem, self-concept, attachment, learned-helplessness, locus of control, coherent sense of self, personal meaning and the like are some of such concepts. The current work focused on two of these constructs, namely, attachment orientation and personal meaning as they relate to college student mental health.

Mental health services are essential parts of college life (Talley & Rockwell, 1985). Counseling with college students constitutes a supportive service that aids college students in their efforts to deal with developmental and academic tasks. In many countries, the US in particular, college campuses are increasingly becoming diverse. Given the number of college students, and their importance for the future of any given society, providing them with quality educational experiences is crucial. Part of this quality has to do with supportive services offered on campuses. Considering students’ degree of utilization of counseling services on university campuses, it seems clear that these services are integral parts of college education (Archer & Cooper, 1998).

There are various reasons for focusing on college student mental health. First, ages 18 through 23 is a transitional developmental period. The transitional nature of this period is essential in the formation of psychopathological as well as adaptive behavioral patterns. Second, in any given society the quality of college experience will have
essential outcomes for the society’s future since these individuals are valuable assets of the society. Normative difficulties of transitional late adolescence are further exasperated by contemporary societal factors. Societies, markets and higher educational systems are in greater changing paces than ever. Such rapid change itself is also a contributing factor to challenges faced by college students (Archer & Cooper, 1998). Third, any improvement in the well being of this group, or any preventive effort of the development of enduring psychopathology for that matter, could have longstanding positive contributions to these persons’ adult life.

With the increasing diversification of college student bodies, mental health services have been in a process of seeking new ways to effectively respond to the needs of this population. An important way of doing so is to utilize scientific inquiries in order to gain greater understanding of various aspects of this population. Given the high numbers of college students and the great demand for mental health services on contemporary college campuses, mental health professionals are in greater need than ever to attain a level of efficacy to meet these emerging needs (Bishop & Trembley, 1987; Stone & Archer, 1990). Empirical support for certain metaconstructs capable of integrating complex dynamics of young adult-college students’ functioning is thus vital. For instance, such data could contribute to professionals’ arriving at some theoretical clarity that can greatly improve the efficacy with which they serve to increasing numbers of college students.

Hence, examining two major issues-depression and anxiety- that are prevalent among college students in light of constructs as attachment status and personal meaning, could improve professionals’ understanding of college students’ experience with these
two issues. Accordingly, such improvement will have important implications for both research and practice.

**Purpose of the Study**

The purpose of this study was to investigate the relationships among attachment orientation, gender, personal meaning, depressiveness, and trait-anxiety in college students. More specifically, it examined the extent to which college students’ attachment orientation, and gender account for variations in individual differences on measures of personal meaning, depressiveness, and trait anxiety.

**Research Questions**

This study sought to answer the following questions:

1. What is the relationship between college students’ attachment status and their level of personal meaning?
2. Do gender, personal meaning, depressiveness, and trait-anxiety significantly predict college students’ likelihood of being categories of attachment?
3. What is the relationship between college students’ attachment status and their degree of depressiveness?
4. What is the relationship between college students’ attachment status and their degree of trait anxiety?
5. What is the relationship between college students’ gender, their attachment status, their levels of personal meaning, depressiveness, and trait anxiety?
6. What is the relationship between college students' degree of personal meaning and their degree of depressiveness?
7. What is the relationship between college students’ level of personal meaning and their degree of trait-anxiety?
8. What is the relationship between college students’ degree of depressiveness and their degree of trait-anxiety?
9. What are interrelationships among college students’ attachment status, degree of personal meaning, degree of depressiveness, and their degree of trait-anxiety?
Definitions of Terms

College Students

For the purpose of this study the term college student refers to young adult undergraduate students who are of ages 18 through 23.

Attachment

The terms attachment, attachment style, attachment orientation, and attachment status are used interchangeably. They refer to young adult-college students’ perceived orientations in interpersonal contexts, particularly in romantic relationships. This definition is inline with the research tradition of Hazan and Shaver (1987) who emphasize romantic adult relationships as reflective of early attachment relations. It more specifically utilizes the perspective Brennan and colleagues (Brennan, Clark, & Shaver, 1998; Fraley, Waller, & Brennan, 2000). Accordingly, attachment classification or orientation is based upon individuals’ self-reported degrees of anxiety and avoidance in the context of intimate relationships. According to Brennan et al. (1998) scores on the ECR correspond to the four attachment categories of Bartholomew and Horowitz (1991) in the following manner: (a) Low scores on both avoidance and anxiety dimensions correspond to the secure category. (b) High scores on the avoidance and low scores on anxiety dimensions correspond to avoidant (dismissing) category. (c) High scores on the anxiety and low scores on the avoidance dimension correspond to the anxious-ambivalent (preoccupied) category of attachment. (d) High scores on both anxiety and avoidance dimensions correspond to the fearful classification of attachment. While referring to this particular conceptualization of attachment the term attachment classification will be used.
Internal Working Models

In this study the term internal working models refers to individuals’ schemas about themselves and others, which are not merely of a cognitive nature but also affective. Furthermore, such perceptions are thought to be formed in early childhood and be relatively enduring throughout later development.

Personal Meaning

The term personal meaning is used to refer to one’s general evaluations of his or her behaviors and life style in comparison to personal goals and values. These goals and values refer to a person’s life long aspirations, which might also be motivated in part by the person’s beliefs about after life. Stated differently, personal meaning has to do with an individual’s perceptions of his or her current life depending upon its perceived compliance with what the person views as meaningful.

Depressiveness

For the purpose of this study depressiveness refers to college students’ self-reported vulnerability and experiences with depressive symptomatology. This vulnerability is based upon the individual’s responses to items on scales of self-criticism and perfectionism. High scores on these two dimensions are thought to indicate high degree of vulnerability to experiencing depression symptomatology. It is important to note that depressiveness is not analogous to clinical depression. High scores on self-criticism and perfectionism may or may not correspond to clinical depression.
Trait-Anxiety

In this study trait-anxiety refers to college students’ self-reported proneness to experiencing anxiety. In other words, it refers to predisposition to experiencing a variety of life situations as threatening and responding to these situations with excessive states of anxiety.

Organization of the Study

This dissertation consists of five chapters. Chapter 1 introduces the scope of the problem, theoretical framework for the study, need for the study, purpose of the study, the research questions, and definitions of the terms. Chapter 2 introduces a review of the relevant literature. Chapter 3 describes the research methodology, which consists of the following: population and sample; instrumentation; and procedures of sampling; data collection and analysis. Chapter 4 introduces results of the study. Finally, chapter 5 presents conclusions of the study, its theoretical and clinical implications, recommendations for future research, and its limitations.
CHAPTER 2
REVIEW OF THE LITERATURE

The purpose of this study was to investigate the relationships among attachment, status, gender, personal meaning, depressiveness, and trait-anxiety. In this chapter, literature related to these variables is provided to develop a framework for the research hypotheses. It is organized in the following ten sections: (a) Origins of attachment; (b) stability of attachment; (c) criticism of attachment theory; (d) classification of attachment orientation; (e) research on attachment; (f) attachment and college student mental health; (g) attachment and well-being; (h) attachment and psychopathology; (i) attachment and gender; and (j) summary.

Attachment

Origins of Attachment

John Bowlby and Mary Ainsworth are considered the founders of attachment theory. Through their individual and collaborative work, both researchers sought to find the role of enduring emotional bonds in adjustment and functioning. Bowlby was trained in classical psychoanalysis and in the object relations model of Klein (1932). However, he was dissatisfied with these approaches. Bowlby rejected seeing “all relationship-seeking motivations in terms of the direct or indirect gratification of libidinal need” (Lopez, 1995, p. 397).
Through his work with the delinquent youth and hospitalized orphans, Bowlby concluded that “there were qualities of the parent-child emotional bond, independent of the gratification of libidinal needs or drives, that regulated important aspects of child behavior and emotional experience” (Lopez, 1995, p. 398).

Bowlby developed his model using an interdisciplinary perspective. Lopez (1995) indicates that Bowlby drew from the developmental views of Jean Piaget (1950, 1972) and Erik Erikson (1968); the ethological research of Konrad Lorenz (1952) and Harlow and Zimmerman (1959); and the general systems theory of Ludwig von Bertalanffy (1968). Attachment theory emerged from research with infant-caregiver relationship. Moreover, it inquired as to how these relationships impact personality development. Subsequent studies extended these inquiries across various developmental periods throughout the life span.

Bowlby argued that human attachment behavior is a product of the evolutionary process and that it originated from a necessity for protection from predators (Harwood, Miller, & Irizarry, 1995). Bowlby did not conceptualize attachment merely on the basis of such protection. He “did emphasize that because attachment behaviors help to maintain the infant’s proximity to the parent, they thus served to promote the infant’s physical safety and survival in the environment in which humans originally evolved” (Harwood et al., 1995, p. 5). Bowlby (1982) saw striving for relatedness as vital to survival through the evolutionary process. Complementing this evolutionary point of view, Lyddon (1995) conceptualizes attachment as “a hardwitted, neurologically-based behavioral system that has evolved to promote proximity to a caregiver” (p. 479).
Bowlby focused on two key factors in conceptualizing the development of internal working models: (a) the amount of stress on the attachment system; and (b) the availability of the attachment figure. Prolonged high levels of stress and/or the lack of availability of the attachment figure could lead to an internal representation of the environment as dangerous and of the self and the others as ineffective in moderating these dangers; such a representation may leave the child fearful of exploration, uncertain of the availability of safety, doubtful of his or her ability to master environmental demands, and/or distrustful of significant others. (Harwood et al., 1995, p. 6)

Lopez (1995) reasons that Bowlby considered these schema as working models “because they (a) organized internal appraisals and interpersonal behaviors along pathways that were adaptive in the person’s earlier development, and (b) thereby shaped the person’s later social experiences in schema-consistent ways” (p. 399). In short, an internal working model “is a set of conscious and/or unconscious rules and expectations” regarding one’s perceptions of self and others, which stems from early care giving relationships and functions as a model or schema that “is used as a template in future relationships” (Flanagan, 1999, p. 103).

Concepts similar to internal working models were used by other theorists such as Fairbairn (1952) and Klein (1932) of the object relations tradition. Object relations focused on relationships with others and how the internalizations of these individuals impact psychological functioning. Similar to other psychodynamic traditions, object relations very much highlighted the important implications of early relationships on later development. Like internal working models, the internalized representations conceptualized by object relations theory had both cognitive and affective mental representations (Cummings & Cicchetti, 1990).
Crittenden (1990) proposes a unique approach to conceptualization of internal working models. This approach views internal representations as open versus closed and working versus nonworking models. Closed or nonworking models do not permit new interpretations, thus they constitute a defensive posture in interpreting interpersonal experiences. On the other hand, the open-working models are flexible and open to new and alternative interpretation of experience. Thus these two classifications correspond to the classical secure versus insecure attachment categories.

Alternatively, Magai et al. (2000) offer the concept of emotional organizations. They define emotional organizations as biases and traits included in personality constructs that guide expression, attention, perception, and information processing strategies. Emotional organizations are thought to be formed as parts of internal working models and to constitute a “predisposition to express or inhibit certain kinds of emotion, strategies for interpreting social stimuli, and styles of adult relatedness” (p. 301).

Kobak et al. (1993) postulate that “attachment theory provides an account of how patterns of parent-infant interaction become a self-regulatory feature of the child’s personality” (p. 231). Through these interactions the child forms internal working models of self and the other. “Despite the enormous developmental change, attachment remains a goal-corrected system that continually monitors the availability of the caregiver” (p. 231). When the caregiver’s availability is questionable the child employs a variety of strategies to reestablish the caregiver availability. Attachment researchers claim that when these primary strategies (Main, 1990) help succeed in reestablishing caregiver’s availability, the child diverts attention to other activities or needs such as playing with peers or toys. In other words, when the proximity seeking behaviors
(crying, calling the caregiver etc.) manage to attain caregiver’s availability then the
comfort of having this availability is used as a secure base to explore the environment.
On the other hand, when these strategies do not yield to availability and responsiveness,
then “the child must not only continue to monitor the attachment figure’s availability but
must also develop alternative strategies for regulating their own attachment behavior”
(Kobak et al., 1993, p. 232). These alternative behaviors are referred to as secondary
strategies (Main, 1990). Kobak et al. (1993) state that depending on the child’s internal
working models of the caregiver, these strategies consist of either deactivation or
hyperactivation of the attachment system. These authors postulate that if the caregiver is
perceived as rejecting, infants use deactivation strategies to “minimize conflict with the
caregiver” whereas adults use them “to divert attention from attachment topics by
restricting access to attachment memories, idealizing parents, or devaluing attachment
relationships” (p. 232). These strategies have to do with diverting one’s attention from
attachment figures such as being involved with exploratory behavior. On the other hand,
hyperactivation involves limiting exploratory behavior and seeking the caregiver in
disappointment. Kobak et al. indicate that the equivalent of these behaviors in adults-as
measured by the Adult Attachment Interview (AAI, George, Kaplan, & Main, 1985)-
consists of “discourse incoherence characterized by excessive and irrelevant information,
difficulty maintaining a clear sense of the discourse context, and anger that interferes
with achieving a balanced perspective on self and parents” (p. 232). It is therefore
inferred that there are significant differences between affect regulation strategies of
persons with mainly primary or secondary strategies. For instance, persons with
deactivating strategies minimize access to affective information and experience-
particularly in the context of interpersonal intimacy. On the other hand, persons with hyperactivating strategies have excessive experiencing and expression of emotionality.

As mentioned above, by providing templates for interpretation of experience, internal working models are adaptive tools enabling a sense of continuity in one’s perception of self, other and social relationships. Main (1990) asserts that some children with insensitive parents might develop conditional or secondary attachment strategies to maintain this sense of continuity in proximity and self-organization. She further notes that such strategies are defensive in nature. Main (1990) recommends that coupled with children’s relative limitations in cognitive capacities, the unconscious nature of these strategies makes it difficult to be easily accessible for revision. Whether insecure or secure, internal working models are unconscious and resistant to change. Rosenstein and Horowitz (1996) note that since internal working models guide one’s expectations and interpretations, individuals form relationships that are consistent with their existing internal working models. The authors state that such “defensively biased multiple models form the initial defensive structures that can lead to such defensive- distortions in personality and psychopathology (p. 245).

Morelli and Tronick (1991) recommend a strategic model as an alternative to attachment models developed by Bowlby, Ainsworth and others. They view normal human development “as occurring through an interaction of mutually regulatory behavioral strategies flexibly developed by children and caregivers in the service of achieving short and long term goals (p. 41). The authors refer to children’s strategies as resource acquisition strategies and to those of caregivers as investment strategies.
Morelli and Tronick (1991) use the term resource in both material and psychological senses. According to this perspective caregivers strategies have three main purposes, which are claimed to be universal; “infant survival and eventual reproduction; economic self-reliance; and enculturation” (p. 41).

**Stability of Attachment**

Attachment theorists claim that attachment is formed during the first years of life and is resistant to change in later years. There has been strong interest in testing this hypothesis. Finding empirically answers to this claim is important for two main reasons. On the one hand, as pointed out by Shaver and Norman (1995) if such stability did not exist there would not be much research interest in attachment theory. That is to say, if one’s attachment style was easily changeable over time, then it wouldn’t be a stable enough concept to be captured in empirical inquiries, nor would it have any substantial implications. On the other hand, if one’s attachment style were not changeable, then the theory would not have much clinical or practical value, for there would not be any sense in attempting to modify some unchangeable construct. There is evidence supporting both the stability and malleability of attachment. Reviewing studies on attachment continuity Shaver and Norman (1995) concluded that one’s attachment style “is quite stable but not precisely measured” (p. 494). Furthermore they recommend that assessing adult attachment might have a great deal of relevance to the individuals’ present relational circumstances. Consequently, the relevance of current relational circumstances might pose doubt on the reliability of self-report measures of adult attachment.

Research on stability of attachment has confirmed Bowlby’s proposition that attachment is relatively stable yet modifiable (Lopez & Gormley, 2002). Moreover, such
stability is found regardless of the assessment method used. Indeed, Lopez, and Gormley (2002) report studies (i.e. Baldwin & Fehr, 1995) finding only 30% of individuals who displayed change in attachment orientation over various time intervals. This change was not due to lack of reliability of the assessment methods used. These findings are important in that if attachment orientations were unchangeable attachment theory would not have much practical value. That is to say, such relative flexibility in attachment orientation over time does give room for clinical interventions.

Although the more reliable ways of looking into attachment stability should involve longitudinal studies, inquiries with cross-sectional methodologies also reveal valuable information. One of the frequently reported ways of testing attachment stability involves comparing percentages of infants and adults in each attachment category. Such a method is based on the premise that if the percentages are similar to statistically significant degrees, then such similarity implies continuity in individuals’ attachment orientations.

Hazan and Shaver (1987) developed a questionnaire to measure adult attachment styles. They used the three classifications used by Ainsworth et al. (1978); secure, avoidant and anxious-ambivalent. The breakdown of their participants’ attachment styles was as follows; 55% secure, 25% avoidant, and 20% anxious-ambivalent. This distribution was similar with those of infant studies. Furthermore, their findings were supported by other studies with adults both in the United States and in several industrialized countries (Shaver & Clark, 1996). Such studies did not only show similar percentages of attachment styles but also supported some essential tenets of attachment theory.
For instance, the participants who were classified as secure reported positive views of themselves and of their partners.

**Criticism of Attachment Theory**

Morelli and Tronick (1991) criticize attachment theory for attempting to identify a universal optimum of human development. They furthermore, propose that it is not feasible to identify a universal process for social and emotional development. Infant-caregiver relationship cannot be seen as the sole determining factor in human development. For instance, the mutuality embedded in infant-caregiver interactions must be taken into account. Also, due to the complex nature of the contexts in which the development of human babies takes place, there are various other factors to be considered. For example, individuals other than the caretaker might also influence development. Indeed, there are communities in which caretaking is done by multiple individuals.

Morelli & Tronick (1991) also raise some concerns about the Strange Situation procedure (Ainsworth et al., 1978). They point out that there have been various crosscultural studies with non-US populations that found differing proportions of infants falling into the original three attachment categories. Considering culture specific child rearing practices, differing values about independence, self-reliance, and meanings attributed to children’s interactions with strangers, these findings are not surprising. Perhaps it would better encompass the complexity of the conditions in which human babies are being raised if developmental models such as attachment theory were to assume an ecological-contextual view in identifying the safety, desirability and growth-adaptability fostering of a given developmental environment.
This would not necessarily undermine the crucial role of those who are in close contact with infants, including the primary caregiver(s).

As mentioned before, among other issues the scope of attachment has generated a great deal of discussion. For instance, although they acknowledge that attachment patterns might impact various features of social behaviors, Bartholomew and Thomson (1995) specifically emphasize that attachment is “only a key aspect of relational behavior in a narrow subset of relationships, notably parent-child relationships and long-term sexual relationships” (p. 485). Thus the authors caution against “the indiscriminate extension” of attachment concepts to all social relationships.

Some researchers have criticized attachment theory for proposing a deterministic perspective on human development (Morelli & Tronick, 1991). Such analysis views attachment theory’s emphasis on the impact of early development as faulty. However, attachment theorists such as Bowlby (1988) view impacts of early experiences from a developmental pathway model. A pathway model does give an essential role to the relative stability of internal working models once they are developed. In the mean time, such a perspective provides sufficient room for modification and alteration of internal working models. Accordingly, such a model acknowledges that through greater self-understanding, interpersonal relationships, and many other factors some individuals with insecure internal working models could develop more adaptive functioning, whereas some with secure internal working models could demonstrate significant adjustment difficulties (Kenny & Rice, 1995).

A number of researchers have studied the degree to which attachment theory’s basic tenets apply to other cultures. Cultural groups vary in the extent to which they
emphasize certain emotional expressions and behaviors as favorable and others to be avoided (Harwood et al., 1995). Such cultural meaning systems function as conceptual frame of references with which individuals interpret their emotional experiences. For instance, in Turkish culture being nice and well mannered is a highlighted construct. On the other hand, in American culture self-sufficiency is highly valued. Therefore, individuals from these two cultures would attribute different degrees of importance to personal adequacy versus their own public images. It is essential to note that such frameworks are not merely guides for individuals to interpret and attribute meaning to their experiences and behaviors but they also function in the same manner in perceiving others.

Classification of Attachment Orientation

The original categorization of attachment patterns originated from laboratory observations of infants and their caregivers by Mary Ainsworth and her colleagues (1978). This observational arrangement, also known as the Strange Situation (Ainsworth et al., 1978), was a standardized procedure consisted of the following stages;

1. Mother and infant enter an unfamiliar room
2. Mother sits, letting the baby explore (3 minutes)
3. An adult stranger enters the room, sits down, talks to the mother and then tries to engage the infant in play (3 minutes)
4. Mother exits the room, leaving the baby with the stranger (up to 3 minutes)
5. First reunion; mother returns, stranger leaves, tries to settle the baby if necessary then withdraw to her chair (3 minutes)
6. Mother exits the room, leaving the infant alone (3 minutes)
7. The stranger returns to the room, tries to settle the baby if necessary, then withdraws to his/her chair (up to 3 minutes)
8. Second reunion, mother returns and stranger leaves. Mother settles the infant and tries to withdraw to her chair (3 minutes).

Based on the infants’ behaviors in this procedure these researchers identified three patterns on attachment to the caregiver. They confirmed their laboratory findings with observations at these participants’ home settings (Goldberg, Muir, & Kerr, 1995). They found that there was a great degree of parallel between infants’ behaviors in these two settings.

From the Strange Situation procedure, Ainsworth et al. (1978) identified three categories of attachment, namely, secure (type B); anxious-ambivalent (type C); and avoidant (type A). They differentiated these types based on babies’ behaviors indicative of discomfort while caregivers departed and on their attitudes toward the caregivers upon reunion. The researchers observed that the caregivers’ behaviors were complimentary to those of the infants. Secure infants showed moderate degrees of seeking closeness with their caregivers. They were upset when the caregivers left the room and greeted them positively upon their return. The anxious-ambivalent infants sought and rejected closeness. They were strongly upset when their caregivers left the room and were not easily consoled. These babies’ caregivers also displayed inconsistent behaviors. Their attitudes ranged from being overly responsive to rejecting at different times of the observations. Finally, Ainsworth et al. (1978) observed that the avoidant infants showed indifference when their caregivers left the room. Similarly, they avoided their caregivers when they returned to the room. Similar lack of responsiveness was found in the caregivers behaviors toward the infant during the play, which was a part of the Strange Situation.
Through their work Main and Solomon (1986) identified some infants who did not fit in any of the original three categories. They labeled this attachment category as disorganized type (type D) (Flanagan, 1999). These infants were characterized with the lack of any organized pattern of behavior upon the departure or reunion with their mothers. Flanagan (1999) asserts that such infant behaviors are associated with abuse or chronic depression in mothers.

As mentioned earlier, Bowlby (1980) suggested that attachment patterns are formed as a result of infants’ efforts to seek and maintain parental access. Main (1990) referred to these efforts as primary strategies, which are analogous to secure attachment orientation. She proposed that when such strategies don’t yield to favorable outcomes, infants form secondary strategies. There are two secondary strategies: deactivating and hyperactivating strategies. These strategies coincide with dismissing and preoccupied attachment styles respectively.

There have been attachment models developed specifically for adult attachment. Some of these models have had significant impact on adult attachment research (Bartholomew, & Horowitz, 1991; Brennan, Clark, & Shaver, 1998; Fraley et al., 2000; Hazan and Shaver, 1987). Relying on continuity of internal working models Hazan and Shaver (1987) adapted the three infant-attachment organizations (Ainsworth et al., 1978) to adult romantic love. They summarized each relational orientation in a paragraph. Participants were to pick the most fitting statement to their relational patterns. Each of these statements corresponded to the original three-category model of Ainsworth and colleagues (secure, avoidant, and anxious/ambivalent).
Later, Bartholomew and Horowitz (1991) proposed a four category-adult attachment model. This categorization is based upon individuals’ internal model of self and other. These authors dichotomized persons’ models of self and other and came up with four combinations: secure, preoccupied, dismissing, and fearful. Secure persons perceive themselves worthy and lovable and others as generally accepting. Preoccupied persons feel themselves as unworthy but have a highly positive image of others. Thus such persons are thought to be preoccupied with relationships. Dismissing individuals have an overall positive perception of self and a negative perception of others. Accordingly, such individuals try to maintain a certain distance in their relationships in order to protect their perceived sense of independence and invulnerability. Finally, fearful individuals hold a perception of self as unworthy and others as rejecting and untrustworthy. Hence, these persons would make sure not to get close to others in order to avoid the presumed-inevitable rejection.

<table>
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<tr>
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<td>Positive (Low)</td>
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Table re-printed with the permission of Bartholomew & Horowitz (1991, p. 227)
During the last two decades various models of attachment and its measurement have emerged as a result of the immense growth in attachment research. This diversity has been highly fruitful. On the one hand, it has caused confusion. New researchers in the area of attachment were faced with many options in terms of conceptualization and measurement of attachment. Brennan, et al. (1998) developed a new model and a corresponding measurement instrument in an effort to overcome this confusion. This effort was to promote theoretical clarity and measurement precision. Part of the need for such clarity and precision was that some authors had identified individuals who didn’t quite fit any of the categories. Such persons had presented a rather mixed orientation that was a combination of two categories (Bartholomew & Horowitz, 1991; Crittenden, 1988; Main & Solomon, 1986). Thus examining the original data by Ainsworth et al.’s (1978), Brennan et al. (1998) identified two discriminant functions; anxiety and avoidance. It must be noted however that this was not the first attempt in identifying underlying factors or dimensions of attachment orientations. As mentioned above the model by Bartholomew and Horowitz (1991) also used a two dimensional model with which they came up with their four categories (model of self; model of other). Indeed, Brennan et al. (1998) acknowledge that a negative model of self is associated with anxiety, while a negative model of other is related to avoidance. These two models are relevant but not identical. One of the important differences is that the model by Bartholomew, and Horowitz (1991) identifies attachment categories, whereas the model by Brennan et al. (1998) identified scores on continues subscales of anxiety and avoidance. This model was improved by Fraley et al. (2000) who utilized the Item Response Theory in formulating and validating their model.
Similar with Brennan et al. (1998), these researchers offer model of attachment which measures attachment orientation on continues dimensions of anxiety and avoidance in close-romantic relationships.

**Research on Attachment**

Attachment research originated from inquiries on infant-caretaker relationships. After mid 1980s two different lines of research emerged: (a) studies focusing on attachment styles’ of adults in predicting their infants’ attachment behaviors in laboratory conditions (i.e. the Strange Situation), and (b) studies focusing on attachment styles and their relevance to adult behavior in the context of romantic relationships (Shaver & Clark, 1996).

A significant body of research has illustrated that attachment patterns observed in infancy significantly predict a child’s later social behaviors with peers, family members, teachers and so on. Shaver and Clark (1996) provide a detailed account of the research done with the three-category model of Hazan, and Shaver (1987). Adults with avoidant attachment described their parents as rejecting and nonaffectionate, reported having poor relationships with their parents during college years, (Hazan & Hutt, 1993; Rothbard & Shaver, 1994). Compared to individuals with other categories of attachment, these persons were more likely to have a parent with an alcohol problem (Brennan, Shaver, & Tobey, 1991). Furthermore, individuals with avoidant style expressed a lack of interest in developing intimate relationships (Shaver & Brennan, 1992); were pessimistic about having long-term relationships (Hazan & Shaver, 1987); compared to the secure ones they were more likely to have break ups; (Hazan & Shaver, 1987; Shaver & Brennan, 1992) and were less likely to grieve after a break up; (Simpson, 1990). In their work environments, avoidant individuals preferred to work alone and used work to avoid close
relationships (Hazan & Shaver, 1990). Finally, these persons were more likely than the other two groups to be agnostic or to view God as controlling and distant (Kirkpatrick & Shaver, 1992).

Shaver and Clark (1996) summarize current research findings on adults who were classified as anxious-ambivalent as the following: These individuals referred to their parents as intrusive and unfair (Hazan & Shaver, 1987); they expressed longing for romantic relationships (Hazan & Hutt, 1993); showed more obsessive behavior toward their partners and suffered from extreme jealousy, were argumentative, intrusive and overly controlling (Hazan & Shaver, 1987). These persons were also more likely than the other two groups to have break ups and to get back together with the same partner (Kirkpatrick & Hazan, 1994). They preferred working with others but felt unappreciated and misunderstood (Hazan & Shaver, 1987). Interestingly, religious anxious-ambivalent individuals reported having experiences of speaking in tongues than the other two groups (Kirkpatrick & Shaver, 1992).

Regarding research findings of the secure group, Shaver and Clark (1996) report the following: Such individuals describe their parents in favorable ways and maintain positive relationships with them during their college years (Hazan & Shaver, 1987). In addition, these persons are highly invested in their relationships (Collins & Read, 1990); they tend to choose conflict resolution strategies that are satisfactory to them and to others (Pistole, 1989a). They were more likely to have long lasting-stable and mutually satisfying relationships (Hazan & Shaver, 1987; Kirkpatrick & Shaver, 1994). In their work environment they feel that they are liked by coworkers (Hazan & Shaver, 1987).
Finally, they appear to adopt their parents’ religious belief systems and conceive God in positive terms.

Some researchers have examined intergenerational transmission of attachment. Main (1995) looked into the relationship between parents’ early attachment experiences and their infants’ attachment behavior in the Strange Situation. She predicted that the more secure the parent the more secure the child would be. However, this assumption was not supported by her data. The crucial element was not whether the parent was nurtured or deprived but rather “the degree of coherence versus incoherence in the parent’s subsequent memory of her childhood” (Mitchell, 2000, p. 85). Hence, the content of early experience was not as important in impacting the future parenting behavior as was the parent’s narrative organization of the actual content. Slade (1997) postulates that such findings signify the importance of “listening for coherence, for the capacity to reflect upon and make sense of internal experience, and to listen for incoherence, of meaninglessness, of disorganization, and of disintegration, for moments when meaning cannot be made” (In Mitchell, 2000, p. 86).

It is essential to investigate factors beyond the relationship between the primary caregiver and the infant. There is a need for inclusion of various contextual factors in attachment research. In such a study with Israeli college students, Mikulincer and Florian (1999) looked at the correspondence between parents and their offsprings’ attachment styles. The researchers found that parents’ and children’s attachment styles did in fact match. However, this match was more significant with gender matching. In other words, such a correspondence was more visible between same-sex parents-children dyads. Such finding is partially challenging to assumptions of traditional attachment theory.
Attachment in Non-Human Primates

Since the development of attachment theory, many researchers have seen attachment as a product of evolutionary survival and as universal. Studies with different cultures as well as with species closer to humans could test validity of this proposition. Rosenblum and Paully (1991) looked at nonhuman primates attachment behaviors. They specifically focused on the primates’ utilization of environment in relation to the nature of their dyadic relationships with their mothers. The findings were consistent with the Yerkes-Dodson Law of arousal and learning (Yerkes & Dodson, 1908). In other words, the researchers found that when infants were forced into breaking contact with their mothers, they demonstrated diminished capacity to recognize certain characteristics of their environments and appropriately respond and adapt. The infants’ poor performance is attributed to the high level of anxiety and distress felt due to forced separation from their mothers. Moreover, when they had time on their own and were having to deal with their environment upon maternal rejection, the infants again displayed difficulty in coping. One the other hand, the primate infants demonstrated high degrees of adaptive behavior when they monitored their separations based upon their own affective state and moved away from an available and contingently responsive mother. Accordingly, Rosenblum and Paully (1991) concluded that it was permissive but responsive mothers who fostered such separation behavior that enabled the infants to effectively cope with their environments on their own.
Attachment in Non-Technological/Indigenous Communities

In their work, Morelli & Tronick (1991) studied social-emotional development and attachment process in 4 to 12 month-old children from a technologically simple culture-the Efe (Pygmies) of Ituri forest of Northeastern Zaire. They chose this specific culture because of the way of life of Efe who were hunters and gatherers- “a way of life argued to strongly resemble the niche of human adaptedness” (p. 45). The observations of infants of this age group confirmed the claim of attachment theorists that at these early times infants tend to prefer one caregiver as the basis for attachment formation. Hence the researchers noted that sufficient understanding of attachment process could be acquired when attachment is conceptualized as a process that “is supported by and grows out of the interplay of factors that are infant, mother and culture based” (p. 49).

As illustrated by the above studies there has been a great deal of effort to diversify attachment research. However, the existing literature has various measurement issues as well as methodological ones. Attachment research continues to utilize correlational methodologies as well as more complex ones such as path analysis. There appears to be an increase in the number of studies dealing with cause-effect relationships. This increase has become more visible particularly in last several years. A great portion of adult attachment research focuses on college students.

Attachment Theory and College Student Mental Health

There are various aspects of attachment theory that can be applied to college student development and mental health. According to attachment theory, close interpersonal relationships are important in various phases through the life span. Such bonds are thought to be even more crucial in transitional times, such as the adolescence
and young adulthood. Attachment theory is a theory of adaptation and adjustment, which are also major themes of college experience. Furthermore, attachment is relevant to college student development due to its emphasis on relatedness and its relevance to identity formation. Along with these characteristics of attachment theory below are some ways in which college students’ experience has been viewed in lights of attachment concepts.

College experience is often seen as a vital time of separation-individuation. From an attachment theory standpoint, leaving home for college very much resembles the Strange Situation (Ainsworth et al., 1978). Consequently, it is a crucible for separation-individuation and, thus for identity formation. That is to say, leaving home is an act toward increasing separation and, thus individuation. Group for the Advancement of Psychiatry (1990) views college experience as a modern rite of passage. College students go through a process of self-definition and strive to “forge a sense of identity in the context of their previous experiences, current relationships and future expectations” (Kenny & Rice, 1995, p. 433).

Such conceptualization is inline with traditional developmental theories (i.e. Eriksonian theory). Such models have been known with their emphasis on separation and individuation. On the other hand, attachment theory “highlights the adaptive value of supportive and interdependent relationships throughout the life span and especially during periods of stress, such as the transition to college” (Kenny & Rice, 1995, p. 435). Different developmental and personality theories have had varying emphasis on identity formation or relatedness. There have been various theoretical orientations that acknowledge these two processes as central to personality development (Blatt & Blass,
For instance, Bowen (1978) used the concept of differentiation; Klein (1976) used the term “we-ness”; Gilligan (1982) puts it as “self-in relation”; to Sampson (1988) recommended “enssembled individualism” to convey the dialectical unity of these two vital processes. Those supportive of attachment theory find it capable of capturing these two processes.

Various concepts of attachment theory have been applied to young adults’ college experience. Parental availability has been one of these concepts. Attachment theory looks at this availability based on the notion of secure base, which can foster young adults’ risk taking behavior and exploration in various areas of their lives, such as academic, social, and personal. Attachment theorists also see this secure base to have indirect contributions to one’s development and experience in college. Such contributions are thought to be through internal working models of self and other.

Attachment theory (Bowlby, 1988) proposes that when attachment figure has been available, responsive and reliable the individual will form an image/representation of self as good, worthy, and lovable. It also claims that such a person will have an internal model of other as trustworthy, responsive and reliable. Thus it is assumed that such individuals will be more likely to establish and utilize supportive interpersonal relations.

One of the key factors in applying concepts of attachment theory in understanding adult behavior or more specifically the behaviors of young-adult college students would be the construct of secure base. The beginning of college experience of traditional college students is one of the significant experiences of separation. From an attachment theory stand point this experience could be seen in light of whether the young college student perceives the home left behind as a secure base, which he or she could utilize in
order to master a new and challenging environment. In addition, the extent to which such perception is in existence could make it more likely for the young person to form new relationships that can also function as secure base in their new environments.

The connection between internal working models and psychological well-being is established with the assumption that internal working models influence ways in which one perceives subsequent life events. Thus it is thought that a person with negative internal working models would have a predisposition to perceive negative events as his or her failure, which would in turn perpetuate distress. Conversely, based on these assumptions Kenny and Rice (1995) postulate that college students who posses positive internal working models will be less vulnerable to experiencing possible situational stressors (i.e., rejection by peers or receiving undesirable grades) in ways that would be disempowering to the self. The authors go further to claim that those who anticipate others as trustworthy may be better equipped to form supportive relationships with peers and faculty. Therefore, it could be inferred that students with positive internal working models would be advantageous in obtaining, and maintaining social support, which is an important resource that aids to coping strategies.

In addition, college students use internal working models of self and others “as filters through which self-perceptions are developed and level of social support from others is judged” (Rice & Cummings, 1996, p. 51). These perceptions of self and other are crucial since the college experience is a period of identity formation (Chickering & Reisser, 1993). That is to say, the quality of such schemas will impact one’s sense of self. How college students perceive themselves has a great deal of impact on how they function as well as on how they build their futures.
Petersen et al. (1991) articulated a model of mental health trajectories that resembles Bowlby’s developmental pathway model. This model proposes that ways in which college students adjust to stressful events—whether they be situational or developmental—“is determined by internal and external resources” (Kenny & Rice, 1995, p. 437). Examples of internal resources would be self-efficacy, intelligence, coping skills, and so on. External resources refer to interpersonal resources, including attachment relationships. According to this model, internal and external resources moderate or buffer the distress experienced in challenging situations. In transitional periods such as late adolescence (college years) how a person copes with such challenges is important for constructive adaptation. Moreover, how such times are experienced will greatly impact the internal and external resources that will be available to the individual in subsequent periods of life.

In summary, attachment concepts have been utilized in understanding various aspects of the optimum balance between support and challenge college students seek in dealing with various developmental issues. Some examples of these issues are; identity formation, interpersonal competence, adjustment to a new environment, acquiring academic competence, affect regulation, and the like.

**Attachment Research and College Student Mental Health**

Since the beginning of the last decade there has been increasing interest in attachment theory for understanding of late adolescents (Rice & Cummings, 1996). This attention has resulted in a great number of studies. Along with the interest in attachment theory, the emphasis on college students might also be due to their availability as research participants. The following is an extensive review of some of these studies.
It is a curious question as to whether attachment or its artifacts lead to healthy adjustment. Empirically supported answers to this question could improve the clinical utility of attachment theory. In their study with college students, Engels et al. (2001) hypothesized that the relationship between parental attachment and emotional adjustment is mediated by social skills and relational competence. The findings revealed a moderate association between parental attachment and social skills. On the other hand, parental attachment and relational competence were found to predict adolescents’ emotional adjustments. Further studies are needed to explain as to what specific components of attachment lead to adaptive competencies.

College students often seek counseling services for complaints about their romantic relationships (Creasey, Kershaw, & Boston, 1999). Studies have found associations between late adolescent attachment difficulties with a range of issues in romantic relationships (Bartholomew & Horowitz, 1991; Brennan & Shaver, 1995; Creasey & Hesson-McInnis, 2001; Feeney & Noller, 1990; Hazan & Shaver, 1987). More specifically, studies have confirmed that insecure attachment is associated with a variety of issues in interpersonal relationships, including romantic ones. In their work, Creasey and Hesson-McInnis (2001) used path analysis to identify associations between attachment orientation and conflict management strategies in steady relationships. They found that students with insecure attachment orientations were more likely to report greater negative affect during disagreements, and less confidence in coping with such disputes. However, similarities between anxious and avoidant groups’ conflict management strategies were questionable. In other words, these authors concluded that “avoidant and anxious adolescents may select conflict management tactics by different
affective-cognitive routes or trajectories” (p. 92). In addition, contrary to their expectations, the authors did not find significant gender differences in negative or positive conflict tactics. This study supported the hypothesis that secure attachment has favorable impacts on conflict management strategies in interpersonal relationships. However, it also confirmed the need for further investigation of the precise cognitive-affective components of differences in conflict management strategies as they relate to attachment orientation.

In their extensive review of literature on college students, Rice and Cummings (1996) conclude that secure attachment is associated with personal and interpersonal well-being, whereas, insecure (avoidant and anxious/ambivalent) attachment is correlated with issues such as depression, eating disorders, lower self-esteem, and lack of assertiveness. However, the researchers note that studies with such results had only moderate effect size. Thus they hypothesized that looking into the degree of correspondence between parents and children’s perceptions of their bond could yield to better understanding of the unaccounted variance in the pervious studies.

**Attachment and Adjustment to College**

Hazan and Hutt (1993) studied new college students’ transition from home to college. They found significant differences between secure and insecure attachment groups in seeking and utilizing social support. Secure students reported negative affect for having left home. They had frequent contact with home. These contacts were initiated by the students, their families and friends. These students found such efforts of family and friends as supportive. Compared to others, these students were most likely to be visited by parents. Finally, after the first semester they were functioning at their pre-
college levels with few visits, if any, to the student health clinic. On the other hand, students with insecure attachment indicated lower levels of functioning prior to college. They reported feeling better upon leaving home. The persons in anxious subgroup felt less lonely and depressed, whereas, the avoidant participants felt lonely and depressed but with less anxiety and fewer physical symptoms. During the first semester individuals with anxious style had frequent contacts with home. They initiated the majority of these phone calls and the phone conversations were usually ended by friends and family members. Students with avoidant style had the fewest number of contacts with home. They mostly initiated and ended these contacts. Compared to the secure group anxious and avoidant students were less likely to be visited by their family members. In their second semesters anxious students reported feeling worse than they did during the first semester. These students were lonelier than the secure and avoidant ones and more likely to have visited the student health clinic. Finally, Hazan and Hutt (1993) found the avoidant group functioning better than anxious ones and worse than secure ones in their second semesters. The findings of these researchers confirmed that although all the groups sought support, only the secure group benefited from it. Shaver and Norman (1995) indicate that such findings also illustrate the coexistence of secure internal working models and a security-sustaining social support network. This co-occurrence is consistent with attachment theory’s hypothesis that secure attachment can be instrumental in developing and maintaining healthy interpersonal relationships. Findings of Davis, Morris, and Kraus (1998) also supported this hypothesis.
Kenny and Perez (1996) propose that students of ethnic and racial minorities would have additional challenges in adjusting to college because they are more likely to experience the environment as alienating and lacking support. These authors indicate that due to their collectivist cultural backgrounds students of color are more likely to rely on support from their extended families as they go through stressful experiences, such as adjusting to college. They add that combined with their minority status, these students are more likely to come from economically deprived working class backgrounds, which might further complicate their adaptation. In their work Kenny and Perez (1996) examined the relationship between attachment status and psychological well-being of a multiethnic and economically disadvantaged sample of first year college students. They found that attachment security was associated with psychological well-being and college adjustment. One of the unique findings of this study was that along with security of attachment, whether the students had a perceived encouragement of their families toward autonomy or not was also found to be a significant factor in their psychological well-being and adjustment to college.

In conclusion, there is increasing empirical interest in attachment theory and its application to young adult college students. Although still barely reaching at applied level, the current body of research has in fact revealed a great deal of knowledge in understanding college experience from an attachment point of view. Perhaps more important than whether attachment theory could be utilized as a metaperspective (Lopez, 1995) or not is the degree of research it has stimulated in the area of college student mental health.
Personal Meaning

Various researchers have examined the link between attachment status and a range of indicators of well-being. These studies have focused on attachment’s relation to social and relational competence (Engels, Finkenauer, Dekovic, & Meeus, 2001); self-esteem (Rice & Cummings, 1996); self-efficacy (Rice & Cummings, 1996); autonomy, competence and relatedness (La Guardia et al., 2000); health and illness (Feeney, 2000); psychological health of partners in long term marriage or cohabiting relationships (Kotler & Omodei, 1988); dynamics of client-therapist relationship (Delvey, 1985; Pistole, 1989b, 1999); lack of symptomatology (Kenny, Brabeck, & Fife, 1998; Raja, McGee, & Stanton, 1992); career development (Bluestein, Prezioso, & Schultèsis, 1995); and self-worth (Kenny et al., 1998). These studies found moderate to strong associations between secure attachment and measures of well-being. Along with the research tradition investigating development of psychopathological symptomatology, there has been a line of research examining development of adaptive mechanisms. This research was in part inspired by traumatic events such as the experience of German concentration camps during the World War II. Researchers intended to find out as to how some persons manage to survive through such tragic experiences. Victor Frankl who was a survivor of these camps was a major figure impacting this school of thought. However, such inquiries date before Frankl. For instance, the German philosopher Friedrich Nietzsche’s writings influenced scholars like Frankl in their quest toward understanding what enables individuals to endure seemingly unbearable conditions of living. The decades following the war witnessed great interest in finding out the buffering effects against high-stress situations.
Frankl (1963) saw meaning as one of these buffers. In his book *Man’s Search for Meaning* he summarizes this with a quote from Nietzsche: “he who has a why to live for can bear with almost any how” (p. 121).

For practical purposes the term meaning is often used to refer to purposefulness. It appears that what many scholars meant (i.e. Friedrich Nietzsche and Victor Frankl) with the term meaning rather had an ontological emphasis. That is to say the concept did not merely address the extent to which one feels or act in goal-oriented manners. The term appears to be used to refer to one’s ongoing quest for feeling a global sense of worthiness in being in this world, which exceeds the sum of his or her acts, aspirations and so on. This point is summarized by Wong (1998) as follows; “meaning seeking depends not only on what a person thinks or does, but also on who the person is” (p. 113). This view of the term meaning appears to be an essential feature of the self-actualizing person Maslow (1968). A close look at how Maslow conceptualized the concept of self-actualization does not only reveal the presence of a deep sense of meaning in one’s life but also an openness to experiencing life. Such openness might be closely related to attachment theory’s concept of exploration, which involves seeking new experiences in the presence of perceived availability of a secure base to return to in the face danger or distress. Empirical observations of Jean Piaget (1972) and evolutionary scholars have illustrated that similar with other species, humans are inclined to actualize or put in practice their potentialities. Perhaps factors such as attachment security are important so as to allow or facilitate such actualization of one’s capacity.

Klinger (1998) provides linguistic-etymological, philosophical and psychological analyses of the term meaning. These analyses indicate that in many languages the words
corresponding to the term meaning refer to aim, goal, and intentionality. It is referred to as a high cognitive entity with goal-directed, attributional, motivational, and integrative qualities. In other words, meaning is closely associated with the goal directed nature of human behavior, thus it is motivational. As such, it is thought of as a construct that connects related mental representations therefore, having an integrative function. Klinger (1998) notes that without such function human behavior would be merely guided by instincts or impulses. In short, meaning making is an evolutionary gain of the human species. Klinger (1998) furthermore claims that the human brain cannot sustain purposeless life. He postulates that meaningfulness is an inevitable need that is vital for human functioning and survival.

What happens when there is a lack of meaningfulness? According to Klinger (1998) prolonged lack of meaning and goals would inevitably lead to psychopathology. Klinger further claims that having aversive goals would similarly lead to pathology. There could be direct and or indirect connection between lack of meaning and behavioral patterns that are self-destructive. In the absence of goals and purposes one would resort to other means to improve a sense of well-being (Klinger, 1998). One of the issues often associated with a lack of goals and purpose is depression, which is often characterized with excessive self-criticism. Similarly, absence of meaning or presence of predominantly aversive goals could lead to prolonged negative affective states such as stress and anxiety that can constitute risk to one’s physical well-being.

Klinger (1998) introduces empirical studies reporting associations between perceived level of personal meaning and various indicators of well-being and psychopathological symptoms. Some of these indicators are as the following: global
sense of well-being, substance abuse related issues, and depression. However, these reports indicate a great need for studies focusing on personal meaning and various mental health or physical health related variables.

There are no empirical studies dealing specifically with attachment and personal meaning. The only study available is a dissertation study (Rood, 2000) examining the relationship between a sense of coherence and attachment, which involves meaningfulness or personal meaning as a component of coherence. Similarly, relations between depression or anxiety and personal meaning have only been studied as a part of the concept of sense of coherence (Rood, 2000; Sandell, Blomberg, & Lazaar, 1998). The current research is aimed at looking into interrelations among personal meaning, attachment status, gender, depressiveness, and trait-anxiety.

**Attachment and Psychopathology**

There have been many studies investigating adult attachment and psychopathology (Allen et al., 1996; Bartholomew & Horowitz, 1991; Cummings & Davies, 1996; Dozier, 1990; Feeney & Noller, 1990; Hazan & Shaver, 1987; Kobak & Hazan, 1991; Magai et al., 2000; Main, 1996; Rosenstein & Horowitz, 1996; Pianta et al., 1996). These studies acknowledge associations between insecure attachment and psychopathology as well as secure attachment and various indicators of well-being (del Carmen & Huffman, 1996; Rosenstein & Horowitz, 1996). On the other hand, as pointed out by Roberts et al. (1996) the underlying mechanisms of these associations are yet to be examined. According to attachment theory, the quality of attachment plays a crucial role in leading to vulnerability to psychopathology (Rosenstein & Horowitz, 1996).
Early attachment relationships and those that follow in later years play crucial roles in fostering resilience versus vulnerability. It is thought to be so because human life span development involves ongoing tasks and challenges. The outcomes of such tasks are greatly dependent upon one’s internal and external resources. Such outcomes are important in their own right as well as in impacting later development.

Insecure attachment has often been associated with psychopathology. Nevertheless, such information might not have much practical value unless it reaches some degree of precision. For instance, there is ample reason to question what types of insecure attachment are related to specific psychopathological symptoms. As mentioned before, by providing templates for interpretation of experience internal working models are adaptive tools enabling a sense of continuity in one’s perception of self, the other and social relationships. Main (1990) asserts that some children with insensitive parents might develop conditional or secondary attachment strategies to maintain a sense of continuity in proximity to attachment figures and self-organization. She further notes that such strategies are defensive in nature. Main (1990) recommends that coupled with children’s relative limitations in cognitive capacities the unconscious nature of these strategies make it difficult to be easily accessible for revision. Whether insecure or secure, internal working models are unconscious and resistant to change. Rosenstein and Horowitz (1996) believe that since internal working models guide expectations and interpretations, individuals form relationships that are consistent with their existing internal working models. The authors state that such “defensively biased multiple models form the initial defensive structures that can lead to such defensive- distortions in personality and psychopathology (p. 245).
Attachment is often mentioned along with exploratory behavior. Attachment theorists propose the human infant should feel the availability of a responsive and available caregiver in order to safely explore the world around. That is to say, the attachment bond is an important component and prerequisite of exploratory behavior. On the other hand, such behavior is in fact antithetical to attachment (Guidano & Liotti, 1983). Exploration refers to infant’s efforts in searching and learning away from the caregiver. Hence, “it implies detachment or active separation” (Guidano & Liotti, 1983, p. 102). Such an interrelation brings out the importance of attachment within the context of human experience and development. Guidano and Liotti (1983) point out that as individuals learn survival skills, any problems in establishing a balance between attachment and exploration could lead to distortions in either or both areas. As a result, in an effort to adopt, the infant may compromise either attachment or exploration. For instance, the infant might be anxious about the availability of the attachment figure that he or she could put great effort in maintaining proximity rather than freely exploring the environment. More importantly this early formations are thought to establish patterns that could impair development and lead to pathways to psychopathological symptoms (Guidano & Liotti, 1983).

The link between attachment and maltreatment might appear obvious. However, as Toth and Cicchetti (1996) point out, not all maltreated children have insecure attachment. This might be due to many factors including the presence of more positive relationships during or after maltreatment. The authors noted that there is a great deal of empirical evidence suggesting that compared to non-maltreated children, maltreated ones are more likely to develop depressive symptoms. Toth and Cicchetti (1996) found that
the likelihood of forming psychopathological symptoms was most significant among survivors of sexual abuse. Moreover, among sexually abused children those with confused patterns of relatedness reported the highest levels of depressive symptoms. The researchers used relatedness as an attachment-like construct. Patterns of relatedness were significant contributing factors to depressive symptomatology as well as impaired sense of social acceptance. Furthermore, the children with confused patterns of relatedness showed highest levels of depressive symptomatology whereas, children with impaired social acceptance reported disengaged-deprived patterns of relatedness. Experiences of maltreatment have significant impacts on internal working models of self and other. Cole and Putman (1992) maintain that such experiences could lead to (a) deviations in the processes of defining, regulating and integrating components of the self; and (b) deviations in perceptions of others as trusting and reliable. Cole and Putman (1992) also note that these deviations interfere with perceiving self as a coherent entity and forming a sense of identity. In addition, issues with affect regulation, impulse control, and self-destructive behaviors are commonly encountered issues by childhood sexual abuse survivors. Finally, such deviations also seem to often lead these individuals to experiencing relationships in ways that maintain the existing perceptions of the self and others.

Maltreatment or severely traumatic-experience in sensitive developmental times are thought to often result in dissociation. Liotti (1999) summarizes studies associating disorganized attachment with adult experience of dissociation. Although the findings in this area of research are tentative and mixed, Liotti reported a body of research supporting some developmental continuity between childhood experience of disorganized
attachment and adult tendencies of dissociation. He adds that along with the presence or absence of disorganized attachment, the experiences leading to them are also important to be taken into account. This notion corresponds to the idea that “success in the personal synthesis as a matter of degree within a continuous process of meaning making rather than as an all-or-none phenomenon” (Liotti, 1999, p. 298).

Some attachment researchers have criticized the existing diagnostic system. Zeanah (1996) asserts that attachment disorders should be conceptualized in relational terms. He criticizes Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV; American Psychological Association, 1994) and International Classification of Diseases (10th ed.; ICD-10; World Health Organization, 1992) for conceptualizing attachment disorders in merely intrapsychic terms. Zeanah also finds the procedure of the Strange Situation (Ainsworth et al., 1978) problematic by basing attachment on separation and reunion, which he claims to be only two aspects of attachment relationships. Thus Zeanah (1996) cautions that the behaviors in the Strange Situation are not indicative of psychopathology but are rather risk for psychopathology. Furthermore, he contends that “attachment problems become psychiatric disorders when emotions and behaviors displayed in attachment relationships are so disturbed as to indicate, or substantially to increase the risk of, persistent distress or disability in the infant” (p. 47).

In conclusion, Zeanah (1996) endorses the conceptualization of Lieberman and Pawl (1988), who defined attachment issues as disorders of secure base. Hence, Zeanah recommends the following three patterns of secure base distortions formulated by
Lieberman and Pawl (1988):

The first, recklessness and accident proneness, described infants who failed to check back with their caregivers at times when their infants’ attachment system ought have been aroused. In the second type, inhibition of exploration, infants seemed unwilling to venture away from the secure base that their caregivers were to provide. Finally, in the third pattern, precocious competence in self-protection, infants seemed to have inverted the secure base so that they were excessively self-reliant and providing care and protection to the parent. (Zeanah, 1996, p. 48)

**Attachment Status and Depressiveness**

Susceptibility to depression is often linked to two personality traits: dependency and self-criticism or perfectionism. Blatt (1974) was the first researcher to formulate this model. Dependency is referred to as a need for love and approval. Whereas self-criticism or perfectionism is viewed one’s concern about achievement and success. However, what seems to be problematic is not the mere presence of such needs and tendencies. How these needs lead to vulnerability to depression has rather to do with the extent to which they dominate one’s personality.

Although there is a great deal of empirical work supporting this model, there have been considerable questions raised about it, particularly from attachment theorists (Whiffen et al., 2000). The underlying motivation for both traits seems to be approval of others. The difference between them has to do with the means through which this approval is sought. Whiffen et al. (2000) asserted that the above-mentioned model operationalizes dependency and self-criticism in ways that conflict with attachment theory’s emphasis on the necessity of interpersonal approval seeking as a natural and healthy need. Furthermore, these researchers hypothesized that items of dependency measures assessing neediness would be associated with depressive symptoms more so than connectedness items. Indeed, their findings confirmed that neediness was correlated
with problematic interpersonal and intrapersonal functioning more so than connectedness. In addition, the findings indicated that self-criticism was more strongly associated with interpersonal functioning than was neediness. Whiffen et al. (2000) reasoned that this is so because self-critics are characterized by emotional distance and hostility. Finally, the findings showed that neediness was associated with depressive symptoms for women but not for men.

In a similar study Enns, Cox, and Larson (2000) looked into self-criticism and dependency in relation to perceived parental practices. They found that overprotection by father was related to self-criticism in males, lack of maternal and or paternal care associated with self-criticism in females. Dependence was only related to a lack of paternal care in females.

Carnelley et al. (1994) utilized an attachment framework in examining depressive experiences. They noted that attachment theory could facilitate valuable insight into the experience of depression for it integrates individual and interpersonal factors. Such integration is achieved through the concept of internal working models. As mentioned before, these models are cognitive and affective representations of the self and other that result from close relationships at crucial early developmental periods. Carnelley et al. (1994) found depression to be related to insecure internal working models. They also found that compared with nondepressed ones, female college students who were mildly depressed were more likely to have an insecure attachment style; preoccupied, fearful or avoidant. On the other hand, recovering clinically depressed women were more likely to have a fearful avoidant style but not a preoccupied one when compared with nondepressed ones. Similarly, working with a sample of children, Muris, Mayer, and
Meesters (2000) found that insecure attachment was associated with depression. The researchers did not find any significant difference between avoidant and ambivalent styles.

Adam et al. (1996) examined attachment organization with a clinical sample. Attachment organization was classified based on the following formulation:

An autonomous or secure state of mind (F classification) is characterized by good access to memories of early attachment history and ability to describe this experience and its effects coherently. A dismissing state of mind (Ds classification) is characterized by idealization or derogation of the parents in which the individual claims of memory for childhood and emphasizes personal strength or normalcy. A preoccupied state of mind (E classification) is characterized by a focus on relationships with parents in either an angry unobjective manner (E2 subcategory) or passive, helpless manner (E1 subcategory). A third subcategory (E3) applies to individuals who appear to overwhelmingly preoccupied with trauma (p. 366).

The researchers also used an additional category (Ud classification) for those who indicated unresolved-unorganized responses to attachment related trauma. The findings of this study showed that unresolved-disorganized, and preoccupied classifications were significant predictors of suicidal history in a clinical sample. On the other hand, dismissing category was negatively associated with having a history of suicidal behavior. History of suicidal behavior was associated with symptoms of both externalizing (delinquency) and internalizing (depression). In order to examine associations between emotional biases and attachment Magai et al. (2000) used a four-category (Bartholomew & Horowitz, 1991) attachment classification system. Their results indicated the preoccupied category of attachment was “predicated by parental love withdrawal, facial disgust, fantasies of closeness and affiliation, and trait anger and depression” (p. 301).
Rosenstein and Horowitz (1996) hypothesized that “continuity with the mental organization of attachment throughout the life span and between generations is of central importance in the psychopathology of adolescence” (p. 245). They expected high correspondence between adolescent and maternal attachment styles. Moreover, the authors hypothesized that there would be associations between certain psychiatric disorders and attachment-related mental organizations that lead to ways in which distress is dealt with. Furthermore, these authors envisaged that issues such as conduct disorder, narcissistic personality disorder in which distress is not acknowledged, affect is contained, and expression is externally directed would co-occur with dismissing attachment style. Conversely, issues such as depressive and anxiety disorders “in which distress is acknowledged, modulated, and symptom expression is directed toward the self” (p. 246) would co-occur with preoccupied attachment style. Rosenstein and Horowitz (1996) confirmed both of these hypotheses in their study with a clinical sample.

Comparing a clinical group to a nonclinical one, Fagony et al. (1996) found strong association between psychiatric disorders and unresolved difficulties of early relationships. Similarly, the authors found the narratives of the clinical group to include experiences distinctively beyond those in non-clinical group, which they view as suggestive of a causal relationship. Narratives of the psychiatric patients’ on the Adult Attachment Interview (AAI, George et al., 1985) placed them in preoccupied and unresolved categories. Anxiety was associated with the unresolved classification of attachment. Furthermore, AAI scales illustrated that individuals with eating disorders held idealized views of parents while depressed individuals held lower idealization of their
parents. The researches also found that depressed individuals had high scores on the anger scale of AAI. They interpret this finding as supportive of the psychoanalytic notion that depression stems from anger directed toward the self.

Perfectionism and codependence are often linked to depressiveness. It has always been a part of human experience to strive for improvement. Some of these efforts can be perfectionistic. Rice and Mirzadeh (2000) worked with a sample of college students. They compared students who used predominantly adaptive to those with maladaptive perfectionism. The researchers investigated if attachment predicted the type of perfectionism among college students. Their results showed that adaptive perfectionists were more likely to report secure attachment. On the other hand maladaptive perfectionists were more likely to experience depression to a clinically significant degree. Accordingly, it could be inferred that secure attachment might facilitate realistic self-perception, expectations and aspirations. Furthermore, the above findings confirm that secure attachment is associated with hope and optimism.

Researchers have paid a great deal of attention to the concept of codependence. The issue is frequently mentioned in attachment literature (i.e. Springer, Britt & Schlenker, 1998; Bartholomew & Horowitz, 1991). Springer et al. (1998) studied associations between codependency, relationship quality, and personality characteristics. Their findings demonstrated that codependency was related to lower self-esteem and lower perception of interpersonal control. In addition, it was associated with greater self-consciousness, social anxiety, and insecure attachment. A unique finding of this study was that codependency was associated with greater ability for empathy and emotional disclosure in relationships. However, such ability did not seem to foster increased sense
of connectedness, and supportiveness in close relationships. Contrary to common notions about codependence, college students with codependency were found no more caring and supportive to their partners. These participants in fact reported greater competitiveness with partners.

Studies involving attachment and depression have often focused on currently experienced depression. Not all individuals who experience depression at some given times in their lives could be seen as having a general vulnerability to depression. Accordingly, clinical work with individuals who do have such vulnerability and interventions with those experiencing depression at a given time would naturally differ. Such difference might not be only in the kinds of therapeutic interventions but also perhaps in their duration. In other words, those with depressiveness as a trait-like construct might in fact need longer-term psychotherapy. In short, the current study intended to focus on depressiveness as opposed to currently experienced depression among college students in an attempt to make a unique contribution to attachment literature.

**Attachment Status and Trait-Anxiety**

The literature on trait-anxiety includes a great deal of debate as to whether it is analogous to the concept of sensitivity to anxiety. Some view the two concepts as similar while others consider them as two related yet distinct constructs. Although a discussion on these two views exceeds the scope of the current study, due to the interpersonal focus of attachment theory, it seems reasonable to assume these concepts as similar.

One of the basic premises of attachment theory is that internal working models are the means by which attachment behavior and affect are regulated from the beginning of life on. Anxiety has been the most commonly studied emotion related to attachment.
In fact, in the original attachment classification formulated by Ainsworth et al. (1978) one attachment style was referred to as anxious-ambivalent. This specific orientation corresponds to the recent preoccupied attachment category, which has been found to be closely associated with the experience of anxiety. Torquati and Vazsonyi (1999) indicate that:

relationship specific models of attachment include expectations about the behavior of the self in the context of a specific relationship and of specific significant others [and that also] internal working models are activated in the context of perceived threat, and therefore, function as an organizational construct for affect, appraisal, coping behavior, and conflict resolution styles. (p. 546)

Furthermore, when the attachment system is activated, the secure individuals tend to seek proximity, while insecure ones develop secondary strategies (Main, 1991) to “regulate negative affect and or availability of the attachment figure” (Torquati and Vazsonyi, 1999, p. 547). As mentioned earlier, the terms ‘secondary strategies’ and ‘insecure attachment’ have been used interchangeably. Of insecure individuals, preoccupied ones are characterized by tendencies to be (a) overly involved in close relationships; (b) heavily dependent upon others’ acceptance for a sense of well-being; and (c) incoherent in disclosing their stories about close relationships (Kemp & Neimeyer, 1999). More importantly, as pointed out by Kobak and Sceery (1988), preoccupied individuals tend to have mechanisms of hyperactivation of distress, which might be the linking factor between this attachment orientation and the experience of anxiety.

There is convincing empirical evidence linking preoccupied attachment with anxiety. Kobak and Sceery (1988) worked with a sample of first year college students to examine associations between attachment orientations and affect regulation. They found that preoccupied individuals’ self and peer reports indicated higher levels of anxiety than
did the secure and dismissing ones. Similarly, Meyers (1998) looked into attachment styles of college students and their relationships with experiences of affect management and anxiety. He found significant correlations between insecure attachment style and difficulty in affect management and higher reports of anxiety. As noted by Kobak and Sceery (1988) despite the empirical support linking preoccupied attachment and anxiety, little is known about how these individuals cope with such high levels of anxiety. Hence, the authors recommend that perhaps due to (a) preoccupation with close relationships; (b) the urgency with which they seek and experience relationships; and (c) their tendencies to be clinging and dependent might interfere with successfully alleviating high anxiety. In other words, it could be inferred from this hypothesis that individuals who have higher levels of trait-anxiety and who are preoccupied would perhaps enter relationships hoping to alleviate their anxiety since they tend to draw comfort and self-acceptance from such relationships. However, this very higher level of anxiety might interfere with such relationships occurring in stable and satisfying manners. Consequently, such experiences might confirm their early working models and representations of the self and other. Thus the experiential cycle of high anxiety-relationship seeking-and anxious-ambivalent orientation to relationships would be maintained.

Despite the existing body of research reporting a strong link between preoccupied attachment and anxiety, there aren’t many studies specifically addressing trait-anxiety and its relationship to attachment status. In one of the few methodologically sound studies in the literature Evans and Wertheim (1996) found a significant relationship between preoccupied attachment and trait-anxiety. They assert that individuals with this attachment orientation have a high level of reporting negative affect, which might explain
their commonly experienced dissatisfaction in close relationships. Similarly, Dozier, Stevenson, Lee, and Velligan (1992) found that greater preoccupation was related to increased report of psychiatric problems.

It could be hypothesized that compared to those with dismissing attachment, individuals with preoccupied style might be more likely to benefit from psychotherapy since they tend to have greater oriented toward relationships. However, in their work with a clinical sample Fagony et al. (1996) found that dismissing persons were more likely to show improvement in therapy. There haven’t been other studies focusing on associations between attachment orientation and responses to psychotherapy.

There is a great need for additional studies. Such need is not only vital from an empirical point of view, more importantly such work could inform clinical practice with individuals have higher vulnerability to anxiety. If there were such a link to be confirmed by scientific studies, then it might be useful to consider utilizing interventions that involve a strong focus on early experiences and interpersonal aspect of such persons’ lives. This study intended to trait-anxiety as it relates to attachment orientation, gender, personal meaning, and depressiveness.

**Attachment and Gender**

A great number of researchers (i.e. Belenky et al., 1986; Gilligan, 1982) have recommended that compared to males, females tend to have a more relational orientation. The works of such authors have stimulated a great deal of studies research in various areas. Kenny et al. (1998) report that cross-sectional studies have not found any significant gender differences in adolescents’ parental attachment. These researchers found that adolescent boys perceived less stability in their parental attachment than did girls. Furthermore, changes in the level of perceived parental attachment was more
influential on boys’ well-being. Therefore, Kenny et al. (1998) concluded that boys were more vulnerable to psychological distress while experiencing trouble in close relationships because their relationships are less stable or secure.

Gender differences might exist in measures of well-being. Kotler and Omodie (1988) report that women prefer to talk with intimates while men prefer companionship and shared activities. Thus they infer that such difference might differentially function as a buffer against stress. Kobak et al. (1991) assert that along with insecure attachment, gender could be one of the variables that could add to risk factors for adolescent depressiveness. Their findings did indeed confirm that females were in greater risk for depressive symptomatology than males.

Cole-Detke and Kobak (1996) studied attachment, eating disorders and depression in women. They found that when eating disorders and depression were reported together women tended to have hyperactivating strategies (preoccupied attachment style). On the other hand, when they presented with eating disorders deactivating strategies (dismissing attachment style) were more prevalent. When women reported eating disorders and depression, they had the most extreme levels of symptomatology. As noted by the authors these findings might be due to the attachment classification system they used. They indicate that if they had utilized a four-category classification perhaps these women would have unresolved attachment classification as opposed to the preoccupied one.

As mentioned earlier some authors link codependence with depression (i.e. Blatt, 1974). In their work with college students Springer et al. (1998) found no significant differences between males and females’ scores on dependence. Volling, Notaro, and Larsen (1998) found that in general women were more likely to report depressive affect
than their husbands. Avoidant husbands married to secure wives were more depressed than secure husbands—regardless of whether the secure husbands were married to secure or avoidant wives.

Kobak et al. (1991) found that female adolescents were at greater risk to experience depression than their male peers. The researchers propose that this might be due to females’ tendency to adopt preoccupied attachment orientation. Perhaps males and females respond differently to normative frustrations and distress at given developmental stages. In other words, females might be more likely to respond to distress with strategies of internalization while males are likely to use externalization. Consequently, high levels of distress might predispose females for depression and males for conduct related problems (Kobak, Sudler, & Gamble, 1991).

Kirkpatrick and Davis (1994) found significantly high occurrence of pairing between anxious (preoccupied) and avoidant (dismissing) individuals. Furthermore, this frequency was more pronounced when the female partner was avoidant and male partner anxious. On the other hand, non-avoidant males indicated a preference for non-anxious females and non-anxious females reported a preference for non-avoidant males. The authors observed pairing of secure males and avoidant females to rank second in frequency. These findings could be viewed as supportive of stereotypical male tendency for independence and female tendency for relatedness. Partners’ relationship ratings showed that persons’ ratings were more influenced by their own attachment status than their partners’.

Kirkpatrick and Davis (1994) also looked at relationship stability based upon attachment style. Females did not show any significant differences in stability based on
their attachment status. On the contrary, anxious males showed the lowest degree of relationship stability. Furthermore, the researchers reason that relationships involving avoidant women, who are not sufficiently skilled in relationships, would show the highest breakup rates. Relationships involving anxious women, for whom relationships are very important, would show greatest stability.

The above studies seem to point to differences in attachment and affect regulation strategies. Therefore, examining how gender relates to attachment status, affect-regulation (trait-anxiety and vulnerability to depression), and personal meaning among college students would further understanding of college student mental health.

**Summary**

There has been a debate among scholars as to whether attachment could be a utilized as a metaconstruct (Lopez, 1995) that could guide conceptualizing normal human development as well as development of psychopathology. Those who support the idea seem to have a very strong emphasis on the importance of close interpersonal relationships. On the other hand, the authors who oppose to the idea tend to view attachment as an important construct that is informative only in early close relationships and later in romantic relationships. Even without making a choice between these two points of view, it could safely be concluded that attachment theory does offer vital insight into close relationships. Considering the importance of close relationships through the life span, attachment theory, thus can at least offer essential insight into this crucial domain of human functioning.

The importance of close relationships is paramount at times when there is high degree of activity for self-definition. In addition, presence of supportive relationships is
extremely beneficial at times where individuals go through challenging transitional experiences. The experience of college students involves both of these characteristics. Therefore, research with attachment theory—which not only offers insight into their interpersonal life but also into adaptation—might help tailor mental health services to the needs and nature of this group.

Along with academic and career concerns, college students also bring a great deal of interpersonal and affective issues to counseling. Consequently, greater insight in affect regulation and interpersonal domains of college students could enrich counseling services. Accordingly, the current study is aimed at examining college students’ traits such as depressiveness and anxiousness in light of attachment. It also incorporates personal meaning and gender. By using personal meaning as a measure of well-being, the study is intended to strike a balance between negative and positive correlates of attachment. Including gender is useful because it may reveal meaningful differences or similarities in terms of relationality (attachment), affect regulation (depression and anxiety) and purposefulness (personal meaning).
CHAPTER 3
METHODOLOGY

Statement of Purpose

The purpose of this study was to investigate if college students’ attachment orientation and gender had any significant relationships with measures of well being (personal meaning) and of vulnerability to psychopathology (depressiveness and trait-anxiety). This chapter introduces the research hypotheses, delineation of variables, population, and sampling procedures. It also presents the data collection, the data analysis procedures, the measurement instruments and the limitations of the study.

Hypotheses

This study investigated the following are null hypotheses:

Ho1: There is no significant relationship between college students’ attachment status and their level of personal meaning.

Ho2: Gender, personal meaning, depressiveness and trait-anxiety do not significantly predict college students’ placement in attachment categories (secure, fearful, preoccupied, and dismissing; secure versus insecure).

Ho3: There is no significant relationship between college students’ attachment status and their level of depressiveness.

Ho4: There is no significant relationship between college students’ attachment status and their level of trait-anxiety.

Ho5: There is no significant relationship between college students’ gender and their attachment status, their levels of personal meaning, depressiveness, and trait-anxiety.

Ho6: There is no significant relationship between college students’ level of personal meaning and their level of depressiveness.
Ho7: There is no significant relationship between college students’ level of personal meaning and their level of trait-anxiety.

Ho8: There is no significant relationship between college students’ level of depressiveness and their level of trait-anxiety.

Ho9: There is no significant relationship among college students’ attachment status, level of personal meaning, level of depressiveness, and level of trait-anxiety.

**Delineation of Relevant Variables**

**Independent Variables**

College students’ attachment status and gender were the two independent variables of this study. Attachment status was defined as college students’ relational orientation based upon perceived degrees of anxiety and avoidance in the context of romantic relationships. Attachment status was be measured using the Experiences in Close Relationships-Revised (ECR-R; Fraley, Waller, & Brennan, 2000). Thus for the purpose of this study, attachment is conceptualized inline with the research tradition of Hazan and Shaver (1987) who found adult attachment in romantic relationships as the adult-equivalent of attachment in childhood. Moreover, attachment is viewed according to the models by Brennan et al. (1998) and Fraley et al. (2000). Unlike the categorical model of Hazan and Shaver (1987), these researchers view attachment in terms of dimensions of anxiety and avoidance.

As recommended by Brennan et al. (1998) comparisons with previous studies using categorical models will be done in the following manner: (a) Low scores on both avoidance and anxiety dimensions correspond to the secure category. (b) High scores on the avoidance and low scores on anxiety dimensions will correspond to avoidant (dismissing) category. (c) High scores on the anxiety and low scores on the avoidance dimension will correspond to the anxious-ambivalent (preoccupied) category of
attachment. (d) High scores on both anxiety and avoidance dimensions will correspond to the fearful classification of attachment. This four-category model was originally developed by Bartholomew and Horowitz (1991).

In the analyses where attachment was conceptualized as a categorical variable, personal meaning, factors depressiveness, and trait-anxiety were used as the independent variables. The categorization of attachment was intended to make comparisons with prior research possible since most of such studies used attachment as a categorical variable.

**Outcome Variables**

College students’ levels of personal meaning, depressiveness, and trait-anxiety were the three outcome variables of this study. When conceptualized as a categorical variable, attachment classification was also used as an outcome variable.

**Personal Meaning**

Personal meaning refers to the extent to which college students attribute meaningfulness and purposefulness to their lives. Personal meaning will be assessed by the Life Regard Index Revised (LRI-R; Debats, 1998). Higher scores on the LRI-R indicate a greater level of perceived meaningfulness.

**Depressiveness**

Depressiveness refers to an individual’s proneness to experiencing depressive symptomatology. Depressiveness was conceptualized in accordance with the research tradition of Blatt (1974), and Blatt, D’Afflit, and Quinlan (1976) who viewed the construct as consisting of two factors; dependency and self-criticism. Depressiveness will be measured using Depressive Experiences Questionnaire (DEQ; Blatt et al., 1976).
Higher scores on DEQ indicate a greater likelihood of college students’ sensitivity to experiencing depressive symptoms.

**Trait Anxiety**

Trait-anxiety is defined as college students’ relatively stable proneness to perceiving life situations as threatening and reacting to these situations with elevated states of anxiety. Trait-anxiety will be measured by the trait scale of State-Trait Anxiety Inventory (STAI Form Y; Spielberger, 1983). According to the theoretical framework of Spielberger, Gorsuch and Lushene (1970) higher scores on the STAI indicate greater likelihood of proneness to anxiety in a variety of situations.

**Population**

The target population of this study was traditional age (18-23) undergraduate students enrolled at the University of Florida.

**Sampling Procedure**

A convenience sample was used for this study. It consisted of undergraduate students in four personal growth classes taught at the College of Education. Two interpersonal communication classes, one stress and anxiety management and one alcohol and drug abuse class, were sampled. Students in these classes were informed about the survey by their respective instructors. All the students present in these classes, who were between ages of 18-23 and who volunteered to participate were included in the study. While none of the students present in these classes declined participation in the study, 12 could not do so because they were older than 23. In addition, 2 students had taken the survey in another class, and were also excluded from the survey. The participation was voluntary and students received extra credit from the instructors of the above courses.
A total of 166 individuals completed the survey. Eleven of these students (6 males 5 females) either did not fully complete the survey packet or completed inappropriately. Thus the responses of these persons were not included in the analysis. As a result of this deletion a total of 155 persons’ responses were used in the analyses (N = 155). Fewer than 1/3rd of participants were males (48 persons, 31 %), whereas over 2/3rd were females (107 persons, 69%).

Data Collection Procedures

The time of the administration of the survey was arranged with the instructors of the above courses. These instructors informed the students at least a week ahead of the time. Upon presenting to these classes, the respective instructors introduced the researcher to the students. Students were fully informed about their rights as research participants. They were also assured about the confidentiality of their responses. Upon obtaining their consent (see Appendix A), students were given the survey packets. Twelve students indicated that they were older than 23. These students were not included in the study and they left the classroom. The awarding of these students with extra-credit point was left to the discretion of their instructors. When all the students completed the surveys, they were fully informed about the study and welcomed to ask any questions they had. Furthermore, they were given contact information for any questions or concerns they might later have.

Instrumentation

This study used the Experiences in Close Relationships-Revised (ECR-R; Fraley et al., 2000) to measure attachment status; the Life Regard Index-Revised (LRI-R; Debats, 1998) to assess personal meaning; the Depressive Experiences Questionnaire
(DEQ; Blatt et al., 1976) to measure depressiveness; and the trait scale of the State-Trait Anxiety Inventory (STAI- Form Y; Spielberger, 1983) to assess trait anxiety. The survey also inquired the gender and ages of the participant.

**The Experiences in Close Relationships Questionnaire-Revised (ECR-R Fraley, Waller, & Brennan, 2000)**

The Experiences in Close Relationships Questionnaire (ECR; Brennan, Clark, & Shaver, 1998) is a 36-item Likert type self-report measure of adult attachment. More specifically, it measures adult attachment within the context of romantic relationships. The questionnaire has two subscales each represented by 18 items. These subscales are Anxiety and Avoidance. The Anxiety scale measures one’s self-reported degree of anxiety in romantic adult relationships, whereas Avoidance assesses the extent of avoidance of intimacy in such relationships. The ECR-R differs from the majority measures in that it does not specify types. It rather places individuals’ attachment orientations on the continuum of these two dimensions. The security of attachment is conceptually placed at lower levels of these two dimensions. It is worth noting that the scores on these two factors can be converted to place respondents into three or four categories.

The ECR emerged from a close look at measures of attachment, including the first procedure utilized by Ainsworth et al. (1978), which is known as the Strange Situation. Brennan, Clark and Shaver (1998) recognized that both psychometrically and conceptually these measures were in fact assessing intimacy-related anxiety and avoidance. Such conceptualization is practical. For instance, it eliminates constraints of prototypical models.
In other words, viewing attachment orientation on a two-dimensional space is more inclusive of various attachment organizations, including disorganized attachment (Main & Solomon, 1986).

Since the work of Brennan et al. (1998) involved the comparison of various self-report measures of adult attachment, their findings could be interpreted as criteria for concurrent validity of the ECR. One way in which researchers typically test concurrent validity of an attachment instrument is to compare percentages of attachment types with those of other measures (Brennan et al., 1998; Fraley et al., 2000). Such comparisons are challenging since the measures use prototypes that are not only diverse in numbers (i.e. two, three, four etc.) but also are conceptually different. Consequently, the conclusions drawn from these comparisons are often tentative. Brennan et al. (1998) compared scores on anxiety and avoidance dimensions of the ECR to rates of Bartholomew and Horowitz’s (1991) classifications. They combined Bartholomew and Horowitz’s four-category classification into secure versus insecure. Only over half (52.8%) of individuals classified as secure on Bartholomew and Horowitz measure were placed as secure according to the ECR. Thus 47.2% of the secure group was classified as insecure on the ECR. About eleven per cent of persons classified as insecure were placed as secure by the ECR. 88.8% of those classified as insecure by Bartholomew and Horowitz were placed as insecure with the ECR. These findings point to some considerable convergence between the two measures. However, they also show the difference in assessing the secure classification. More specifically, the ECR appears to be significantly more conservative in placing individuals in the secure category than the Bartholomew and Horowitz’s (1991) measure. Brennan et al. attribute this difference in the ECR’s ability
to more precisely discriminate different degrees of insecure attachment. Further comparisons of these two measures revealed that the two ECR dimensions are conceptually highly similar with Bartholomew’s (Bartholomew & Horowitz, 1991; Griffin, & Bartholomew, 1994) two axes. Brennan et al. found that the Anxiety dimension corresponded to Bartholomew’s Self-model dimension, whereas Avoidance was similar with her Other-model dimension. In short, these findings could be interpreted as evidence for satisfactory concurrent validity of the ECR.

Brennan et al. (1998) found a correlation coefficient of .12 between the two factors of the ECR, which illustrates that the dimensions of anxiety and avoidance are independent constructs, and are thus orthogonal. Of all the measures used in the study the researchers identified 60 subscales for statistical comparisons. Anxiety and Avoidance accounted for 62.8% of variance in the 60 subscales. The highest loading subscales on the factor 1 (Avoidance) were; Avoidance of Intimacy (Rothbard et al., 1993); Discomfort with Closeness (Feeney, Noller, & Hanrahan, 1994); and Self-Reliance (West & Sheldon-Keller, 1994) with correlations of .91, .90, and .88 respectively. On the other hand, the subscales with highest loadings on the factor 2 (Anxiety) were Preoccupation (Feeney et al., 1994); Jealousy/Fear of Abandonment (Brennan & Shaver, 1995); and Fear of Rejection (Rothbard et al., 1993) with corresponding correlations of .86, .85 and .83.

Fraley et al. used the Item Response Theory (IRT: van der Linden & Hambleton, 1997) analysis of self-report measures of adult attachment in revising the ECR. The item response theory models are “designed to represent relations between an individual’s item response and an underlying latent trait (Fraley et al., 2000, p. 351).
The IRT analysis illustrated that the ECR had better measurement properties than did other instruments. The authors obtained 50 to 100% improvement in measurement precision of the ECR. Fraley et al. (2000) indicate that similar with other measures of attachment (i.e. the Adult Attachment Scale-AAS, Collins & Read, 1990; the Relationship Style Questionnaire-RSQ, Griffin & Bartholomew, 1994; the Experiences in Close Relationships-ECR, Brennan et al., 1998) the ECR-R has limitations in precisely measuring high levels of attachment security. The authors attribute this limitation to the item pool from which it was constructed.

Fraley et al. utilized complex methods of the IRT to examine psychometric properties of four of the most commonly used self-report adult attachment instruments (the Adult Attachment Scale-AAS, Collins & Read, 1990; the Relationship Style Questionnaire-RSQ, Griffin & Bartholomew, 1994; the attachment questionnaire-unnamed, Simpson, 1990; the Experiences in Close Relationships-ECR, Brennan et al., 1998). Their findings revealed that The ERC (Brennan et al., 1998) had superior test information functions. For example, it had greater degree of measurement precision. Thus they recommend that it may be a preferable alternative to the other three measures. However, similar with the others, the ECR scales fail to measure the secure end of each dimension (Anxiety and Avoidance) as precisely as it does the insecure end.

Hence, they attempted to improve the ERC scales by looking at item discrimination values without increasing the number of items. In doing so they used the 323-item pool by Brennan et al. and performed principal-axis factor analysis (for details of these IRT procedures see Fraley et al, 2000). The authors improved the ECR scales’ ability to measure a wide trait range with high degree of precision. However, this
improvement was limited by constraints of the original item pool. Fraley et al. indicate
that the pool didn’t have sufficient numbers of items capturing the low end of the two
dimensions (Anxiety and Avoidance).

Thus they obtained median Beta1 values of –1.67 and –1.86 for Anxiety and
Avoidance respectively. The items with low Beta1 values also tended to have low
discrimination values. The correlation between alpha and Beta1 was .59 for Anxiety and
.68 for Avoidance. Therefore, Fraley and colleagues selected items with highest
discrimination values and came up with 18 items for each of the two factors. Thirteen of
Anxiety (72%) and 7 of Avoidance (39%) scale items were from the original ECR. Due
to this overlap of the items they refer to the new instrument as Experiences in Close
Relationships-Revised (ECR-R).

The comparisons of the test information functions of the ECR and the ECR-R
substantially favored the latter. Moreover, Fraley et al. report that they improved the
ECR’s measurement precision by 50 to 100% without increasing the number of items.
Despite this improvement the ECR-R still does have limitation in assessing the lower end
of the two dimensions, thus security of attachment.

Finally, Fraley and colleagues examined reliability coefficients of the ECR-R in
comparison with the other four instruments (including the original ECR).
The ECR-R had higher test re-test reliability coefficients (ranging from .93 to .95) then
the other measures.

The original ECR was constructed by using the highest factor loading items of
various existing self-report measures of adult attachment. As indicated by Brennan et al.
(1998) and Fraley et al. (2000) it has demonstrated superior psychometric properties than
the other measures. The ECR-R on the other hand could be thought of as an even more refined measure than the original ECR. Thus it appears to be the most preferable instrument of its kind.

The scores on the factors of attachment (anxiety and avoidance) in this study were calculated according to Fraley (2003). Using a classical test theory approach, attachment scores were calculated by summing students’ scores on these two factors. Similarly, the scores on the dimensions were converted into four categories of attachment according to Brennan et al. (1998). The four categories were secure, fearful, preoccupied, dismissing. These categories were originally developed by Bartholomew and Horowitz (1991). These categories were also converted into secure versus insecure for further analysis of the data. In this categorization fearful, preoccupied and dismissing classifications were combined into the insecure category.

**The Life Regard Index- Revised (LRI-R; Debats, 1998)**

Battista and Almond (1973) developed the original Life Regard Index (LRI), which is a 28-item Likert scale. The authors aimed at creating the LRI as a value-independent instrument that operationalizes the construct of positive life regard (Debats, 1998). The authors used the phrase value-independent to refer to a lack of affiliation with any specific belief system. Battista and Almond preferred to the term life regard to refer to one’s perception of life as essentially meaningful. They believed that the presence of a framework was an essential prerequisite to a sense of meaning. Furthermore, they proposed that the extent to which the goals of this framework are actualized would give a person a global sense of fulfillment with life. Hence, they constructed the questionnaire into two subscales: the Framework Scale (FS) and the Fulfillment Scale (FU). These two
scales are divided into positive and negative clusters, thus composing a total of four clusters. The clusters are: positive framework, negative framework, positive fulfillment, and negative fulfillment. Each cluster is represented by seven subsequent items. The authors indicate that FS “measures the ability of an individual to see his [or her] life within some perspective or context, and to have derived some-goals, purpose in life or life-view from them” (p. 411). FU measures the extent to which one has fulfilled or feels being in the process of actualizing this framework and goals. The questionnaire originated from two fundamental questions: “What is the nature of individuals’ experience of their lives as meaningful? And what are the conditions under which individuals will experience their lives as meaningful?” (Debats, 1998, p. 239).

The questionnaire is intended to assess one’s overall positive life regard. As mentioned above, Battista and Almond (1973) intended to construct the LRI as a value-independent instrument. Thus the items focus on one’s perceived degree of dedication to any sets of values, as opposed to some particular values. Findings of Nickels and Stewart (2000) supported this claim. The authors compared scores of the Rokeach Value Survey (RVS; Rokeach, 1973) with the LRI. The RVS is a 36-item questionnaire, designed to measure specific belief systems or value-orientations. Looking at the associations between the scores on the LRI and individual items on the RVS, Nickels and Stewart found low correlation coefficients ranging from of .16 and .30 for only four-out of 36 items. The rest of the items (32/36) were not correlated with the LRI.

Debats (1998) revised the original measure by Battista and Almond (1973). He randomized distribution of items belonging to each of the four clusters. In the original form (Battista, & Almond, 1973) the 28 questions were in four subsequent clusters of
seven items. Debats reasoned that such homogenous blocks would lead to biased responses. In addition, he eliminated descriptive responses such as much, completely, and very from three original items. Moreover, instead of using the 5-point rating scale Debats used a 3-point scale. He allocated 1, 2, 3 to correspond to do not agree, no opinion, and agree in scoring of the questionnaire. Thus 1, 2, 3 were used in scoring positive items, while 3, 2, 1 were used for negative items.

Battista and Almond (1973) reported high reliability and validity estimates for the original LRI. They investigated psychometric properties of the Index working with a sample of college students (N = 229). They found a test-retest reliability estimate of .94. The subscales of Framework and Fulfillment highly correlated with the total scores of the Index; .94 and .93 respectively. The authors found that the LRI significantly differentiated positive and negative life regard groups without the confounding impact of social desirability, which only accounted for 4% the variance. Battista and Almond also tested the concurrent validity of the LRI by comparing scores on the LRI and with scores on Rosenberg Self-Esteem Scale (1965). The correlation coefficient between scores of the two measures was .62 and significant.

Debats (1990) examined psychometric properties of the LRI with a sample of Dutch college students. He found Cronbach alpha estimates of internal consistency ranging from .86 (Index), and .80 (Fulfillment) to .79 (Framework). With respect to intercorrelations of the scales and the Index, Debats calculated Pearson correlations. The Fulfillment scale correlated with the Index .88, and the Framework and the Index .87, whereas the two subscales correlated .54. These statistics indicate that the subscales are highly related to the Index but are relatively independent.
Furthermore, Debats (1990) looked into relationships between subscales of the LRI measures of well being. He found chi square values attesting the construct validity of the LRI. For example, chi squares for happiness and life satisfaction scales were 30.23 and 17.65 respectively (df = 2; p < .001). The total score on the Index was also found to relate in expected directions to measures of pathological symptomatology with correlations between total LRI scores and anxiety and depression reaching -.32 and -.37, respectively.

Harris and Standard (2001) tested psychometric properties of the LRI-Revised with a sample of adults (N = 91) with varying demographic characteristics. The subscales of Framework (FS) and Fulfillment (FU) were correlated at .80. The test-retest reliability coefficients at 8-9 weeks were satisfactory for the full index, FS and FU (.87, .82, and .81 respectively). Similarly, Debats reported test-retest reliability ranging from .73 to .80. Due to the small size of their sample, Harris and Standard did not detect sufficient evidence supporting the theorized two-factor structure. With regard to concurrent and discriminative validity of the LRI-Revised, Harris and Standard found moderate to strong correlations with measures of similar constructs (i.e. Life Attitude Profile-Revised; Reker, 1992; Personal Meaning Profile; Wong, 1998).

There is a need for further testing of psychometric properties of the LRI-Revised with large and diverse samples. However, the existing preliminary findings do report satisfactory psychometric properties for the LRI-Revised as a measure positive life regard.
The scores on LRI-Revised were calculated following directions by Debats (1998). Such calculation involves assigning points from 1 to 3 to the regular items and 3, 2, and 1 to the reversed items and then summing all.

**Depressive Experiences Questionnaire (DEQ; Blatt et al., 1976)**

The DEQ (Blatt, D’Affliti, & Quinlan, 1976) consists of 66 Likert type items assessing dependency and self-criticism, which are considered to be fundamental personality traits associated with vulnerability to depression. Although Blatt and colleagues identified efficacy as a third factor, due in part to theoretical and clinical reasons often the first two factors have been used and investigated in studies involving the DEQ. In effect, the first two factors are thought to be associated with two types of depressive experiences, namely, anaclitic and introjective depression. The former type of depression is marked with “feelings of helplessness and weakness, by fears of being abandoned, and by wishes to be cared for, loved and protected” (Blatt et al., 1976, p. 383). The latter “is characterized by intense feelings of inferiority, guilt, and worthlessness and by a sense that one has failed to live up to expectations and standards” (p. 383-384). It is important to note, however, that the two types are not mutually exclusive. One can experience both types of depression simultaneously.

Drawing from works of several major figures (i.e. Bibring, 1953; Seligman, 1975; Beck, 1967; & Jacobson, 1971) in the area of depression research, Blatt et al. hypothesized that the DEQ would capture experiences associated with both types of depression. Hence, they expected the DEQ to assess these two underlying clusters of characteristics that contribute to predisposition to depression.
Although the items on the DEQ reflect experiences often reported by clinically depressed persons, the DEQ doesn’t assess symptoms of clinical depression.

In constructing the DEQ, Blatt et al. worked with a sample of college students (N=660). The followings were the items with the highest factor loading for dependency and self criticism respectively: “I often think about the danger of losing someone close to me” and “After an argument I feel very lonely;” “There is a considerable difference between how I am now and how I would like to be” and “I often feel guilty” (Zuroff & Fitzpatrick, 1995, p. 256). Individuals scoring high on dependency scale show preoccupation with feelings of abandonment and loneliness, whereas those with higher scores on self-criticism do so with professional or academic striving and feelings of worthlessness (Whiffen et al., 2000).

Blatt et al. (1976) tested the items of the DEQ with various other measures. They report overall satisfactory psychometric properties for the subscales of Self-Criticism, and Dependency. However, the authors rarely reported statistical values to confirm their propositions. They compared the DEQ factors to a modified form of the Self-Rating Depression Scale (Zung, 1973) for nonclinical subjects. Their sample’s mean (N = 128) was slightly lower (46.20) than the cut-off score (50) established by Zung. In addition, Self-Criticism but not Dependency significantly correlated with the total score on the Self-Rating Depression Scale (r = .54).

Zuroff and Fitzpatrick (1995) compared a college sample’s (N = 160) scores on the DEQ and the Sociotropy-Autonomy Scale (SAS; Beck, Epstein, Harrison, & Emery, 1983). The SAS constructs are theoretically similar with those of Self-Criticism and Dependency of the DEQ. More specifically, Sociotropy is relevant to Dependency
whereas Autonomy is associated with Self-Criticism. In fact, Zuroff and Fitzpatrick (1995) confirmed these two associations with correlation coefficients of .75 and .61 respectively. These correlations are statistically significant.

Zuroff, Moskowitz, Wielgus, Powers, and Franko (1983) tested the reliability and construct validity of the DEQ with a college sample. They administered the DEQ three times; pretest, second testing with an interval of 5 weeks and the third testing 13 weeks from the pretest. Zuroff et al. found that DEQ measures were independent at pre-testing all $r$’s < .15, and all $p$’s > .25. The measures were independent at post testing with the exception of a small correlation at the third testing $r$ = .30 ($N = 39; p = .05$). These researchers did not detect a significant change by time in mean scores of the Self-Criticism scale. On the other hand, they did find a significant but small time effect for the means on the Dependency scale ($F (1, 31) = 11.9, p < .001$). The mean scores increased from 1.43 to -.28, which was a change smaller than the standard deviation of .20. Zuroff et al. interpreted these findings as reasonable evidence for stability over time.

Zuroff, Igreja, and Mongrain, (1994) found similarly convincing evidence for the DEQ’s test-retest reliability (12 months) with $r = .79$. The same authors also detected high internal consistencies (Cronbach’s $\alpha = .75$). Zuroff, Quinlan, and Blatt (1990) found similar alpha values in their study with a large college sample ($N = 1154; 779$ females, and 373 males). They report Cronbach’s alphas for females as $\alpha = .81$ for Dependency and $\alpha = .75$ for Self-Criticism. Corresponding male alpha value were $\alpha = .80$ for Dependency and $\alpha = .77$ for Self-Criticism. These findings are in support of reliability of the DEQ.
To further examine the concurrent validity of the DEQ, Zuroff et al. (1983) compared scores of males and females with their scores on measures of guilt, self-esteem, and locus of control (Guilt Scale, Mosher, 1966; Self-Esteem Scale, O’Brien, & Epstein, 1974; & Locus of Control Scale, Rotter, 1966). Their comparisons were made based on gender and the two scales of the DEQ. The findings were in agreement with Blatt’s (1974) model. In other words, the various subscales of these tests were in general related to the DEQ subscales in theoretically expected directions and degrees.

Fuhr, and Shean (1992) examined test-retest (2nd test given 3-4 weeks later) reliability of the DEQ. They found a high coefficient of .86. The authors also tested the scale’s concurrent validity by comparing it to the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and selected scales (Deference, Autonomy, Succorance, and Abasement) of the Edwards Personal Preference Schedule (EPPS; Edwards, 1959). Their results indicated that the Dependency scale was positively correlated with the BDI ($r = .63, p < .001$) and the EPPS Abasement scale ($r = .52, p < .001$) and negatively correlated with the EPPS Deference scale ($r = -.29, p < .01$). The Self-Criticism scale was positively correlated with the BDI ($r = .40, p < .001$) and negatively correlated with EPPS Deference scale ($r= -.29, p< .01$) and the EPPS Succorance scale ($r= -.31, p< .01$). Considering the theoretical differences between the DEQ scales and BDI and those of the EPPS, these findings could be considered as supportive of the validity of the DEQ.

In conclusion, there has been a considerable body of research supporting the validity and reliability of the Dependency and Self-Criticism scales of the DEQ. Blaney and Kutcher (1991) indicate that the DEQ has been the most extensively researched
measure among instruments of its kind (i.e. the Sociotropy-Autonomy Scale by Beck, et al., 1983; the Anaclitic and Introjective Dysfunctional Attitude Scale by Mongrain & Zuroff, 1989). Given this accumulated work, the DEQ was used in this study to measure proneness to depression.

Scores on DEQ were obtained using calculation procedures of Santor, Zuroff, and Fielding (1997). These procedures involve a series of computer programs, which provide separate scores for each factor of depressiveness and a score for depressiveness. In other words, the depressiveness score is not calculated by merely summing the scores on the two subscales.

**The State-Trait Anxiety Inventory, Trait Version, Form Y (STAI-T; Spielberger, 1983)**

The State-Trait Anxiety Inventory (STAI) was developed by Spielberger et al. (1970). It is a brief self-report instrument assessing both state and trait-anxiety for clinical and empirical purposes (Spielberger & Sydeman, 1994). The STAI conceptualizes and measures state anxiety as the intensity of feelings of anxiety at a given time. On the other hand, it assesses trait-anxiety as one’s general tendency to feel an array of situations as threatening (Ramanaiah, Franzen, & Schill, 1983). Furthermore, Spielberger et al. (1970) referred to state anxiety (S-Anxiety) “as a temporal cross section in the emotional stream of life of a person, consisting of subjective feelings of tension, apprehension, and worry, and activation (arousal) of the autonomic nervous system (Spielberger, & Sydeman, 1994, p. 295). Thus the intensity of S-Anxiety varies depending upon time and circumstances. Trait-anxiety (T-Anxiety) was conceptualized as proneness to experiencing a wide range of stressful situations as threatening.
Thus Spielberger et al. (1970) hypothesized that individuals with high T-Anxiety would be more likely to respond to stressful situations with more frequent and higher levels of S-Anxiety.

The inventory is a widely used and reliable self-report measure of anxiety. In fact, it is translated to over 40 languages and is considered to be the most commonly used measure of anxiety across cultures (Hishinuma et al., 2001). Moreover, Kennedy et al. (2001) report that by 1989 there had been over 3000 published studies that had used the STAI.

Since the current study utilized the T-Anxiety scale (STAI-T) but not S-Anxiety scale, only psychometric properties of this scale are introduced here. The STAI-T is consisted of 20 statements. The respondents are asked to circle the number that best describes how they generally feel: 1 (almost never), 2 (sometimes), 3 (Often) and 4 (almost always). The following two statements are examples of items reflecting the presence and absence of t-anxiety.

Anxiety present: “I worry too much over something that really doesn’t matter;
Anxiety absent: “I am content; I am really a steady person”

The original STAI by Spielberger et al. (1970) is known as the Form X. Based upon the great deal of research accumulated for over a decade Spielberger (1983) revised the Form X in an effort to develop purer measures of state and trait-anxiety as well as to better discriminate between experiences of anxiety and depression (Hishinuma et al., 2001). This revised version of STAI is known as the Form Y.
Spielberger (1983) reports test-retest stability coefficients for the Y Form of T-Anxiety to range from .73 to .86 for college students and .65 to .75 for high school students. Alpha coefficients for internal consistency of the scale is reported to have a median of .90 for various populations such as working adults, college and high school students, and military recruits. Spielberger also reports item-remainder correlations as .50 or higher for all T-Anxiety items.

Spielberger (1983) eliminated items with depressive content such as “at times I think I am no good at all” or those highly related to anger than anxiety from the item pool to obtain greater validity. Furthermore, he tested concurrent validity by obtaining T-Anxiety scale’s correlations with commonly utilized trait-anxiety measures such as Manifest Anxiety Scale (MAS; Taylor, 1953) and The Anxiety Scale Questionnaire (ASQ; Cattell, & Scheier, 1963). Correlations with these two scales ranged from .73 to .85. Spielberger and Sydeman (1994) noted that the T-STAI has two major advantages to these two scales. First the T-STAI measures anxiety without including as much content of depression or of anger as these scales do. Second, it is half in length as the other two, thus it doesn’t take nearly as much time to administer.

Regarding the construct validity of the T-STAI, Spielberger (1983) reports that with the exception of personality disorders, the scale differentiated between normal and clinical subjects. In other words, clinical samples obtained overall higher scores on the T-STAI than nonclinical ones. Spielberger considers the lower T-STAI scores of individuals with personality disorders as further evidence of construct validity of the scale, reasoning that such persons’ unique ways of experiencing anxiety is a defining characteristic of their condition.
Along with extensive psychometric work done by Spielberger (1983) with larger samples of various populations, the STAI has been utilized in research and clinical practice worldwide. This popularity of the inventory is also evidence for its widely agreed upon psychometric properties. Thus the current study used this scale to assess trait-anxiety. The scores on STAI were calculated using the procedures specified in the test manual by Spielberger.

Data Analytic Procedures

The data of this study were examined using simultaneous multiple regression analysis, multinomial and binary logistic regression analyses, correlation matrix and t-test procedures. When examining attachment as a continuous-independent variable, simultaneous multiple regression analysis was conducted for each outcome variable; personal meaning, depressiveness, and trait-anxiety. Also, in order to predict individuals’ membership in each of four attachment classifications, multinomial logistic regression analysis was conducted. In addition, binary logistic regression analysis was used to predict college students’ placement in secure versus insecure attachment categories. Moreover, sets of t-tests were used to examine gender differences on all the measures of the study; attachment-related anxiety, attachment-related avoidance, personal meaning, self-criticism, dependency and trait-anxiety. Finally, to further investigate interrelations between each pair of the variables, correlation matrix was used for all the variables except for gender due to its categorical nature.
CHAPTER 4
RESULTS

Summary and Chapter Overview

The purpose of this study was to investigate relationships between attachment status, gender, personal meaning, depressiveness and trait-anxiety among traditional-age college students. This chapter introduces the sample, descriptive statistics, results of hypothesis testing, and a summary of the results. The descriptive statistics are presented in comparison with norm groups and samples of previous studies. Hypothesis testing was done using simultaneous multiple regression and multinomial logistic regression analyses. In addition, t-tests were conducted to examine gender differences. Finally, correlations between all the pairs of the variables were obtained to further examine interrelationships.

Descriptive Statistics

The sample of this study consisted of volunteer undergraduate students recruited from four personal growth classes in College of Education. A total of 166 students completed the survey. Eleven of these persons (6 males 5 females) either did not complete the survey packet or completed it inappropriately. Thus the responses of these persons were not included in the analysis. As a result of this deletion, responses of 155 were used in the analyses (N=155).
Fewer than 1/3rd of participants were males (48 persons, 31%), whereas over 2/3rd were females (107 persons, 69%). Fewer than 1/3rd of participants were males (48 persons, 31%), whereas over 2/3rd were females (107 persons, 69%). The ages of these students varied from 18 to 23. (Table 4.1)

Table 4.1
Frequencies for Gender

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Female</td>
<td>107</td>
<td>69.0</td>
<td>69.0</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>48</td>
<td>31.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>155</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.2
Descriptive Statistics for Attachment Related Anxiety, Attachment Related Avoidance, Personal Meaning, Dependency, Self-Criticism, and Trait-Anxiety

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment Anxiety</td>
<td>155</td>
<td>2.8896</td>
<td>1.1763</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>155</td>
<td>2.7523</td>
<td>1.1863</td>
</tr>
<tr>
<td>Personal Meaning</td>
<td>155</td>
<td>71.90</td>
<td>10.42</td>
</tr>
<tr>
<td>Dependency</td>
<td>155</td>
<td>132.2482</td>
<td>15.2489</td>
</tr>
<tr>
<td>Self-Criticism</td>
<td>155</td>
<td>111.2129</td>
<td>17.0503</td>
</tr>
<tr>
<td>Trait-Anxiety</td>
<td>155</td>
<td>37.18</td>
<td>8.60</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>155</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This study investigated five primary variables; attachment status, gender, personal meaning, depressiveness and trait-anxiety. Of these variables, attachment status and depressiveness consist of two factors. The dimensions (factors) for attachment status are attachment-related anxiety and attachment-related avoidance. The factors for depressiveness are dependency, and self-criticism. These four dimensions were treated as separate variables.
Table 4. 2 includes descriptive statistics for 6 variables; attachment-related anxiety, attachment-related avoidance, personal meaning, dependency, self-criticism, and trait-anxiety.

For comparison purposes, descriptive statistics on the Experiences in Close Relationships-Revised (Fraley et al., 2000) are reported along with those by Fraley (2003). Fraley (2003) reports descriptive statistics gathered from individuals who took the ECR-R on-line (N > 22,000; 78 % female, 22 male). The means of the current sample were lower than the Fraley (2003) sample with the exception of male avoidance scores. The standard deviations of both samples seem similar. (Table 4.3)

Table 4.3
Descriptive Statistics for Attachment-Related Anxiety and Attachment-Related Avoidance in Comparison to those of Fraley (2003)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Anxiety</th>
<th>避</th>
<th>Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Fraley (2003)</td>
<td>Male</td>
<td>3.64</td>
<td>1.33</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.64</td>
<td>1.33</td>
</tr>
<tr>
<td>Current sample</td>
<td>Male</td>
<td>2.75</td>
<td>1.09</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>2.94</td>
<td>1.21</td>
</tr>
</tbody>
</table>

Distribution of college students across attachment categories seem to be similar with that of a sample by Bartholomew and Horowitz (1991), who used their four-category measure in assessing attachment. Percentages of their sample were as the following; 57% secure, 15% fearful, 10% preoccupied, and 18% dismissing. As illustrated in Table 4.4, with the exception of the secure category, percentages of the current sample of were slightly higher. The percentage for the secure attachment was considerable lower for the current sample. This finding is not surprising since the ECR-R is known to be more conservative in measuring secure attachment (Fraley et al., 2000).
Table 4.4
Distribution of Participants into the Attachment Categories

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>72</td>
<td>46.5</td>
<td>46.5</td>
<td>46.5</td>
</tr>
<tr>
<td>Fearful</td>
<td>25</td>
<td>16.1</td>
<td>16.1</td>
<td>62.6</td>
</tr>
<tr>
<td>Preoccupied</td>
<td>23</td>
<td>14.8</td>
<td>14.8</td>
<td>77.4</td>
</tr>
<tr>
<td>Dismissing</td>
<td>35</td>
<td>22.6</td>
<td>22.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>155</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

As illustrated in Table 4.5, means and standard deviations for the Life-Regard Index-Revised (Debats, 1998) were lower than those of a general population-sample reported by Harris and Standard (2001). On the other hand, they were higher than a college sample by Nickels and Stewart (2000).

Table 4.5
Descriptive Statistics for the Life-Regard Inventory-Revised in Comparison to Those by Nickels & Stewart (2000); and Harris & Standard (2001)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current sample</td>
<td>71.90</td>
<td>10.42</td>
</tr>
<tr>
<td>Nickels &amp; Stewart</td>
<td>66.03</td>
<td>12.24</td>
</tr>
<tr>
<td>Harris &amp; Standard</td>
<td>73.06</td>
<td>10.57</td>
</tr>
</tbody>
</table>

Scores on the Depressive Experiences Questionnaire (DEQ; Blatt et al., 1976) were compared to those reported by Santor et al. (1997) from an undergraduate sample at McGill University, Montreal, Canada. As seen in Table 4.6, male scores on dependency for both samples seem similar, whereas the male scores on self-criticism of the McGill sample were overall higher than the current sample. Female scores on dependency were higher than those of the McGill sample. Female scores on self-criticism were lower than those of the McGill sample.
Table 4.6
Descriptive Statistics for Dependency and Self-Criticism in Comparison to a McGill University Sample

<table>
<thead>
<tr>
<th>Gender</th>
<th>McGill Dependency</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>124.22</td>
<td>14.27</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>130.72</td>
<td>15.98</td>
<td></td>
</tr>
<tr>
<td>McGill Self-Criticism</td>
<td>122.17</td>
<td>18.14</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>119.53</td>
<td>18.22</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependency</td>
<td>Male</td>
<td>125.37</td>
<td>13.99</td>
</tr>
<tr>
<td>Female</td>
<td>135.32</td>
<td>14.83</td>
<td></td>
</tr>
<tr>
<td>Self-Criticism</td>
<td>Male</td>
<td>113.93</td>
<td>11.41</td>
</tr>
<tr>
<td>Female</td>
<td>109.99</td>
<td>18.96</td>
<td></td>
</tr>
</tbody>
</table>

As seen in Table 4.7, the mean scores on trait-anxiety appear lower than norms for college students reported by Spielberger (1983). The means for males and females of the norm group were 38.30 and 40.40 with standard deviations of 9.18 and 10.15 respectively.

Table 4.7
Descriptive Statistics for Trait-Anxiety in Comparison to Norms by Spielberger (1983)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Current Sample</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>34.79</td>
<td>7.98</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>38.25</td>
<td>8.68</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Spielberger (1983)</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>38.30</td>
<td>9.18</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>40.40</td>
<td>10.15</td>
<td></td>
</tr>
</tbody>
</table>

Results

Hypothesis One

H₀₁: There is no significant relationship between college students’ attachment status and their level of personal meaning.

A simultaneous multiple regression analysis was conducted to test this hypothesis. While the outcome variable was personal meaning, the independent variables were attachment-related anxiety, attachment-related avoidance, gender, dependency, self-
criticism, and trait anxiety. As shown in Table 4.8, this model was significant ($F(6, 148) = 16.696, p < .0001$). Adjusted R Square = .379) and it accounted for 37.9 % of the variance in personal meaning. According to this model, only trait-anxiety ($t(1, 154) = -3.714, p < .0001$), and self-criticism ($t(1, 154) = -3.248, p < .001$) were significantly related to personal meaning. Both of these relationships were negative. On the other hand, neither attachment-related anxiety ($t(1, 154) = -1.914, p = .058$) nor attachment-related avoidance ($t(1, 154) = -1.070, p = .286$) had a significant relationship to personal meaning. Thus the null hypothesis was not rejected. In other words, there was no significant relationship between college students’ attachment orientation and their degree of personal meaning.

Table 4.8
Simultaneous Multiple Regression Output Using Personal Meaning as the Dependent Variable

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.635</td>
<td>.404</td>
<td>.379</td>
<td>8.21</td>
<td>.404</td>
<td>16.696</td>
<td>6</td>
<td>148</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Trait-Anxiety, Gender, Attachment Avoidance, Dependency, Attachment Anxiety, Self-Criticism

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>104.646</td>
<td>7.281</td>
<td>14.372</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Attachment Anxiety</td>
<td>-1.301</td>
<td>.680</td>
<td>-.147</td>
<td>.058</td>
</tr>
<tr>
<td></td>
<td>Attachment Avoidance</td>
<td>-.692</td>
<td>.647</td>
<td>-.079</td>
<td>.286</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>-3.742E-02</td>
<td>1.609</td>
<td>-.002</td>
<td>.981</td>
</tr>
<tr>
<td></td>
<td>Dependency</td>
<td>4.813E-02</td>
<td>.049</td>
<td>.070</td>
<td>.324</td>
</tr>
<tr>
<td></td>
<td>Self-Criticism</td>
<td>-.172</td>
<td>.053</td>
<td>-.281</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Trait-Anxiety</td>
<td>-.385</td>
<td>.104</td>
<td>-.318</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Personal Meaning

In short, neither attachment-related anxiety nor attachment-related avoidance was
significantly related to personal meaning. Hence, the null hypothesis was not rejected.
In other words, there was no significant relationship between college students’
attachment status and their level of personal meaning. For further examination of the
relationship between attachment and personal also see the next hypothesis.

**Hypothesis Two**

**Ho2**: Gender, personal meaning, dependency, self-criticism, and trait-anxiety do
not significantly predict college students’ placement in any of the four attachment
categories; secure, fearful, preoccupied, and dismissing.

Logistic regression analyses were used to test this hypothesis. Attachment
classification, a categorical variable with four levels, was the outcome variable. This
variable was also classified into two categories (secure and insecure). In these analyses,
gender, personal meaning, dependency, self-criticism, and trait-anxiety were the
independent variables.

A multinomial logistic regression analysis with main effects (gender, personal
meaning, dependency, self-criticism, and trait-anxiety) and all possible interaction effects
was conducted. The results of this model showed that the sample size was not sufficient
for the inclusion of the interactions. The difference between the deviance for the
interaction model (259.131) and the deviance for the main effects (347.912) was divided
by the difference between the two degrees of freedom (447-372= 75) and it was equal to
88.781, which is smaller than the chi square value of 90.5312 (70< df <80, a= 0.005).
Given this likelihood ratio test, with the exception of interactions with gender, no other
interactions were included in the model. The following models were run to test the null
hypothesis in several ways.
In the first model, a multinomial logistic regression analysis was utilized to examine the main effects of gender, personal meaning, dependency, self-criticism, and trait-anxiety. As illustrated in Table 4.9, this model was overall significant accounting for between 25.5 and 27.7% of the variance in attachment style. According to this model, only gender and personal meaning were significant. Individuals with lower scores on personal meaning were more likely to be in the fearful category of attachment while those with higher scores were more likely to be in the secure one. Gender was significant regarding all the paired-comparisons of attachment classifications with the secure one, with the exception of the preoccupied category: In secure versus dismissing comparison, females were more likely to be in the secure category while males were more likely to be in the dismissing one. In the fearful versus secure comparison, females were more likely to be in the secure category, whereas males were more likely to be in the fearful one. No significant main effects were found regarding dependency, self-criticism, or trait-anxiety in predicting placement in the four categories of attachment. For interactions with gender see the third analysis.

Table 4.9
Multinomial Logistic Regression Analyses Output for Attachment Style as the Outcome Variable with Four Levels-Main Effects Only

<table>
<thead>
<tr>
<th>Model</th>
<th>-2 Log Likelihood</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept Only</td>
<td>393.571</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final</td>
<td>347.912</td>
<td>45.659</td>
<td>15</td>
<td>.000</td>
</tr>
</tbody>
</table>

Cox and Snell .295
Nagelkerke .277
In the second model a binary logistic regression analysis was conducted to investigate if the independent variables predicted students’ likelihood of being in the secure versus insecure categories of attachment. In this analysis fearful, preoccupied and dismissing categories were recoded into the insecure classification. As illustrated in Table 4.10, this model was overall significant accounting for 13.3 to 17.7% of the variance in attachment classification. However, as individual variables, personal meaning, dependency, self-criticism, and trait-anxiety did not predict students’ placement in secure versus in secure attachment categories.

<table>
<thead>
<tr>
<th>Attachment Status</th>
<th>B</th>
<th>Std. Error</th>
<th>Wald</th>
<th>df</th>
<th>Sig</th>
<th>Exp(B)</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dismissing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>1.933</td>
<td>3.687</td>
<td>.246</td>
<td>1</td>
<td>.620</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEANING</td>
<td>-1.358E-01</td>
<td>.029</td>
<td>.223</td>
<td>1</td>
<td>.637</td>
<td>.987</td>
<td>.932</td>
<td>1.044</td>
</tr>
<tr>
<td>DEPENDEN</td>
<td>-1.711E-01</td>
<td>.016</td>
<td>1.195</td>
<td>1</td>
<td>.274</td>
<td>.963</td>
<td>.953</td>
<td>1.014</td>
</tr>
<tr>
<td>SELFCRIT</td>
<td>-1.129E-01</td>
<td>.018</td>
<td>.004</td>
<td>1</td>
<td>.949</td>
<td>.999</td>
<td>.965</td>
<td>1.034</td>
</tr>
<tr>
<td>TRAITANX</td>
<td>4.507E-01</td>
<td>.035</td>
<td>1.613</td>
<td>1</td>
<td>.204</td>
<td>1.046</td>
<td>.976</td>
<td>1.121</td>
</tr>
<tr>
<td>[GENDER=0]</td>
<td>-1.290</td>
<td>.496</td>
<td>6.767</td>
<td>1</td>
<td>.009</td>
<td>.275</td>
<td>.104</td>
<td>.728</td>
</tr>
<tr>
<td>[GENDER=1]</td>
<td>0a</td>
<td>. .</td>
<td>.</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fearful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-1.203</td>
<td>4.337</td>
<td>.077</td>
<td>1</td>
<td>.781</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEANING</td>
<td>-6.333E-01</td>
<td>.030</td>
<td>4.478</td>
<td>1</td>
<td>.034</td>
<td>.939</td>
<td>.885</td>
<td>.995</td>
</tr>
<tr>
<td>DEPENDEN</td>
<td>8.099E-01</td>
<td>.019</td>
<td>.186</td>
<td>1</td>
<td>.666</td>
<td>1.008</td>
<td>.972</td>
<td>1.046</td>
</tr>
<tr>
<td>SELFCRIT</td>
<td>2.916E-01</td>
<td>.022</td>
<td>1.722</td>
<td>1</td>
<td>.189</td>
<td>1.030</td>
<td>.986</td>
<td>1.075</td>
</tr>
<tr>
<td>TRAITANX</td>
<td>2.771E-01</td>
<td>.040</td>
<td>.477</td>
<td>1</td>
<td>.490</td>
<td>1.028</td>
<td>.950</td>
<td>1.112</td>
</tr>
<tr>
<td>[GENDER=0]</td>
<td>-1.271</td>
<td>.591</td>
<td>4.628</td>
<td>1</td>
<td>.031</td>
<td>.281</td>
<td>8.815E-01</td>
<td>.893</td>
</tr>
<tr>
<td>[GENDER=1]</td>
<td>0a</td>
<td>. .</td>
<td>.</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preoccupied</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-2.489</td>
<td>4.123</td>
<td>.364</td>
<td>1</td>
<td>.546</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEANING</td>
<td>-4.824E-01</td>
<td>.031</td>
<td>2.491</td>
<td>1</td>
<td>.115</td>
<td>.953</td>
<td>.897</td>
<td>1.012</td>
</tr>
<tr>
<td>DEPENDEN</td>
<td>9.559E-01</td>
<td>.019</td>
<td>.281</td>
<td>1</td>
<td>.596</td>
<td>1.010</td>
<td>.975</td>
<td>1.046</td>
</tr>
<tr>
<td>SELFCRIT</td>
<td>3.409E-01</td>
<td>.020</td>
<td>2.841</td>
<td>1</td>
<td>.092</td>
<td>1.035</td>
<td>.994</td>
<td>1.077</td>
</tr>
<tr>
<td>TRAITANX</td>
<td>-2.378E-01</td>
<td>.043</td>
<td>.301</td>
<td>1</td>
<td>.583</td>
<td>.977</td>
<td>.897</td>
<td>1.063</td>
</tr>
<tr>
<td>[GENDER=0]</td>
<td>.760</td>
<td>.734</td>
<td>1.073</td>
<td>1</td>
<td>.300</td>
<td>2.138</td>
<td>.508</td>
<td>9.006</td>
</tr>
<tr>
<td>[GENDER=1]</td>
<td>0a</td>
<td>. .</td>
<td>.</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. This parameter is set to zero because it is redundant.
Table 4.10
Multinomial Logistic Regression Analyses Output for Attachment Security as the Outcome Variable with Two Levels—Main Effects Only

<table>
<thead>
<tr>
<th>Step</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step</td>
<td>22.061</td>
<td>5</td>
<td>.001</td>
</tr>
<tr>
<td>Block</td>
<td>22.061</td>
<td>5</td>
<td>.001</td>
</tr>
<tr>
<td>Model</td>
<td>22.061</td>
<td>5</td>
<td>.001</td>
</tr>
</tbody>
</table>

Table 4.11
Multinomial Logistic Regression Analyses Output for Attachment Style as the Outcome Variable with Four Levels—Gender Interaction Effects Included

<table>
<thead>
<tr>
<th>Step</th>
<th>-2 Log likelihood</th>
<th>Cox &amp; Snell R Square</th>
<th>Nagelkerke R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>192.033</td>
<td>.133</td>
<td>.177</td>
</tr>
</tbody>
</table>

**Table 4.10**

The third model used multinomial regression analysis to examine if the independent variables and their interactions with gender predicted placement in the four attachment classifications. As seen in Table 4.11, this model was overall significant accounting for 31.6 to 24.4% of the variance in attachment classification. No significant main or interaction effects were found.

Table 4.11
Multinomial Logistic Regression Analyses Output for Attachment Style as the Outcome Variable with Four Levels—Gender Interaction Effects Included

<table>
<thead>
<tr>
<th>Model</th>
<th>-2 Log Likelihood</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept Only</td>
<td>393.571</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final</td>
<td>334.602</td>
<td>58.969</td>
<td>27</td>
<td>.000</td>
</tr>
</tbody>
</table>
### Upper Bound

<table>
<thead>
<tr>
<th>Attachment/Status</th>
<th>B</th>
<th>Std. Error</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dismissing</td>
<td>Intercept</td>
<td>-3.863</td>
<td>8.523</td>
<td>.349</td>
<td>1</td>
<td>0.555</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[GENDER=0]</td>
<td>6.713</td>
<td>8.066</td>
<td>.693</td>
<td>1</td>
<td>.405</td>
<td>823.212</td>
<td>1.12E-04</td>
</tr>
<tr>
<td></td>
<td>[GENDER=1]</td>
<td>0 *</td>
<td>.</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MEANING</td>
<td>-9.55E-03</td>
<td>.048</td>
<td>.040</td>
<td>1</td>
<td>.842</td>
<td>.990</td>
<td>.902</td>
</tr>
<tr>
<td></td>
<td>DEPENDEN</td>
<td>-1.11E-02</td>
<td>.026</td>
<td>.183</td>
<td>1</td>
<td>.669</td>
<td>.989</td>
<td>.940</td>
</tr>
<tr>
<td></td>
<td>SELFCRT</td>
<td>4.76E-02</td>
<td>.039</td>
<td>1.490</td>
<td>1</td>
<td>.222</td>
<td>1.049</td>
<td>.972</td>
</tr>
<tr>
<td></td>
<td>TRAITANX</td>
<td>1.95E-02</td>
<td>.056</td>
<td>.122</td>
<td>1</td>
<td>.727</td>
<td>1.020</td>
<td>.914</td>
</tr>
<tr>
<td></td>
<td>[GENDER=0] * MEANING</td>
<td>-1.142E-02</td>
<td>.062</td>
<td>.034</td>
<td>1</td>
<td>.853</td>
<td>.989</td>
<td>.876</td>
</tr>
<tr>
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<td>.</td>
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<td>.</td>
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</tr>
<tr>
<td></td>
<td>[GENDER=0] * DEPENDEN</td>
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<td>.078</td>
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<td>.781</td>
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<td>0</td>
<td>.</td>
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</tr>
<tr>
<td></td>
<td>[GENDER=0] * SELFCRT</td>
<td>-5.70E-02</td>
<td>.044</td>
<td>1.666</td>
<td>1</td>
<td>.197</td>
<td>.945</td>
<td>.866</td>
</tr>
<tr>
<td></td>
<td>[GENDER=1] * SELFCRT</td>
<td>0 *</td>
<td>.</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>[GENDER=0] * TRAITANX</td>
<td>1.36E-02</td>
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<td>.033</td>
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<td>.856</td>
<td>1.014</td>
<td>.876</td>
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<td></td>
<td>[GENDER=1] * TRAITANX</td>
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<tr>
<td>Fearful</td>
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<td>-.804</td>
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<td>1</td>
<td>.917</td>
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<td></td>
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<td>[GENDER=0]</td>
<td>-4.112</td>
<td>9.610</td>
<td>.183</td>
<td>1</td>
<td>.669</td>
<td>1.637E-02</td>
<td>1.083E-10C</td>
</tr>
<tr>
<td></td>
<td>[GENDER=1]</td>
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<td>.</td>
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<td>0</td>
<td>.</td>
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<td></td>
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<tr>
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<td>MEANING</td>
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<td>.053</td>
<td>1.394</td>
<td>1</td>
<td>.238</td>
<td>.939</td>
<td>.847</td>
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<td>DEPENDEN</td>
<td>-1.40E-02</td>
<td>.032</td>
<td>.192</td>
<td>1</td>
<td>.661</td>
<td>.986</td>
<td>.926</td>
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<td></td>
<td>SELFCRT</td>
<td>7.75E-02</td>
<td>.047</td>
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<td>.100</td>
<td>1.081</td>
<td>.985</td>
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<td>TRAITANX</td>
<td>-6.33E-02</td>
<td>.067</td>
<td>.895</td>
<td>1</td>
<td>.344</td>
<td>.939</td>
<td>.823</td>
</tr>
<tr>
<td></td>
<td>[GENDER=0] * MEANING</td>
<td>5.98E-03</td>
<td>.066</td>
<td>.008</td>
<td>1</td>
<td>.927</td>
<td>1.006</td>
<td>.885</td>
</tr>
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<td></td>
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<td>.</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>[GENDER=0] * DEPENDEN</td>
<td>3.10E-02</td>
<td>.041</td>
<td>.574</td>
<td>1</td>
<td>.449</td>
<td>1.032</td>
<td>.952</td>
</tr>
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<td>[GENDER=1] * DEPENDEN</td>
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<td>.</td>
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<td>0</td>
<td>.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[GENDER=0] * SELFCRT</td>
<td>-6.67E-03</td>
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<td>.220</td>
<td>.935</td>
<td>.841</td>
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<td>.</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[GENDER=0] * TRAITANX</td>
<td>.159</td>
<td>.089</td>
<td>3.244</td>
<td>1</td>
<td>.672</td>
<td>1.173</td>
<td>.866</td>
</tr>
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<td></td>
<td>[GENDER=1] * TRAITANX</td>
<td>0 *</td>
<td>.</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preoccupied</td>
<td>Intercept</td>
<td>-8.994</td>
<td>13.316</td>
<td>.456</td>
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<td>.499</td>
<td></td>
<td></td>
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<tr>
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<td>[GENDER=0]</td>
<td>7.826</td>
<td>14.066</td>
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<td>1</td>
<td>.578</td>
<td>2505.652</td>
<td>2.667E-05</td>
</tr>
<tr>
<td></td>
<td>[GENDER=1]</td>
<td>0 *</td>
<td>.</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MEANING</td>
<td>-2.97E-02</td>
<td>.094</td>
<td>.099</td>
<td>1</td>
<td>.753</td>
<td>.971</td>
<td>.807</td>
</tr>
<tr>
<td></td>
<td>DEPENDEN</td>
<td>7.89E-02</td>
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<td>.225</td>
<td>1.083</td>
<td>.952</td>
</tr>
<tr>
<td></td>
<td>SELFCRT</td>
<td>-1.10</td>
<td>.082</td>
<td>1.795</td>
<td>1</td>
<td>.180</td>
<td>1.117</td>
<td>.950</td>
</tr>
<tr>
<td></td>
<td>TRAITANX</td>
<td>-4.40</td>
<td>.261</td>
<td>2.831</td>
<td>1</td>
<td>.092</td>
<td>.644</td>
<td>.386</td>
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<tr>
<td></td>
<td>[GENDER=0] * MEANING</td>
<td>-1.82E-02</td>
<td>.100</td>
<td>.033</td>
<td>1</td>
<td>.855</td>
<td>.982</td>
<td>.807</td>
</tr>
<tr>
<td></td>
<td>[GENDER=1] * MEANING</td>
<td>0 *</td>
<td>.</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[GENDER=0] * DEPENDEN</td>
<td>-7.85E-02</td>
<td>.069</td>
<td>1.306</td>
<td>1</td>
<td>.253</td>
<td>.924</td>
<td>.808</td>
</tr>
<tr>
<td></td>
<td>[GENDER=1] * DEPENDEN</td>
<td>0 *</td>
<td>.</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[GENDER=0] * SELFCRT</td>
<td>-8.61E-02</td>
<td>.085</td>
<td>1.022</td>
<td>1</td>
<td>.312</td>
<td>.917</td>
<td>.776</td>
</tr>
<tr>
<td></td>
<td>[GENDER=1] * SELFCRT</td>
<td>0 *</td>
<td>.</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[GENDER=0] * TRAITANX</td>
<td>.458</td>
<td>.266</td>
<td>2.972</td>
<td>1</td>
<td>.085</td>
<td>1.581</td>
<td>.939</td>
</tr>
<tr>
<td></td>
<td>[GENDER=1] * TRAITANX</td>
<td>0 *</td>
<td>.</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* This parameter is set to zero because it is redundant.
A fourth multinomial regression analysis was conducted to examine the data on males and females separately. Again, personal meaning, dependency, self-criticism, and trait-anxiety were the independent variables. As illustrated in Table 4.12, the results showed that none of these variables predicted males’ or females’ placement in the four attachment categories.

Given these results, the null hypothesis was partially rejected regarding gender and personal meaning since they both partially predicted attachment classification. However, it was not rejected regarding dependency, self-criticism, trait-anxiety and the interactions of all the dependent variables with gender.

Table 4.12
Multinomial Logistic Regression Analyses Output for Attachment Security as the Outcome Variable with Two Levels-Main Effects Only

<table>
<thead>
<tr>
<th>Gender</th>
<th>Model</th>
<th>-2 Log Likelihood</th>
<th>CH-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Intercept Only</td>
<td>259.094</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Final</td>
<td>229.764</td>
<td>29.330</td>
<td>12</td>
<td>.004</td>
</tr>
<tr>
<td>Male</td>
<td>Intercept Only</td>
<td>119.514</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Final</td>
<td>104.838</td>
<td>14.676</td>
<td>12</td>
<td>.260</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Cox and Snell</th>
<th>Nagelkerke</th>
<th>McFadden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>.240</td>
<td>.263</td>
<td>.113</td>
</tr>
<tr>
<td>Male</td>
<td>.263</td>
<td>.287</td>
<td>.123</td>
</tr>
</tbody>
</table>
Hypothesis Three

Ho3: There is no significant relationship between college students’ attachment status and their level of depressiveness.

Simultaneous regression analyses were conducted to test this hypothesis for each factor of depressiveness (dependency and self-criticism). Dependency and self-criticism were used in separate regression models as the outcome variables. Attachment-related anxiety, attachment-related avoidance, gender, personal meaning, and trait-anxiety were the independent variables.
As illustrated in Table 4.13, while using dependency as the outcome variable, the analysis resulted in a significant model (F (5, 149) = 7.949, p < .0001. Adjusted R square = .184), which accounted for 18.4 % of the variance in dependency. It showed that trait-anxiety (t (1, 154) = 3.394, p < .001), gender (t (1, 154) = -2.328, p = .021), attachment-related avoidance (t (1, 154) = -2.308, p = .022), and attachment-related anxiety (t (1, 154) = -2.168, p = .032) were significantly related to dependency. Gender and attachment-related avoidance were negatively related dependency. On the other hand, there was no significant relationship between personal meaning and dependency (t (1, 154) = 1.023, p = .308). According to this model the null hypothesis was rejected for the dependency factor of depressiveness. In other words, both factors of attachment were significantly related to dependency factor of depressiveness.

Table 4.13
Simultaneous Multiple Regression Output Using Dependency Factor of Depressiveness as the Dependent Variable

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.459&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.211</td>
<td>.184</td>
<td>13.7742</td>
<td>.211</td>
<td>7.949</td>
<td>5</td>
<td>149</td>
<td>.000</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant), Trait-Anxiety, Gender, Attachment Avoidance, Attachment Anxiety, Personal Meaning

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>103.935</td>
<td>14.356</td>
<td>7.240</td>
</tr>
<tr>
<td></td>
<td>Attachment Anxiety</td>
<td>2.389</td>
<td>1.102</td>
<td>.184</td>
</tr>
<tr>
<td></td>
<td>Attachment Avoidance</td>
<td>-2.463</td>
<td>1.067</td>
<td>-.192</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>-6.009</td>
<td>2.582</td>
<td>-.183</td>
</tr>
<tr>
<td></td>
<td>Personal Meaning</td>
<td>.136</td>
<td>.133</td>
<td>.093</td>
</tr>
<tr>
<td></td>
<td>Trait-Anxiety</td>
<td>-546</td>
<td>.161</td>
<td>.308</td>
</tr>
</tbody>
</table>

<sup>a</sup> Dependent Variable: Dependency
Likewise, a simultaneous multiple regression analysis was used to test the relationship between self-criticism and factors of attachment. Self-criticism was the dependent variable, while attachment-related-anxiety, attachment-related avoidance, gender, personal meaning, and trait-anxiety were the independent variables. As illustrated in Table 4.14, this analysis resulted in a significant model ($F(5, 149) = 29.657$, $p < .0001$. Adjusted $R^2 = .499$). It accounted for almost 50% of variance in self-criticism. According to this model trait-anxiety ($1, 154) = 5.496, p < .0001$, personal meaning ($1, 154) = -3.2639, p < .001$, gender ($1, 154) = 3.394, p < .005$, and attachment-related anxiety ($1, 154) = 3.394, p = .002$) were significantly related to self-criticism. The relationship between personal meaning and self-criticism was negative. Of all the independent variables only attachment-related avoidance was not significantly related to self-criticism. Therefore, the null hypothesis was only partially rejected. In other words, only the anxiety factor of attachment had a significant relationship with self-criticism. The null hypothesis was not rejected regarding the relationship between avoidance and self-criticism.

Table 4.14
Simultaneous Multiple Regression Output Using Self-Criticism Factor of Depressiveness as the Dependent Variable

<table>
<thead>
<tr>
<th>Model</th>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
<th>$R^2$ Change</th>
<th>$F$ Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.706</td>
<td>.499</td>
<td>.492</td>
<td>12.317</td>
<td>.499</td>
<td>29.657</td>
<td>5</td>
<td>149</td>
<td>.000</td>
</tr>
</tbody>
</table>

4. Predictors: (Constant), Trait-Anxiety, Gender, Attachment Avoidance, Attachment Anxiety, Personal Meaning
The hypothesis was further tested with multinomial and binary logistic regression analyses. A multinomial logistic regression model attachment was used as a categorical variable with four classifications; secure, fearful, preoccupied and dismissing. In the binary model attachment was classified as secure and insecure (fearful, preoccupied, and dismissing). Attachment classification was the independent variable, whereas gender, personal meaning, dependency, self-criticism were the independent variables. These analyses were conducted to examine if dependency significantly predicted college students’ membership in categories of attachment. The result showed that dependency, self-criticism or their interactions with gender did not significantly predict college students’ placement in either four or two categories of attachment. (Tables 4.9 & 4.10)

In summary, dependency was significantly related to both factors of attachment while self-criticism was only related to attachment-related anxiety. Therefore, with the exception of the relationship between self-criticism and attachment-related avoidance, the null hypothesis was rejected.
Hypothesis Four

Ho4: There is no significant relationship between college students’ attachment status and their level of trait-anxiety.

To test this hypothesis simultaneous multiple regression analyses was used. Trait-anxiety was the dependent variable. Attachment-related anxiety, attachment-related avoidance, gender, personal meaning, dependency, and self-criticism were the independent variables. As shown in Table 4.15, this analysis resulted in a significant model ($F(6, 148) = 24.262$, $p < .0001$. Adjusted $R^2 = .496$), which accounted for 49.6% of the variance in trait-anxiety. This model showed significant relationships between trait-anxiety and all the variables except for the factors of attachment. Personal meaning ($t(1, 154) = -3.714$, $p < .0001$), self-criticism ($t(1, 154) = 5.273$, $p < .0001$), dependency ($t(1, 154) = 3.078$, $p = .002$), and gender ($t(1, 154) = -2.988$, $p = .003$) were significantly related to trait-anxiety. Trait-anxiety was negatively related to personal meaning and gender. Neither attachment-related anxiety ($t(1, 154) = .101$, $p = .919$) nor attachment-related avoidance ($t(1, 154) = 1.213$, $p = .227$) had a significant relationship with trait-anxiety. Thus the null hypothesis was not rejected. There was no significant relationship between college students’ scores on factors of attachment and their level of trait-anxiety.

Table 4.15
Simultaneous Regression Output Using Trait-Anxiety as the Dependent Variable

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Predictors: (Constant), Self-Criticism, Gender, Dependency, Attachment Avoidance, Attachment Anxiety, Personal Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.704</td>
<td>.496</td>
<td>.475</td>
<td>6.23</td>
<td>.496</td>
<td>24.262 6 148 .000</td>
</tr>
</tbody>
</table>


These results were confirmed by logistic regression analyses in which attachment was a categorical variable with either four (secure, fearful, preoccupied and dismissing) or two levels (secure and insecure). Attachment classification was the outcome variable, while trait-anxiety was among the independent variables. These analyses intended to examine if trait-anxiety significantly predicted likelihood of membership in the categories of attachment. The results showed that neither trait-anxiety nor its interaction with gender significantly predicted college students’ membership in the four or two attachment categories. See Tables 4.9 and 4.10 for the results.

**Hypothesis Five**

Ho5: There is no significant relationship between college students’ gender and their attachment status, levels of personal meaning, depressiveness, and trait anxiety.

A series of independent t-tests and multinomial logistic regression analysis were used to test this hypothesis, which was partially rejected. As reported in Table 4.16, there were significant differences between males and females only on attachment-related avoidance, dependency, and trait-anxiety.
In other words, there were no significant differences between males and females on measures of attachment-related anxiety, personal meaning, and self-criticism.

There was no significant difference between males and females on attachment-related anxiety ($t(153) = -.932, p = .353$). On the other hand, there was a significant difference between males and females on attachment-related avoidance ($t(153) = 3.226, p = .002$). More specifically, males seem to score significantly higher on attachment-related avoidance than females, means being 3.19 and 2.55. See Table 4. 16 $t$-tests results according to gender. Given these results, the null hypothesis was partially rejected. It was rejected with respect to attachment-related anxiety. However, it was not rejected with respect to attachment-related avoidance.

The relationship between gender and attachment was also examined with a series of logistic regression analyses, in which attachment was the outcome variable with either two (secure and insecure) or four categories (secure, fearful, preoccupied, and dismissing). This model only included main effects. Gender was one of the independent variables. As illustrated in Tables 4.9 and 4.10, this analysis showed that gender significantly predicted likelihood in attachment classifications. More specifically, when comparing secure versus dismissing categories, females were more likely to be in the secure category while males were more likely to be in the dismissing one. Similarly, while comparing secure versus fearful categories, females were more likely to be in the secure category whereas males were more likely to be in the fearful category. Gender did not predict individuals’ placement in the preoccupied category of attachment.

Another multinomial logistic regression model including main and interaction effects of gender was conducted to predict placement in four categories of attachment.
No significant main effects or interaction effects of gender were found.

These results were confirmed with an additional multinomial regression analysis which examined data on males and females separately. This model used attachment as the outcome variable with four levels. Personal meaning, dependency, self-criticism, and trait-anxiety were the independent variables. No main effects of these variables were found for either males or females in predicting placement in the attachment categories.

A binary logistic regression model was used to investigate if gender predicted security of attachment. In this model attachment was classified as secure and insecure (combination of fearful, preoccupied, and dismissing categories.). The results showed that gender did not significantly predict security of attachment.

These results show that that gender significantly predicted attachment regarding the secure, fearful and dismissing categories when only main effects were investigated to predict placement in four categories of attachment. Further analyses did not show any significant gender main effects or interactions regarding any variables, including attachment classification. See Tables 4.9 and 4.10 for the result.

Results of t-tests also showed that there was no significant difference between male and female means on personal meaning ($t(153) = -.034, p = .973$). Thus the null hypothesis was not rejected for personal meaning. As seen in Table 4. 16 the mean scores on personal meaning were 71.85 and 71.92 for males and females respectively.
There was no significant difference between male and female means on the self-criticism factor of depressiveness. On the other hand, there was a significant difference between males and females on dependency ($t(153) = -3.928$, $p < .0001$). More specifically, females scored overall higher than males on the dependency scale.
Therefore, the null hypothesis was only partially rejected regarding depressiveness and its factors.

Finally, the t-test showed that there was a significant gender difference on trait-anxiety ($t (153) = -2.351, p = .02$). Overall, females scored higher on trait-anxiety than did males. Thus the null hypothesis was rejected regarding trait-anxiety.

**Hypothesis Six**

$Ho_6$: There is no significant relationship between college students’ level of personal meaning and their level of depressiveness.

To test this hypothesis, a simultaneous multiple analysis was conducted using personal meaning as the outcome variable. Attachment-related anxiety, attachment-related avoidance, dependency, self-criticism, and trait-anxiety were the independent variables. According to this model, there was no significant and negative relationship between personal meaning and self-criticism ($t (1, 154) = -3.348, p < .001$). There was no significant relationship between personal meaning and dependency factor of depressiveness ($t (1, 154) = .989, p = .324$). Keep in mind that in these models personal meaning was the dependent variable and factors of depressiveness were among the independent variables (Table 4.8). These results remained the same when the factors of depressiveness were dependent variables and personal meaning was among the independent variables (Tables 4.13& 4.14).

Given these results, the null hypothesis was only partially rejected. There were no significant relationships between personal meaning and the dependency factor of depressiveness. There was significant relationship between personal meaning and self-criticism.
Therefore, the null hypothesis was rejected regarding self-criticism and personal meaning. It was not rejected with respect to the dependency factor of depressiveness.

**Hypothesis Seven**

Ho7: There is no significant relationship between college students’ level of personal meaning and their level of trait-anxiety.

Simultaneous multiple regression analysis was used to test this hypothesis. Regardless of whether personal meaning or trait-anxiety was the dependent variable—there was a significant and negative relationship between personal meaning and trait-anxiety. See Tables 4.8 and 4.15 for outputs of these results. These results were confirmed when personal meaning was the dependent variable and only trait-anxiety was used as the independent variable. As reported in Table 4.17 there was a significant and negative relationship between personal meaning and trait-anxiety ($F(1, 153) = 60.969, p < .0001$. Adjusted $R^2 = .280; t(153) = -7.808 p < .0001$). Personal meaning accounted for 28% of variance in trait-anxiety. In short, the null hypothesis was rejected. That is to say, there was a significant relationship between college students’ level of personal meaning and their level of trait-anxiety.

Table 4.17
**Simultaneous Multiple Regression Analysis Output For Personal Meaning And Trait-Anxiety**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.534</td>
<td>.265</td>
<td>.280</td>
<td>8.84</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Trait-Anxiety
Hypothesis Eight

Ho8: There is no significant relationship between college students’ level of depressiveness and their level of trait-anxiety.

As shown in Table 4.15 among other variables, factors of depressiveness were the independent variables in the simultaneous multiple regression equation predicting trait-anxiety. These analyses showed a significant relationship between trait-anxiety and both factors of depressiveness; self-criticism ($t(1, 154) = 5.273, p < .0001$) and dependency ($t(1, 154) = 3.078, p < .002$). Furthermore, simultaneous regression analyses were conducted using factors of depressiveness as the outcome variables, while trait-anxiety was among the independent variables (Tables 4.13 & 4.14). Again, trait-anxiety was significantly related to dependency and self-criticism. Therefore, the null hypothesis was rejected. In other words, there was a significant relationship between college students’ level of depressiveness and their level of trait-anxiety.

Hypothesis Nine

Ho9: There is no significant relationship among college students’ attachment status, level of personal meaning, level of depressiveness, and level of trait-anxiety.

To test this hypothesis a correlation matrix was used. As seen in Table 4.18, the results showed that the hypothesis was rejected for the most part. The following are some of the strongest correlation coefficients, which are listed from higher to lower; self-
criticism and trait-anxiety ($r = .583$), personal meaning and self-criticism ($r = -.553$), personal meaning and trait-anxiety ($r = -.534$), attachment-related anxiety and self-criticism ($r = .468$), personal meaning and attachment-related anxiety ($r = -.414$). Also see Table 4.18 for all the coefficients.

Table 4.18
Correlation Matrix for Attachment-Related Anxiety, Attachment-Related Avoidance, Personal Meaning, Dependency, Self-Criticism, and Trait-Anxiety

<table>
<thead>
<tr>
<th></th>
<th>Attachment Anxiety</th>
<th>Attachment Avoidance</th>
<th>Personal Meaning</th>
<th>Dependency</th>
<th>Self-Criticism</th>
<th>Trait Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment Anxiety</td>
<td>Pearson Correlation</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>Pearson Correlation</td>
<td>.345**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Meaning</td>
<td>Pearson Correlation</td>
<td>-.414**</td>
<td>-.305**</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependency</td>
<td>Pearson Correlation</td>
<td>.213**</td>
<td>-.133</td>
<td>-.099</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.008</td>
<td></td>
<td></td>
<td>.272</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td></td>
<td></td>
<td>155</td>
<td></td>
<td>155</td>
</tr>
<tr>
<td>Self-Criticism</td>
<td>Pearson Correlation</td>
<td>.468**</td>
<td>.336**</td>
<td>.553**</td>
<td>.131</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
<td></td>
<td>.000</td>
<td>.103</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td></td>
<td></td>
<td>155</td>
<td></td>
<td>155</td>
</tr>
<tr>
<td>Trait-Anxiety</td>
<td>Pearson Correlation</td>
<td>.390**</td>
<td>.226**</td>
<td>.534**</td>
<td>.321**</td>
<td>.583*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td></td>
<td></td>
<td>155</td>
<td></td>
<td>155</td>
</tr>
</tbody>
</table>

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

These results indicate that attachment-related anxiety and trait-anxiety were related to all the variables. Self-criticism and depressiveness were related to all the variables except dependency, which only had a weak correlation with attachment-related anxiety ($r = .213$). Finally, attachment-related avoidance was significantly related to all the variables, except the dependency factor of depressiveness. In short, the null hypothesis was rejected for most of the interrelations among the variables.
Summary

The purpose of this study was to investigate if college students’ attachment orientation and gender had any significant relationships with measures of well being (personal meaning) and those of vulnerability to psychopathology (depressiveness and trait-anxiety). In the analyses attachment was an independent variable while used as a continuous variable. In additional analyses attachment was used as a categorical variable consisting of four classifications (secure, fearful, preoccupied, and dismissing) as well as of two categories (secure and insecure). These categorizations were made in order to make comparisons with findings of previous research most of which involved the use of attachment as a categorical variable.

The first hypothesis examined the relationship between attachment orientation and personal meaning. When attachment was used as a continuous variable consisting of dimensions of anxiety and avoidance, neither factor had a significant relationship to personal meaning. Further investigation of these two constructs was done in hypothesis two.

The second hypothesis investigated if gender, personal meaning, dependency, self-criticism, and trait-anxiety significantly predicted individuals’ placement into attachment classifications. Attachment was the outcome variable with four levels; secure, fearful, preoccupied, and dismissing. In an additional analysis it was categorized into secure versus insecure. Of the five independent variables only gender and personal meaning significantly predicted students’ likelihood for being the individual categories of attachment. The results showed that when the four categories were used personal meaning significantly predicted the fearful and secure categories. Individuals with higher
scores were more likely to be in the secure category while those with lower scores were more likely to be in the fearful category, which corresponds to high scores on avoidance and anxiety. Gender also significantly predicted attachment categories with the exception of the preoccupied one. When comparing dismissing versus secure attachment, females were more likely to be in the secure category while males were more likely to be in the dismissing one. When comparing fearful versus secure categories, females were more likely to be in the secure categories whereas males were more likely to be in the fearful one. On the other hand, there were no more significant main or interaction effect in any of the analyses regarding any of the other variables (dependency, self-criticism, and trait-anxiety)

The third hypothesis sought relationships between attachment orientation and depressiveness. When attachment was used as an independent-continuous variable, the simultaneous regression analysis showed that both attachment factors were significantly related to the dependency factor of depressiveness. On the other hand, only attachment-related anxiety was significantly related to self-criticism. There was no significant relationship between attachment-related avoidance and self-criticism. When attachment was used as an outcome-categorical variable, neither factor of depressiveness nor their interactions with gender significantly predicted college students’ membership in the two (secure versus insecure) or four attachment categories of attachment (secure, fearful, preoccupied, and dismissing) Hence, for the most part, factors of depressiveness were significantly related to dimensions of attachment. However, factors of depressiveness did not significantly predict college students’ membership in specific attachment classification.
The fourth hypothesis examined if attachment orientation was significantly related to trait-anxiety. The results indicated that neither factor of attachment was significantly related to trait-anxiety. Likewise, when attachment was conceptualized as a categorical variable, trait-anxiety or its interaction with gender did not significantly predict students’ placement in specific attachment classifications.

In the fifth hypothesis male and female students were significantly different only on attachment-related avoidance, dependency, and trait-anxiety. Male scores were overall higher on avoidance whereas female scores were higher on dependency and trait-anxiety. Males and females did not significantly differ on other measures. When attachment was conceptualized as a categorical variable with four levels, gender was significantly predicting of membership in 3 of the four categories; secure, fearful, and dismissing. When comparing dismissing versus secure attachment, females were more likely to be in the secure category while males were more likely to be in the dismissing one. When comparing fearful versus secure categories, females were more likely to be in the secure categories whereas males were more likely to be in the fearful one. However, there were no more significant main or interaction effect in any of the analyses regarding any of the other variables (dependency, self-criticism, and trait-anxiety).

In the sixth hypothesis the relationship between personal meaning and factors of depressiveness was examined. The results indicated that only the self-criticism factor of depressiveness had a significant and negative relationship with personal meaning. Dependency did not have a significant relationship with personal meaning.
In the seventh hypothesis the relationship between personal meaning and trait-anxiety was examined. In all the analyses personal meaning and trait-anxiety had a significant and negative relationship.

In the eighth hypothesis the relationship between trait-anxiety and depressiveness was examined. Trait-anxiety was significantly related to both factors of depressiveness (dependency and self-criticism).

In the ninth hypothesis of the study correlations among all the variables of the study were examined. Attachment-related anxiety and trait-anxiety were significantly related to all the variables of the study. Personal meaning and self-criticism were significantly related to all the variables except dependency.

In short, the result of this study showed mixed results regarding relationships of attachment and gender to personal meaning, depressiveness, and trait-anxiety. Attachment factors were only related to factors of depressiveness with the exception of attachment-related avoidance and self-criticism. Gender significantly predicted students’ placement in 3 of the 4 categories of attachment. The findings of the study are only partially in line with the existing literature.
CHAPTER 5
DISCUSSION

In this study relationships between attachment status and measures of well being and vulnerability to psychopathology were investigated. More specifically, the relationships among attachment status, gender, personal meaning, depressiveness, and trait-anxiety among traditional–age college students (18-23) were examined. Personal meaning was chosen as a measure of well being, while depressiveness and trait-anxiety were measures of vulnerability to psychopathology. There were three goals for the study: to contribute to the understanding of college student functioning; to contribute to the research in the fields of student mental health and attachment; and to provide insights for clinical work with young adult-college students. This chapter consists of the study’s summary, discussion of results, and implications for theory, research and clinical practice, its limitations, and recommendations for future research.

Summary

This study sought to extend attachment research (Bowlby, 1969, 1973, 1982; Ainsworth et al., 1978; Main, 1990; Hazan & Shaver, 1987; Brennan et al., 1998; Fraley et al., 2000) to college student mental health. The focus was on relationships between attachment status, gender, personal meaning, depressiveness, and trait-anxiety.
Attachment status was conceptualized in accordance with the research tradition of Brennan et al. (1998) and Fraley et al. (2000). Consequently, attachment orientation was viewed on dimensions of anxiety, and avoidance in close-romantic relationships. Attachment was also conceptualized as a categorical construct in order to make comparisons to findings of previous research. According to Brennan et al. (1991) this categorization should be done in the following manner: (a) Low scores on both avoidance and anxiety dimensions correspond to the secure category. (b) High scores on the avoidance and low scores on anxiety dimensions correspond to the avoidant (dismissing) category. (c) High scores on the anxiety and low scores on the avoidance dimension correspond to the anxious-ambivalent (preoccupied) category of attachment. (d) High scores on both anxiety and avoidance dimensions correspond to the fearful classification of attachment. These four classifications were originally developed by Bartholomew and Horowitz (1991). These categories were also converted into secure and insecure classifications. While secure category remained the same, the insecure category was composed of fearful, preoccupied, and dismissing classifications.

The concept of personal meaning was adapted from Battista, and Almond (1973). Thus it refers to one’s beliefs about the degree to which he or she perceives fulfilling a “positively valued life-framework or life goal” (Battista, Almond, 1973, p. 409). Personal meaning was measured with the LRI-R (Debats, 1998).

Depressiveness was adopted from the research tradition of Blatt et al. (1976) who viewed it as consisting of three factors: dependency, self-criticism and efficacy. Researchers have often dismissed the self-efficacy subscale (i.e. Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982; Santor et al., 1997; Santor & Zuroff, 1998; Zuroff et al.,
Thus only the first two factors were used in this study. Dependency refers to excessive reliance “on others to provide a sense of well being (Blatt et al., 1976, p. 528). On the other hand, self-criticism has to do with tendencies of excessive perfectionism.

Trait-anxiety was adopted from Spielberger (1983) who defined it as the degree to which persons perceive a variety of situations as threatening and as the tendency to respond to such circumstances with increased anxiety. As noted by its creators, the construct and the instrument tap into individual differences in the frequency and intensity of experiencing such anxiety states.

Simultaneous multiple regression analysis, multinomial and binary logistic regression analyses, independent t-tests, and correlation matrix were used to examine relationships between attachment status, gender, personal meaning, depressiveness, and trait-anxiety. These analyses resulted in mixed findings, which were only partially inline with the findings of prior research.

Discussion of Results

Attachment and Personal Meaning

The first general question of this study inquired the relationship between attachment status and personal meaning. A relationship was expected because the existing literature reports links between attachment status and various measures of well being. However, no studies were found in the literature that specifically addressed attachment status and personal meaning. One study has done so rather indirectly by examining attachment status and sense of coherence (Rood, 2000). As conceptualized by Antonovsky (1987) sense of coherence involves personal meaning as one of its dimensions. Rood (2000) did find a positive relationship between secure attachment and
sense of coherence. He also found a negative relationship between sense of coherence and insecure styles of attachment.

Findings of the current study did not show any significant relationships between factors of attachment (anxiety and avoidance) and personal meaning. However, when attachment was used as a categorical-outcome variable with four levels; secure, fearful, preoccupied, and dismissing, personal meaning significantly predicted placement in two of the attachment categories. When comparing secure versus fearful classifications, lower scores on personal meaning predicted fearful attachment whereas higher scores predicted secure attachment. This significance was limited to this particular comparison however. When attachment was formulated as secure versus insecure, personal meaning did not predict college students’ placement in these two categories.

One would expect that since placement in secure versus fearful categories was significantly predicted by personal meaning, such significance would also exist regarding secure versus insecure categories. Secure attachment corresponds to low scores on the both factors of attachment, whereas fearful category corresponds to high scores on these factors. Since personal meaning or its interaction with gender did not predict membership in the other categories of attachment and since the simultaneous regression analysis did not reveal any significant relationships between personal meaning and dimensions of attachment, it is clear that attachment and personal meaning are only associated with respect to scores on the lower and higher ends of both factors attachment.

These findings imply that personal meaning, as measured by the LRI-R (Debats, 1998), is associated with attachment only when individuals score either very high or very low on both attachment-related anxiety and attachment-related avoidance.
According to Bartholomew and Horowitz (1991) individuals in the fearful categories have negative internal working models of self and others. On the other hand, the preoccupied category is associated with positive internal working models of others and negative working models of self. Dismissing category is linked with positive models of self and negative models of others. Secure category corresponds to positive internal models of self and other. Considering the results of this study and how Bartholomew and Horowitz conceptualized the four categories of attachment some tentative inferences can be drawn.

Initial attachment research on infant-caregiver relationship used a three-category model (Ainsworth et al., 1978) which did not include the fearful classification. Therefore, developmental inferences made by attachment researchers did not include this category. These inferences often identify preoccupied and dismissing categories as a risk factor for less favorable developmental outcomes. On the other hand, as Main (1991) pointed out, not all infants with insecure attachment grow to develop psychopathology. Main indicated that those who did not have a formed attachment style were more likely to be at such risk. Individuals’ interpersonal relationships constitute one of the most vital domains of their experience. Thus an overall ease, optimism and fulfillment in that domain might contribute to a more positive outlook about the life one is leading. Consequently, it is possible that when individuals have positive views of themselves or others such positivity might ease their dealings with challenges of life by providing a sense of resourcefulness. Conversely, a lack of positive views of self and others might be associated with a sense of alienation and meaninglessness.
According to attachment theory, individuals form specific attachment orientations in early years of development. Therefore, they might form their meaning systems in ways that are congruent with these orientations. Accordingly, regardless of what specific insecure attachment style they utilize, persons might find their lives purposeful and fulfilling as long as such styles do not predispose them to highly challenging developmental pathways as it might be the case in disorganized or fearful attachment.

One would also expect links between fearful attachment, depressiveness, and trait-anxiety. Since these associations were not established by the findings of this study it is possible that individuals with preoccupied style of attachment might use unique affect-regulation strategies. Typically high attachment-related anxiety is related to hyperactivating strategies, whereas high avoidance is associated with deactivating affect-regulation strategies. Given that individuals with fearful attachment have high degrees of anxiety and avoidance, their affect regulation tactics might be more complex than those in the secure, preoccupied or dismissing categories.

When attachment was conceptualized as a continuous variable, there was a significant relationship between personal meaning, trait-anxiety and self-criticism. Both trait-anxiety and self-criticism had a negative relationship with personal meaning and when combined they accounted for greater variance than did the two factors of attachment. Each set accounted for 33 % and 19 % of the variance respectively. No previous studies examining personal meaning, trait-anxiety and self-criticism were found for comparison. A general vulnerability to anxiety might interfere with one’s felt comfort with the self and with one’s involvements. Accordingly, higher degrees of trait-anxiety might impact the overall satisfaction and meaning individuals attribute to their present
experiences. In addition, ongoing high degrees of anxiety might interfere with setting goals and following through with their execution, which might in turn interfere with the potential fulfillment one can obtain from such pursuits. In other words, higher levels of ongoing anxiety might interfere with purposeful behavior, which would in turn impact individuals’ attributions of meaning to their lives. Indeed, personal meaning, as used in this study, is considered to consist of a positive life framework and positive goal fulfillment. To put in simple terms, higher scores on personal meaning indicate that persons conceive their lives as having purpose (framework) and their personal involvements and activities as serving to these goals thus leading to some degree of fulfillment.

Blatt et al. (1976) referred to self-criticism as having to do with individuals’ evaluations of their actual selves (as opposed to the ideal self). As a factor of depressiveness it was correlated with negative evaluations of self (as in guilt and self-blame) and of one’s experience. Self-criticism is also referred to as maladaptive perfectionism, which involves having extremely high standards for achievement and being highly critical of one’s performance. Consequently, a significant negative relationship between personal meaning and self-criticism is inline with the existing body of literature on self-criticism.

Another reason for the unexpected findings regarding factors of attachment and personal meaning might be due to the measurement instrument. Although the Life Regard Index- Revised (LRI-R; Debats, 1998) has well documented psychometric properties, it is not widely used. This sample had high scores on the LRI-R with a mean score of 71.9. Due to their age and their experience in college, traditional age students
have stressful schedules, complex challenges, uncertainties about their future, and they are in the process forming their adult-identities. Hence, it could be argued that given this high degree of developmental activity, college students may not be as clear about their life goals (framework) and may not be as content with their current lives (fulfillment) as indicated by scores on the LRI-R. In other words, it is reasonable to argue that growth at such developmentally sensitive periods might inevitably coincide with considerable degree of discontent with ones existing life in order for significant change to occur. Therefore, further research is needed to investigate the validity of the LRI-R.

Males and females did not differ on personal meaning. This similarity might be attributed to similarities in the participants’ characteristics. For instance, regardless of their gender, participants were of above average academic standing as students in a highly competitive institution. Since the samples were from students in 3000 and 4000 level courses, the participants were likely to be in the last two years of their undergraduate studies. They typically have chosen their major area of study. As a result, regardless of their gender, these students might perceive a sense of being on track and having a sense of purposefulness.

This study examined students’ self-reports of their reflections of how meaningful they find their lives. It did not focus on specific reasons for their attributions. Males and females might find their lives meaningful for different reasons. This finding is consistent with prior studies on personal meaning. Debats (1998) reports that no gender differences were found in any previous samples.
Attachment and Depressiveness

This study investigated relationships between factors of attachment and depressives. In addition it examined if factors of depressiveness significantly predicted individuals placement in categories of attachment. These inquiries resulted in mixed results.

When attachment was used as an independent-continuous variable, the simultaneous regression analysis showed that both attachment factors were significantly related to the dependency factor of depressiveness. On the other hand, only attachment-related anxiety was significantly related to self-criticism. There was no significant relationship between attachment-related avoidance and self-criticism. However, when attachment was used as an outcome-categorical variable, neither factor of depressiveness nor their interactions with gender significantly predicting college students’ membership in the two (secure versus insecure) or four categories of attachment (secure, fearful, preoccupied, and dismissing). In short, while, factors of depressiveness were for the most part significantly related to dimensions of attachment, factors of depressiveness did not significantly predict college students’ membership in specific attachment classifications.

Prior research and theory suggest relationships between factors of attachment (anxiety and avoidance) and those of depressiveness (dependency and self-criticism). For instance, a strong relationship was expected between dependency and attachment-related anxiety. Individuals with high degrees of dependency are on the one hand, characterized with having ongoing-intense longings for intimate relationships and on the other hand, not having much faith that these needs will be met (Zuroff & Fitzpatrick, 1995). As a
result, they are thought to have fears of abandonment. These experiences have a great deal of theoretical relevance to the characteristics of anxious-ambivalent (preoccupied) attachment (Kobak, Sudler, & Gamble, 1991; Zuroff & Fitzpatrick, 1995). This relationship was endorsed by the findings of this study. There was a significant-positive relationship between attachment-related anxiety and dependency. Moreover, of all the variables dependency had the strongest correlation with attachment-related anxiety (r = 21).

According to attachment research dependency should have a significant but negative relationship to attachment-related avoidance. For instance, Zuroff and Fitzpatrick (1995) found a significant negative correlation of r = -.28. The results of this study did show a similar but weaker relationships with a correlation coefficient of r = -.13 between dependence and avoidance.

In this study, attachment-related anxiety had a significant relationship to self-criticism. Persons with attachment-related anxiety are known to have negative internal working models of self while having positive models of others. Such self-perception could also be part of the perfectionist strivings of self-critics. There was a positive correlation between these two variables (r = 46).

According to prior research a significant relationship would be expected between self-criticism and attachment-related avoidance. Zuroff and Fitzpatrick (1995) report that self-critical individuals have significant concern about obtaining approval of others, whereas avoidant persons do not. They also add that self-critical persons report low self-esteem while avoidant persons often report positive self-images. In this study, there was no significant relationship between self-criticism and attachment-related avoidance.
Zuroff and Fitzpatrick (1995) showed that self-criticism was associated with fearful attachment (Bartholomew & Horowitz, 1991) rather than dismissing attachment style (high scores on both factors of attachment). This finding was not confirmed by this study when attachment style (four levels) was used as the outcome variable. Self-criticism, dependency or their interactions with gender did not significantly predict placement in categories of attachment, regardless of whether a two or four-category model was used. Thus, there were discrepancies between results of the two sets of analyses, namely those that used attachment as a continuous independent variable and those in which attachment was a categorical-dependent variable. A possible reason for these discrepancies might be that as recommended by Fraley et al. (2000) converting scores on the ECR-R may limit the psychometric utility of the test. Fraley (2003) highly opposes to categorization of scores on the instrument- noting that it would reduce its precision and, thus statistical power. In the current study such categorization was made simply for the convenience of making comparisons with previous research easier since most of these studies used categorical models of attachment. However, given the results, this may not advisable for future research.

**Attachment and Trait-Anxiety**

This study inquired if there is a significant relationship between attachment status and trait-anxiety. No significant relationship was detected between attachment and trait-anxiety. Neither attachment-related anxiety nor attachment-related avoidance was significantly related to trait-anxiety. Furthermore, trait-anxiety or its interaction with gender did not significantly predict attachment categories. No studies were found in the literature that specifically examined these two variables. However, one would expect that
high scores on attachment-related anxiety and low scores on avoidance, which
correspond to the preoccupied attachment style, would be significantly related to trait-
anxiety. Typically, persons with this attachment style are thought to have hyperactive
affect-regulation strategies (Main, 1990). These strategies involve anxiety regarding
parent/partner’s availability and their responsiveness to the person’s needs. Thus some
degree of anxiety in close relationships would be expected. A significant and positive
relationship between attachment-related anxiety and trait-anxiety would be consistent
with the premises of attachment theory. One reason for the contrary results might be that
the anxiety inherent in the preoccupied attachment style (high score on the attachment-
related anxiety scale) might be specific to the relational domain. It may not be
generalized to other areas of functioning. As a result, the individual may not perceive
him or herself as an overall anxious person.

A negative relationship between attachment-related avoidance and trait-anxiety
would also be expected. Since such individuals (dismissing) are known to use
deactivating strategies of affect-regulation, they would be expected to perceive lower
degrees of anxiety in a variety of situations. This expectation also was not endorsed by
the findings of this study. It is possible that the deactivating strategies of affect
regulation could be particularly related to close interpersonal relationships and may not
be generalized to a variety of other domains.

These findings pose some threat to the premises of attachment theory, which
asserts that affect regulation strategies that were originally developed with respect to the
availability and proximity of the attachment figure are later generalized to other domains
of functioning. The findings of this study show that attachment is not related to a general
vulnerability to experiencing anxiety states in a variety of situations. This implies that affect-regulation strategies specified by attachment theorists may be specific to close interpersonal relationships. However, such conclusions should be made with caution because this study found a relationship between attachment and vulnerability to depression. This might mean that affect-regulation strategies formed in early-close relationships are related to certain affective states but not others. Future research should address relationships between attachment orientation and a variety of affective experiences.

**Gender**

Kobak, Sudler, and Gamble (1991) advocate that being female constitutes a significant risk factor for depression, particularly in adolescents. Attachment researchers typically associate preoccupied attachment with females and dismissing attachment with males. For instance, in their study with adolescents, Rosenstein and Horowitz (1996) found that males were more likely to have a dismissing attachment style than the preoccupied one (66 % vs. 34 %) and to have dismissing attachment style than females (75 % vs. 25 %). On the other hand, females were more likely to have a preoccupied attachment style than a dismissing one (68 % vs. 25) and to have preoccupied style than males (63 % vs. 37 %).

Results of this study indicated that when comparing dismissing versus secure attachment, females were more likely to be in the secure category while males were more likely to be in the dismissing one. When comparing fearful versus secure categories, females were more likely to be in the secure categories whereas males were more likely to be in the fearful one. Although attachment research frequently reports that females are
more likely to be in the preoccupied attachment category, this claim was not endorsed by the findings of this study.

The results were similar when attachment was used as continuous variable. Male and female students did differ on attachment-related avoidance. Males scored significantly higher than females on avoidance, which is inline with the previous literature. On the other hand, males and females did not differ on the anxiety factor of attachment. Likewise, with the exception of dependency factor of depressiveness, no gender differences were detected for the rest of the variables of the study; personal meaning, self-criticism, and trait-anxiety.

The limited gender differences found in this study could be due to several unique aspects of students’ experience in college. Students of this age group differ from other populations. First, although such information was not obtained from the sample, it is safe to assume that the majority of the participants were not living in the same town with their parents. As such, regardless of their gender these students might have similar concerns and needs about intimate relationships. That could be so particularly in the absence of their family. Second, at ages 18 through 23, part of these students’ developmental tasks is to acquire competencies in close relationships. These similarities in their developmental needs might be part of the reason for the unexpected similarities in the participants’ scores on attachment-related anxiety.

Fraley (2003) also did not find any gender differences on attachment-related anxiety. These results were obtained from a general population sample of over 20 thousand persons who filled out Experiences in Close Relationships-Revised (Fraley et al, 2000). Therefore, a lack of gender differences could be due to the instrument itself.
As mentioned above, unlike findings of Fraley (2003) the current study found a significant difference between males and females on attachment-related avoidance. This finding is consistent with studies using other instruments measuring adult attachment. Earlier studies found that compared to females, males were more likely to use deactivating affect regulations strategies, which correspond to the dismissing attachment category. However, attachment-related anxiety or preoccupied attachment was not related to either gender. This result might be due to the nature of the attachment instrument (ECR-R; Fraley et al., 2000).

**Personal Meaning and Depressiveness**

First, considering that prior research found significant degrees of shared variance between depressiveness and symptoms of clinical depression, a significant negative relationship is expected between depressiveness and personal meaning. Clinical depression is related to negative perceptions about the self (worthlessness) and about circumstances of one’s life (helplessness and hopelessness). These negative evaluations are thus associated with felt meaninglessness. Second, considering that depressiveness involves negative evaluations of one’s actual self (perfectionism/self-criticism) and excessive anxiety and reliance on others (dependency), one would expect these characteristics to be associated with fluctuations in a sense of purpose and fulfillment.

Results of this study showed that self-criticism had a significant and negative relationship with personal meaning. Dependency did not have a significant relationship to personal meaning. Individuals scoring high on self-criticism, often referred to as perfectionists, are thought to have high standards for themselves. Thus these persons are overly critical of their performance. Consequently, a significant negative relationship
between self-criticism and personal meaning is consistent with the conceptualization of both factors. Persons with perfectionism are thought to have ongoing self-consciousness about their performance in various tasks, and have tendencies of ever seeking self-improvement. This close observance and monitoring of one’s performance is highly likely to co-occur with a certain degree of ongoing anxiety. Such critical attitude might impact persons’ evaluations of their performance on their hard-to-achieve goals.

There was no significant relationship between personal meaning and the dependency factor of depressiveness. One possible explanation is that regardless of their interpersonal neediness, individuals scoring high on dependency might in fact find reasonable degrees of purpose and fulfillment in their lives by striving to attain their dependency needs. They might find their lives having purpose even if at a given time such needs are not met. This study did not use the specific subscales of personal meaning (framework and fulfillment). If these subscales were used it is possible that high scores on dependency could correspond to high scores on the framework scale. On the other hand, their scores on the fulfillment scale could have been dependent upon whether or not the participants felt their dependency needs were met for the time being.

**Personal Meaning and Trait-Anxiety**

The results showed a significant but negative relationship between personal meaning and trait-anxiety. High levels of ongoing vulnerability to anxiety may affect individuals’ sense of fulfillment. This anxiety might be associated with negative views, expectations and perceptions of one’s performance on tasks. Individuals with overall higher degrees of anxiety may be more self-critical. The findings showed a correlation of $r = .58$ between self-criticism and trait-anxiety. This implies that even if individuals
with higher scores on trait-anxiety had positive goals and were doing well on fulfilling these goals, they may be more likely to view these accomplishments more negatively than those lower on trait-anxiety. In other words, higher degrees of anxiety may interfere with positive appraisals of one’s goals and accomplishments. Given that trait-anxiety has to do with fear (anxiety) about a variety of situations, it might interfere with a sense of fulfillment and content with one’s life.

**Depressiveness and Trait-Anxiety**

Given how Blatt et al. (1976) conceptualized depressiveness there should be a significant and positive relationship between depressiveness and trait-anxiety. The results of this study support their conceptualization. Factors of depressiveness were both significantly related to trait-anxiety. It is safe to reason that ongoing self-criticism (perfectionism) and dependency (neediness), the two aspects of depressiveness, might co-occur with anxiety. High scores on self-criticism are related to excessive concerns about being perfect. High scores on dependency are indicative of excessive worries about availability and approval of others. Both of these factors imply some ongoing degree of anxiety related to one’s perception of self and approval and availability of others. Therefore, a significant positive relationship is inline with existing theories about these two concepts.

**Correlations among the Variables of the Study**

Final part of hypothesis testing involved examining correlations among the variables. With a few exceptions, the variables of the study were significantly correlated. These relationships ranged from low to moderate. Dependency was not significantly related to any of the following variables; attachment-related avoidance, personal meaning
and self-criticism. Given the nature of the two constructs, one might expect a negative relationship between attachment-related avoidance and dependency. High scores on avoidance correspond to tendencies of avoiding intimacy in close relationships. On the other hand, high scores on dependency are related to excessive concerns for the approval and availability of others. The results did not confirm this expectation. These results might imply difference between constructs of intimacy and dependency. In other words, what avoidant persons try to stay away from might not be quite the same construct as what dependents seek.

A significant positive relationship between the anxiety scale of attachment and dependency subscale of depressiveness would be expected because both constructs are related to excessive concerns about availability of close relationships. Although such a relationship was confirmed with the findings of this study, this relationship was weak ($r = .21$). One possible reason for this weak relationship might be because of the differences between dependent and anxious persons’ outlooks regarding relationships. Compared to anxious persons, dependent individuals might have more positive expectations about intimate relationships. In fact, anxious attachment style is associated with a preoccupation and ambivalence about intimate relationships.

The dependency factor of depressiveness was not significantly correlated with personal meaning. It is possible that regardless of their interpersonal neediness, dependent persons might find satisfactory degrees of purpose and fulfillment in their lives. Although dependency needs are of great concern to these persons, it is possible that even if these needs are not met for the time being, these persons might not give up on the hope to fulfill these needs in the future. Therefore, a lack of fulfillment of these
needs at a given time may not significantly impact their overall satisfaction with their lives. In addition, these needs—whether fulfilled or not—might provide a sense of meaning to these persons.

Correlations found between the other variables ranged from low to moderate. These associations and their directions were essentially inline with the existing research. However, their degrees were somewhat lower than expected. For instance, dependency and attachment-related anxiety had a Pearson correlation coefficient of .21. Similarly, while a higher negative correlation between dependency and attachment-related anxiety would be expected, the results showed a correlation coefficient of only $r = -.13$. No particular reasons can be thought of other than the characteristics of the sample and procedures of the study. For instance, there was no way of controlling or measuring social desirability with the exception of ensuring anonymity.

**Theoretical Implications**

There are several theoretical implications of the results. For instance, the findings partially highlight the importance of interpersonal relationships in functioning, adjustment, well being and vulnerability to pathology. The results illustrate the inseparable nature of domains of human functioning; such as interpersonal—intrapersonal; wellness—pathology, and past—present experiences. This study on the one hand supports the idea that attachment orientation has relevance to various areas of functioning. However, it shows that there is merit in the argument questioning the scope of attachment (i.e. Mallinckrodt, 1995). In other words, attachment orientation might be related to a greater range of human functioning than the critics of attachment theory advocate.
On the other hand, this study did not nearly support the idea that attachment can function as a metaconstruct capable of integrating a variety of domains of development and functioning (Lopez, 1995).

Some findings of this study did not endorse certain assumptions of attachment theory. For example, there was little evidence supporting the relationship between attachment and personal meaning. Similarly, attachment-related anxiety, which was expected to have a strong positive relationship with dependency, only had weak relationship. These findings might be considered as indicative of the complex, non-linear nature of attachment as a construct.

Fraley (2003) advocates against categorization of attachment dimensions measured by the ECR-R (Fraley et al., 2000). The results changed considerably depending on whether attachment was used as a categorical or continuous variable. Furthermore, when it was continuous the analyses revealed far more relationships than those found when attachment was used as a categorical variable. This might be considered as support for Fraley’s claim that categorization might limit the precision of the ECR-R thus leading to decrease in statistical power. In fact, conceptualizing attachment as a continuous construct as opposed to categorical might be more useful from a clinical standpoint. Given the research findings documenting that one’s membership in attachment category is resistant to change over time, changing a person’s attachment orientation can not possibly be the purpose of psychotherapy focusing on attachment issues. On the other hand, such therapy can pursue change on the continuum of dimensions of attachment.
In other words, in stead of viewing attachment in restrictive categories, psychotherapy can more conveniently explore individuals’ tendencies regarding anxiety and avoidance in close relationships.

Although attachment researchers often make references to the relationships between attachment orientation and affect-regulation, these relationships seems more complex. This complexity is evident in the unexpected finding regarding attachment-related anxiety and trait-anxiety. The results did not show any significant relationship between these two variables. However, given that persons with high scores on attachment-related anxiety are known to use hyperactive affect-regulation strategies (Main, 1990), and to experience excessive anxiety and emotionality, a significant relationship would be expected. The results did not show such a relationship. These two results suggest that while attachment orientation might be related to one area of emotionality, it may not be related to another. Therefore, while making any generalizations about complex phenomena such as attachment, requires considerable caution. Further research is necessary to clarify the scope of the impact attachment orientation might have on various domains of functioning.

This study confirmed the complexity of interrelations among major personality constructs. The findings illustrated that the presence, lack or varying degrees of such relationships might be mediated by a host of variables. For instance, as indicated by Lamb, Thompson, Gardner, Charnov, and Estes (1984), temperament is one of these factors. Hence, making straightforward and simple generalizations about relationships between constructs such as attachment might be overly simplistic and, thus not theoretically sound. The mixed results of the study can be taken as support for the
intricacy of these interrelationships. Hence further research is needed to reach any degree of precision in the current understanding of the complex relationships among various variables of human functioning.

Clinical Implications

The findings of this study have several implications for clinical work with college students. They offer partial evidence for the interconnected nature of various domains of human functioning. The findings suggest a flexible approach that takes attachment style into account in assessing, conceptualizing and intervening with issues brought to counseling by college students. For example, individuals with high scores on avoidance might be more comfortable with a therapeutic approach that focuses on tasks rather than the therapeutic relationship. Conversely, individuals with high scores on attachment-related anxiety benefit from a particular emphasis on the relational aspect of therapy.

Therapists working with individuals with insecure attachment can explore adaptive aspects of this attachment. For example, a client could have a predominantly anxious-ambivalent attachment style and dependent tendencies. An exploration of how the person functions when dependency needs are not met can be useful. Instead of taking certain findings of attachment theory literally, clinicians should pay attention to unique adaptive strategies. Internal working models can also be explored in counseling with college students. This might be done in the context of the client’s meaning systems in order to attain and facilitate an understanding of how the person’s interpersonal functioning relates to his or her adaptation and general functioning.
Considering that only fearful attachment (high anxiety and avoidance) was related to personal meaning, psychotherapy might foster a sense of personal and interpersonal resourcefulness to individuals with this attachment style. On the other hand, given their high degrees of anxiety and avoidance these individuals might be in greater risk to prematurely terminate psychotherapy. Therefore, more flexible and person-centered approaches might be more useful for these clients.

Given the high mean score on personal meaning, lack of gender differences, and some similarity with adult samples from previous studies, the findings of this study imply that third and fourth year college students might have a great deal of resolution in transition to adulthood. Therefore, clinical work with these students should be mindful of such resourcefulness and maturity.

Limitations of the Study

Several aspects of sampling, theoretical framework, and instrumentation of this study pose limitations to its internal and external validity. Since a sample of convenience was used the results might not be generalizable to the population. The sample of the study was obtained from personal growth classes. The individuals who take these classes might in some significant ways differ from those who do not. For example, students who take such classes are often from certain disciplines, such as education, sociology, recreational sciences and business, and they are in their 3rd or 4th years of college.

A significant limitation of this study has to do with its exclusive use of self-report measures. As pointed out by Rood (2000) using such measures, particularly with complex construct such as attachment, without desirability scales may risk internal validity of the study. For instance, desirability might be a factor in high scores on
personal meaning. Similarly, as pointed out by Cassidy and Kobak, (1988) relative to the preoccupied attachment, the dismissing attachment involves down-playing distress. Therefore, perhaps the former is more likely to be perceived and reported through self-report measures, whereas the latter is underreported. For instance, Searle and Meara (1999) found that college students’ emotional expressivity and emotional intentness (attention to emotion and their intensity) varied based on their attachment classification. They found the dismissing persons were least intent and least expressive, whereas preoccupied ones were most intent and most expressive. Hence, these differences might influence individuals’ reports of their emotionality. Accordingly, particularly when only one assessment modality is utilized, this might have significant impact on research outcomes.

As pointed out by Roberts et al. (1996) self-report measures rest on the presumption that participants can accurately report such constructs. Attachment was not conceptualized merely as a construct of the conscious mind. Attachment researchers (Bowlby, 1980) have also linked internal working models to the unconscious. Hence, future studies should consider also incorporating measures such as the Adult Attachment Interview (AAI; George et al., 1985), which does not rely only on individual self-report.

In addition, the procedures used in administering the surveys may have posed problems to internal validity. Students who participated in the study received extra-credit points from their instructors for their mere participation. Thus their motivation may not have been sincere. When lengthy self-report measures are involved, perhaps immediate and content related incentives should be used to encourage more accurate and honest participation. Researchers could perhaps provide participants with extra copies and make
the participation somewhat more experiential and personal. Studies could also involve inquiring feedback about individuals’ subjective experiences with the surveys. This feedback might also include their ratings of the accuracy and sincerity of their responses.

Furthermore, despite increased interest in attachment theory in recent decades, not all premises of the theory are agreed upon. For instance, the likely relationships between attachment dimensions and the examined variables (gender, personal meaning, vulnerability to depression, and trait anxiety) could be mediated by other factors. Such factors might be explored if both quantitative and qualitative are incorporated in studies with such variables.

Finally, the instrumentation might pose some limitations. Despite the documented psychometric qualities of the instruments, they may pose some limitations. For instance, the Experiences in Close Relationships-Revised (ECR-R; Fraley et al., 2000) was developed by highly sophisticated statistical and psychometric techniques. However, aside from the original study by the authors there has not been sufficient use and validation of the instrument. In addition, although this instrument was developed using the Item-Response Theory (IRT: van der Linden & Hambleton, 1997), the scoring was done by using classical test theory. That is to say, due to the complicated and time consuming scoring system of the IRT, for convenience the scores on this measure were calculated by summation. This scoring method might compromise some advantages of using an instrument created with the IRT. This might be even more so when converting the scores on the two dimensions of attachment.
In addition, the Life Regard Index-Revised (LRI-R; Debats, 1998) has well-documented psychometric properties. Nevertheless, it has not been widely used and research done with the instrument appears to be conducted by the proponents of its conceptual bases and mostly done in Europe. Accordingly, the lack of diversity in its application might be of concern.

**Implications for Future Research**

A number of suggestions can be made for future research. Some of these have to do with the findings of this study and some of them are related to the evolution of research in areas related to the variables of the study. A number of the findings of the study were contrary to those of prior research. These might in part be due to the use of global constructs such as personal meaning, depressiveness, and trait-anxiety. Considering the complexity of such variables, future research should incorporate more specific variables into inquiries with such constructs. This incorporation could foster precision in research findings, which could improve the practical utility of such studies.

For instance, along with investigating attachment orientation and depressiveness, studies could inquire if the interaction between depressiveness and the presence, absence or severity of past or present experience with clinical depression would contribute to differences in the relationship between depressiveness and attachment orientation.

Future research should utilize college samples with diverse demographic characteristics. While investigating complex concepts such as attachment, comparing responses of students in first years and those in the last years of their undergraduate studies might enrich current understanding of college student development. This also could be accomplished by utilizing longitudinal studies with this population.
Similarly, studies can compare other factors such as race, social class and sexual orientation as they relate to attachment and indicators of psychopathology and well being.

Attachment theory could be extended to various clinical issues. It could be utilized in investigating various aspects of psychotherapy. For example, it might be used in inquiries involving willingness to seek professional psychological help, compliance with treatment (i.e. regular attendance), and clients’ preferences in counseling styles. Likewise, considering the connection between emotional intensity and preoccupied attachment, further research is needed to investigate if this style of attachment is also linked to specific DSM diagnoses such as bipolar disorder, attention deficit hyperactivity disorders and cluster B diagnoses.

Attachment research could also involve collaboration with areas such as cognitive psychology. It can also be combined with personality typologies. For instance, are persons with high scores on attachment-related avoidance (dismissing/avoidant) more likely to have convergent styles of thinking and decision-making (Hudson, 1967)? Are they more likely to have realistic typology? Are the anxious persons more likely to use divergent cognitive styles and be social or artistic personality types (Holland, 1985)? Seeking empirical answers to such questions could stimulate further clarification in how attachment relates to such broad aspects of personality and functioning.

Attachment research can also be greatly enriched by incorporating findings in biological sciences. For example, there is not enough work done on possible contributions of temperament to development of attachment styles. Lamb et al. (1984) questioned that infant’s behaviors in the Strange Situation (Ainsworth et al., 1978) might in fact be due to their temperament than attachment.
Therefore, future studies can address relationships between biological and genetic variables such as temperament to improve credibility of attachment theory.

Moreover, future research might focus on issues that can foster preventive efforts in mental health service delivery. Among various ways of prevention, attending to chronic issues with low severity is important. When judging the clinical significance of an issue it is common that professionals focus on the immediate impairment and its severity in various aspects of one’s functioning. It appears that not much emphasis is put on issues that are lower in severity but highly long lasting. For example, the number of studies dealing with major depression is incomparably higher than that of studies with dysthymia. It is so for various diagnostic classifications. Therefore, considering long-term implications of issues such as depressiveness and trait-anxiety, which are not severe enough to receive clinical attention, greater scientific attention is needed. Such attention is vital in guiding preventive efforts.

No studies focusing on adaptive outcomes of insecure attachment were found in the literature. Given attachment theory’s claim that individuals form attachment styles early in life, it is fair to assume that there would be certain unique advantages to having any particular style of attachment. Since not all insecure individuals have severe psychopathologies, qualitative research methodologies could be utilized to examine adaptive advantages of each attachment orientation.
INFORMED CONSENT FORM

Dear fellow student,

This is a doctoral dissertation research, which intends to investigate relationships of college students’ (ages 18-23) relational styles, gender, and measures of their emotional experiences and well being. Please read this letter carefully before deciding to participate.

The confidentiality of your responses is of paramount importance to the researcher. Thus every necessary step will be taken to ensure the privacy of the information you provide. You do not need to write your names on the answer sheets. Therefore, your identity will remain anonymous. Answering the questionnaires will not take more than 60 minutes. Responding to this questionnaire does not have any immediate benefits to you, aside from receiving extra credit point from your instructor. The questionnaires also don’t include any questions that could cause any distress to you. Hence, it is entirely your choice whether to partake in this study or not. You do not have any obligation to answer any question you do not wish to answer.
You also have the choice of requesting your responses not be used in the analyses at any time before the study is concluded.

If you have any questions about your rights as research participants please contact University of Florida Institutional Review Board at: UFIRB office, Box 112250, University of Florida, Gainesville, FL 32611-2250; phone: 392-0433.

If you have any questions about this study please contact Ibrahim Keklik at ibrahim@ufl.edu or Dr. James Archer, Jr. at jarcher@ufl.edu.

Thank you for your contribution to this study.

Sincerely

Ibrahim Keklik

If you decide not to participate, you are requested to leave the classroom. By signing the sign in sheet you will be consenting to partaking in this study.
APPENDIX B
THE EXPERIENCES IN CLOSE RELATIONSHIPS QUESTIONNAIRE- REVISED

The following statements concern how you feel in romantic 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 indicating how much you agree or disagree with
it. Write the number in the space provided, using the following rating scale:

Sample Items:

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___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.
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___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
Below are 28 statements regarding your attitudes towards some aspects of life, with which you might agree or disagree. Please indicate each time the answer that best represents your opinion.

**STATEMENTS**

Sample Items:

1. I feel like I have found a really significant meaning for leading my life.

   __1__ Do not Agree   __2__ No Opinion   __3__ Agree

2. Living is deeply fulfilling.

   __1__ Do not Agree   __2__ No Opinion   __3__ Agree

3. I really don’t have much of a purpose for living, even for myself.

   __1__ Do not Agree   __2__ No Opinion   __3__ Agree

4. There honestly isn’t anything that I totally want to do.

   __1__ Do not Agree   __2__ No Opinion   __3__ Agree

5. I really feel good about my life.

   __1__ Do not Agree   __2__ No Opinion   __3__ Agree

6. I spend most of time doing things that really aren’t very important to me.

   __1__ Do not Agree   __2__ No Opinion   __3__ Agree

7. I have really come to terms with what’s important for me in life.

   __1__ Do not Agree   __2__ No Opinion   __3__ Agree
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BIOGRAPHICAL SKETCH

Ibrahim Keklik was born in Adiyaman, Turkey. His parents were tobacco farmers who lived in a small village in Southeastern Turkey. Ibrahim was the younger of two children who were the only alive children left alive of many that had died due to poor living circumstances and lack of medical care. During his early schooling in village elementary and middle schools, he was highly praised for his school performance, which he then decided to use to “go beyond the mountains” that surrounded the geography of his childhood. From early ages until he finished college Ibrahim farmed tobacco along with the family.

Ibrahim received his undergraduate degree in psychological guidance and counseling from Cukurova University in 1993. He completed coursework requirements for the master’s degree offered in the same program while teaching in a rural elementary school. Before starting his thesis he received a scholarship from the Turkish Ministry of Education to study abroad, in 1995.

After a year of training in the English language at the Middle East Technical University Ankara, Turkey, Ibrahim moved to the U.S in 1996. He completed his master’s in counseling with an emphasis on college student development from Old Dominion University, Norfolk, VA, in 1998.

In August 1998, Ibrahim was admitted to the student personal doctoral program at the Department of Counselor Education, University of Florida. After the first year of coursework, he changed his degree program to the mental health track. Ibrahim has done
internships in a variety of settings. He taught undergraduate courses for over two years. He has been working at the Crisis Stabilization Unit of Meridian Behavioral Healthcare during last two years of his doctorate. Upon completion of the doctoral degree program, Ibrahim plans to go back to Turkey to teach, practice and conduct research in counseling. He aspires to take active roles in national and international professional organizations.