

ATTACHMENT STYLE, ETHNIC IDENTITY & HEALTH BEHAVIORS

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## **DEDICATION**

To my parents, Cleo and Susie, and my Godparents, Bob and Connie, who provided strong, on-going support and encouragement throughout graduate school. Also, this manuscript would not have been possible without Amy and Daniel. Your countless acts of palanca propelled me to be not only a better student, but a better man as well. You have helped me become *wild at heart*.

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## **ABSTRACT**

### **ATTACHMENT STYLE, ETHNIC IDENTITY & HEALTH BEHAVIORS**

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Recent research has explored many risk factors concerning poor health behaviors and outcomes in adolescent populations. Attachment style encompasses several variables which have been linked with mental/physical health and health behaviors: social relationship factors, emotional regulation and coping styles. The current study examines the relationship between a personality construct (attachment style), health promoting behaviors and health symptoms in a diverse collegiate sample through a survey design. Significant differences between secure and preoccupied styles were found with respect to health promoting behaviors. Individuals with a secure style reported significantly fewer health symptoms than those with a fearful or preoccupied style. No significant differences were found between attachment style endorsement and ethnic identity or between ethnic identity and health promoting behaviors. The present study builds on

previous research by examining attachment endorsement and ethnic identity in Hispanics and seeks to discern a possible developmental link between post-adolescent attachment styles and health. Implications and future directions are discussed.



## **CHAPTER 1**

### **INTRODUCTION**

Mental and physical health problems in college populations are increasing in number and severity according to a recent survey of 13,500 college students (American College Health Association, 2004). Substance abuse, poor nutrition, and physical inactivity have been consistently linked to academic failure as well as poorer long-term health outcomes post-adolescence (Dewey, 1999; Ellickson, Tucker & Klein, 2003; Eaton et al., 2008) in student populations. In addition, for the first time in 100 years, youth in the United States may have a shorter life expectancy than their parents (Olshansky et al., 2005). This potential decline in life expectancy has been the subject of many terse editorials and congressional forums. Such a potential decline points to the need for further research on how youth form adaptive health behavior patterns. Preliminary research (Khaw et al., 2008) shows that practicing a variety of health promoting behaviors is associated with a 14-year increase in life expectancy. Two factors that may influence health behaviors are attachment style and ethnic identity. The present study is designed to explore the relationships of attachment style and ethnic identity to health promoting behaviors and health symptoms.

## Attachment Theory

Attachment theory has evolved through several stages. Early psychoanalytic and social learning theorists proposed that an infant's relationship with the mother emerges because of feeding and the resultant pleasure comes to be associated with the mother's presence in positive ways (Freud, 1910/1957; Sears, Maccoby & Levin, 1957). However, animal studies directly contradicted this early hypothesis. Lorenz (1935) found that infant geese would become imprinted or attached to parents that did not feed them. Harlow (1958) observed infant rhesus monkeys' responses to two different caregivers during times of distress. He found that the animals preferred not a wire-mesh 'mother' that provided food, but rather a soft mother-like dummy that afforded contact security and comfort without food. Thus, attachment must consist of more elements than food and psychoanalytic foundations of security.

Bowlby (1969, 1973, 1979, 1980) followed the work of the early psychoanalysts but offered different explanations concerning the foundational elements of attachment. From 1948 to 1952, Bowlby observed children's responses to maternal separation in hospital practices in the United Kingdom. He found that children too experienced distress when separated from their mothers (maternal deprivation), even if they were fed and cared for by others. Attachment theory, under the tenants of Bowlby's (1980) supposition, proposes that the affective nature of adult relationships is substantially determined by the quality of the relationship between the child and primary caregivers and is most evident in adults when distressed, ill or afraid. For example, when confronted with a relationship breakup, an adult who grew up with primary caregivers who were unresponsive to attachment needs may avoid attachment needs altogether by suppressing

or hiding their feelings or distancing themselves from the source(s) of rejection. More specifically, Bowlby (1979) posits: “Attachment behavior is conceived as any form of behavior that results from a person attaining or retaining proximity to some other differentiated and preferred individual” (p. 129). Attachment behaviors are regarded as independent of feeding and sexual behaviors but are of “at least equal importance” (Bowlby, 1980, pg. 371).

Bowlby’s interest not only rested in children who suffered through “maternal deprivation” but also upon the effects that their wounds may later have on communities and society at-large. In a 1951 essay, Bowlby concluded: “Thus it is seen how children who suffer deprivation grow up to become parents deficient in the capacity to care for their children and how adults deficient in this capacity are commonly those who suffered deprivation in childhood” (pp. 68-69). This assertion has been central to attachment theory ever since and is now termed the “intergenerational transmission” of insecurity (e.g., De Wolff & van Ijzendoorn, 1997).

Within this developmental framework, it is critical to note that attachment is considered a normal and healthy component of development across the lifespan, rather than simply a sign of immaturity needed to be outgrown. Additionally, many view the importance of early attachment security to primary caregivers as fundamental for healthy development across the lifespan. Levy (2000) noted:

As anyone who has ever planted a garden knows, you must first prepare the soil—make the soil fertile in order to foster health and growth. The same is true for children; they must have a context that promotes healthy functioning and development. *Attachment* between child and caregiver(s) is a major aspect of this

crucial context. It is as basic as food and water, necessary for healthy development of the body, mind, relationships, values, and spirit. (p. xiii)

More broadly, attachment means a bond or tie between an individual and an attachment figure. It proposes that a need for safety and protection is paramount in infancy and childhood, with both elements forming the basis of bonds. The theory further postulates that children will attach to caregivers instinctively, with respect to means of achieving security, survival, and ultimately genetic replication (Bretherton, 1992). Close proximity reduces the risk of harm from numerous environmental threats, including predators, hunger, and drowning. The application of this survival function to the dependent state of an infant accentuates the fundamental importance of attachment behaviors and their influence on early familial relationships and subsequent experiences to combat stressors through learned coping strategies (Schlack, 2003).

Drawing from Bowlby's discussion of attachment styles, Ainsworth, Blehar, Water & Wall (1978) expanded attachment theory and operationally defined three attachment styles through the Strange Situation Task: secure, anxious-ambivalent, and anxious-avoidant. A secure attachment style results from interactions with a caregiver who is readily available and is responsive to the child's needs a majority of the time. These children will then expect and develop confidence in their caregiver's availability and responsiveness. Anxious-ambivalent attachment style results from interactions with caregivers who display inconsistent responses and are not readily available when a child is presented with stressors. Children in this category tend to display higher levels of anxiety and stress and will cling to caregivers and resist soothing efforts from others. The anxious-avoidant attachment pattern develops when a caregiver is most often either

unavailable or wildly unresponsive. These children learn to expect rejection when seeking care and they will typically protect themselves and suppress attachment needs and desires. As adults, these children strive for independence/self-sufficiency and will adamantly avoid seeking care or support from others, which has clear implications for health behaviors and outcomes. Thus, Ainsworth's model extended Bowlby's theory by providing operational definitions of attachment styles.

Bartholomew & Horowitz (1991) expanded Ainsworth's model. They considered the interplay of two dimensions (self-esteem and interpersonal trust) across four attachment styles: secure, fearful, preoccupied, and dismissive (Figure 1). Securely attached individuals display high self-esteem and high interpersonal trust. This style again is often considered ideal, and many of these individuals share common characteristics such as a high need for achievement, low fear of failure, and the desire to learn about and explore the world (Green & Campbell, 2000; Elliot & Reis, 2003). About 7 in 10 infants and adults exhibit a secure style (Jones & Cunningham, 1996; Mickelson, Kessler & Shaver, 1997). Second, individuals who are low in self-esteem and also low in interpersonal trust are classified as fearful. These individuals tend to avoid close relationships altogether or establish unhappy partnerships (Mikulincer, 1998). Also, this style of relating is hypothesized to be a result of harsh or rejecting care-giving, leading to a fear of intimacy fueled by a fear of rejection (Wearden, Lamberton, Crook & Walsh, 2005). A negative self-image coupled with high interpersonal trust trends towards a preoccupied style. Typically, these people desire closeness (often to an excessive extreme) and they cling to others but are often depressed about relationships because they form failure schemas. Preoccupied attachment most closely captures the older anxious-

ambivalent style. The fourth category added by Bartholomew & Horowitz (1991) was a dismissive style. Children classified as dismissive display a positive view of the self and are high in self-esteem and low in interpersonal trust which often leads to the belief that one is very much deserving of quality relationships, while expecting the worst of others (Onishi, Gjerde, & Block, 2001). This style is most congruent with the older anxious-avoidant type.

While children may be classified as having a particular attachment style in childhood, that style is often pliable. Some studies have illustrated that attachment styles are generally stable throughout the lifespan and have continued consequences and benefits on interpersonal relationships, life satisfaction, and health behaviors (Ainsworth et al., 1978; Bowlby, 1980; West, Livesley, Reiffer, & Sheldon, 1986; Fraley, 2002). Previous research has also indicated that attachment styles are largely stable across time in the same individuals (Waters, Merrick, Treboux, Crowell & Albersheim, 1995; Svanberg, 1998). However, this pattern can be broken through extremely good or bad experiences (Davila & Sargent, 2003). Additionally, a relationship breakup or recent stressful life experience can alter one's self-reported attachment style as can a current satisfying relationship or positive life event (Ruvolo, Fabin, & Ruvolo, 2005). Finally, cross-sectional studies have identified children and adults who are able to overcome early adversity and insecure attachments to develop satisfying interpersonal relationships with their offspring and spouses. These resilient individuals have been termed "earned secure" (Paley, Cox, Burchinal, & Payne, 1999).

Researchers have described attachment style as a personality style which incorporates the quality of interpersonal relationships, emotional regulation/suppression,

and cognitive appraisal (Feeney, 2000; Schlack, 2003). While the conceptualization of attachment styles has changed, the fundamental importance of attachment has not. Moreover, it has been illustrated that while attachment is typically stable, recent life events may cause one to change their attachment endorsement. Given the recent increases in maladaptive health behaviors in adolescents and the changing dynamic of the family unit, attachment theory also provides fertile soil to examine links between adaptive health behaviors, mental health and health symptomology post-adolescence.

#### How Does Attachment Style Influence Mental and Physical Health?

Attachment and health have been linked through several avenues. Bowlby saw attachment in childhood as maintaining a balance between proximity-seeking (attachment) and exploratory behavior. Thus, attachment behaviors are most likely to be activated when a child is in strange or threatening situations (Feeney, 2000). Conditions activating attachment behaviors fall into three major types: alarming environmental conditions, changes in the attachment relationship (departure, discouraging of proximity) and the state of the child such as fatigue, pain or sickness (Bowlby, 1969; Feeney, 2000). Thus, Bowlby's analysis implies that ill-health or adaptive health behaviors are likely to activate the attachment system and that different attachment groups may differ in their responses to unusual/distressing physical symptoms (Feeney, 2000).

Previous research has indicated that an individual's ability to manage their emotional state and maintain social support has been empirically linked to attachment styles (Bowlby, 1980; Caldwell, 1995; Feeney, 2000). Additionally, others have noted that a lack of social support networks is related to decreased immune system functioning

and negative health symptomology (Cohen, Doyle, Skoner, Rabin & Gwaltney, 1997; Cohen & Lemay, 2007).

Attachment theory has also been associated with a range of life adjustment issues as well as psychiatric problems. Feeney & Ryan (1994) suggest that attachment styles can influence psychiatric illness through three routes: influencing coping responses, contributing to a general vulnerability to stress which may predispose the development of psychiatric symptoms, and affecting an individual's ability to establish and maintain vital social networks. Insecure attachment styles have been found to be correlated with a variety of dysfunctional behaviors including maladaptive perfectionism (Rice & Mirzadeh, 2000), unresolved grief (Prigerson et al., 1997), alcoholism (Vungkhanching, Sher, Jackson & Parra, 2004), and more trouble with dysfunctional anger (Mikulincer, 1998). Moreover, a number of sources relate insecure attachment style with higher rates of anxiety and depression (Meyers, 1998; Gerlsman & Luteijn, 2000), illicit substance use (Caspers, Cadoret, Langbehn, Yucuis & Troutman, 2005), personality disorders (Bogaerts, Vanheule, & Declercq, 2005) and even psychosis (Drayton, Birchwood & Trower, 1998).

Other studies have examined relationship warmth and social support from parents (closely related to attachment) and health outcomes. In one longitudinal study, 116 undergraduates were followed for 35 years to examine the correlation between parental relationships and reported diagnosed diseases at midlife (Russek & Schwartz, 1997). Remarkably, 91% of participants who initially endorsed a lack of perceived warmth and closeness with their primary caregivers (assessed during college) reported a diagnosed disease at midlife. Only 45% of those who endorsed warm relationships with primary



caregivers reported diagnosed diseases. Others (Bornstein, Krukonis, Manning & Mastrosimone, 1993) have examined undergraduate students' level of interpersonal dependency and health care visits in 92 college students. Level of relationship dependency predicted visits to college and private health centers over one semester. Highly-dependent participants showed significant increases in number of visits to health centers while low-dependent students did not. This relationship held for men and women even when health status was controlled for.

Differences have also been found on a physiological level between children with secure and insecure attachment patterns in terms of cardiovascular responses. Jemerin & Boyce (1990) noted that insecurely attached infants showed more inconsistent autonomic nervous system reactivity to strangers. However, securely attached infants exhibited a more consistent slowing and acceleration pattern. Brooks (2000) found evidence suggesting differential cortisol responses with respect to attachment styles.

Researchers have also examined links between attachment style and health outcomes with respect to emotional suppression, which has been found to be characteristic of the anxious-avoidant (dismissive) attachment. Roter & Ewart (1992) examined the suppression of negative emotion in 203 patients with essential hypertension across 542 patient-physician interviews. They found that physicians and independent observers were less accurate in their subjective descriptions of emotional states in the hypertensive patients than those who were non-hypertensive. The researchers concluded that emotional inhibition affects patients' hypertensive status as well as their communication with their physicians. Kotler, Buzwell, Romeo & Bowland (1994) expanded on the relationship between insecure attachment, emotional suppression and

health status. The researchers described the Type C personality taxonomy, which includes stoicism, compliance and unassertiveness and viewed it as an extension of the anxious-avoidant (which is associated with a high need for emotional control). The researchers found emotional distress in addition to a high need for emotional control to be a significant predictor of physical health symptoms.

Health care visits, subjective health status and attachment styles have also been examined. Feeney & Ryan (1994) found that the fearful-avoidant attachment style was negatively correlated to health care visits. College students with this pattern also reported the lowest levels of parental responsiveness to their complaints of ill health. However, in this same study, secure attachment was not related to health symptom reporting. Anxious (preoccupied) attachment style was the only one positively correlated with physical symptom reporting. Feeney (1995) examined differences in attachment style and subjective health status in college students. Results indicated that the anxious-ambivalent attachment style was positively correlated with an external locus of control as well as a hypervigilance on somatic sensations.

Wearden et al. (2005) examined 142 undergraduates utilizing a four-category model of attachment to discern relationships between attachment and symptom reporting via two possible mediating factors: negative affectivity and alexithymia. Negative affectivity assesses the general tendency to experience and communicate negative emotions, and has been shown to predict the extent to which people report physical symptoms, potentially through the mechanism of enhanced attention to bodily sensations (Watson & Pennebaker, 1989). Previous research has shown that links between preoccupied and fearful attachment and symptom reporting may be based on low self-

esteem and a tendency to focus on negative affect, arising from a negative view of the self (Ciechanowski, Walker, Katon & Russo, 2002). Alexithymia is a deficit in the ability to identify and describe emotions but not actually experience them (Taylor, Bagby & Parker, 1997). Early experience of caregivers who do not display or discuss emotions or deal inappropriately with a child's emotions is thought to have a detrimental influence on affect regulation later in life (Bagby & Taylor, 1997). The researchers found that those endorsing a preoccupied or a fearful style reported a significantly greater number of physical symptoms than did secure individuals. The dismissive style was not associated with increased symptom reporting. The relationship between fearful attachment and symptom reporting was partly mediated by alexithymia and negative affectivity while the preoccupied attachment was mediated mainly by negative affectivity (Wearden et al., 2005). However, establishment of causal relationships cannot be made, as the study was cross-sectional in nature.

Attachment theory has been shown to be related to emotional suppression, physiological responses, social support networks, a range of life-adjustment problems and health symptom reporting. However, health outcomes vary greatly across different ethnic groups. Attachment style endorsement has also been shown to vary across ethnic groups.

#### Ethnic Identity & Health Outcome Disparities

Racial and ethnic health disparities are well documented and vary greatly by outcome, use of health care services, and quality of care (Institute of Medicine, 2002; Haas et al., 2004). Heart disease is 29% higher and diabetes is 100% higher for African Americans than for Whites. The rate of diagnosed diabetes cases across different ethnic groups is also widely disparate: 7% for non-Hispanic Whites, 12% for Hispanic

Americans, 15-20% for Asian American groups and 37-50% for Native American subgroups (Black, 2002). These differences in health are also correlated with differential life expectancies. Age-adjusted death rates between African Americans, Hispanics, and Caucasians vary; the death rate is 33% higher for African Americans and 22% lower for Hispanics (National Center for Health Statistics, 2003).

The rate of obesity in the United States has drastically increased, particularly within the Hispanic community. Over the past three decades, childhood obesity rates overall have more than doubled for preschool children aged 2-5 years and adolescents aged 12-19 years; the rate has more than tripled for children aged 6-11 years (Institute of Medicine, 2005). However, the prevalence of obesity in Hispanic populations is the highest among all ethnic groups: 39.3% of children aged 6 to 11 are overweight and 23.7% are considered obese. The prevalence is similar for adolescents aged 12-19 (Hedley, et al., 2004). In Texas, rates are among the highest in the nation for this population: approximately 46% are classified as overweight and 28% obese (Wong et al., 2001).

One potential covariate concerning ethnic identity and health is socioeconomic status. Wilkinson (as cited in Heine, 2008) found that with nearly every increase in income in the United States, mortality rates are lower. These differences are seen even among those who occupy the highest income levels. Moreover, individuals from minority groups, particularly Hispanics and Blacks, often fall at the lower end of the socioeconomic spectrum and may have less access to preventative or necessary health care, be disposed to more occupational or environmental hazards, and have poorer nutrition and housing (Pamuk, Makuc, Heck, Reuben, & Lochner, 1998).

An additional reason for concern over racial and ethnic differences in health outcomes is that the United States is becoming increasingly diverse. At present, Hispanics, non-Hispanic Blacks, Asians, and American Indians account for 27% of the population. By 2050, half of the U.S. population will either be Hispanic, non-Hispanic black, Asian, or American Indian (National Research Council, 2004). Moreover, differences in the elderly population will be dramatic. Current projections suggest that by 2050 whites aged 65 and over will double while the number of elderly African Americans and Hispanics will increase three and eleven-fold respectively (National Research Council, 2004).

These trends point to the need to identify different mechanisms of health behavior change in post-adolescence, particularly in regards to Latino and African American groups. Might attachment style influence health outcomes in these populations?

#### Ethnic Identity, Attachment & Health Outcomes

Ethnic identity and attachment have received some previous research consideration. Mickelson et al. (1997) found significant differences between African-American and Caucasian group membership in a nationally representative sample of 8,098 individuals. Participants who were classified as having a secure attachment style were more likely than others to be female, older, married, white, better educated, and better off financially. Avoidant types were more likely to be male and Black or “other” classification. Also, respondents classified as anxious were more likely to be young, previously married, Black or Hispanic, less well educated and less well off financially.

Schlack (2003) investigated relationships between ethnic identity, health promoting behaviors, and symptom reporting. The endorsement of a secure or fearful style was virtually the same between groups and also reflected the percentages found for

the total groups (43% and 26%). The researcher also found an interesting though not statistically significant result concerning Caucasians and African-American participants. More Caucasians reported a preoccupied style (32%) than African-American participants (3%). No Caucasians reported a dismissing style but 25% of the African-American group did report a dismissing style (Schlack, 2003). Additionally, results indicated that those with secure attachment styles endorsed more health promoting behaviors. Concerning health symptom reporting, those with preoccupied styles had higher reports of health symptoms while the endorsement of a dismissive style reported fewer health symptoms. These findings were inconsistent with Feeny & Ryan (1994), Kotler et al. (1994) and Wearden et al. (2005). Schlack also noted that attachment patterns may not be stable in college settings due to stress and uncertainty. Specifically, results also indicated that year in school significantly added to a prediction of attachment styles high on the anxiety dimension: fearful and preoccupied. Finally, no reported differences were seen between ethnic group membership and health symptoms reporting or between ethnic group membership and health promoting behaviors. There were several major limitations in the study: a small sample size ( $n=120$ ), overwhelming majority were female (80%), and participants were almost entirely African-American or Caucasian.

The issue of attachment in Latino samples has only narrowly been examined. Harwood (1992) asserted:

Anglo mothers [focus] on traits of personal competency, whereas Latinas [focus] on maintaining the proper demeanor in public context. One could then speculate that whereas (psychologically well-adjusted) Anglo mothers would try to foster behaviors in their children that would facilitate the development of secure

attachment, their Latino counterparts might foster insecure attachment behaviors patterns in their children. (p. 836)

Traditional Anglo culture varies greatly from Latino culture. Contemporary Anglo culture places a much stronger value on personality traits associated with individualism, such as self-confidence and independence. However, as noted above, Latino culture emphasizes the sociometric, placing a greater importance on the collective family unit, importance of interpersonal obligation, respect for others and personal dignity usually expressed through proper demeanor (Harwood, 1992). In a two-part study, Harwood (1992) found that Anglo and Latino mothers will try to socialize their children in accordance with the aforementioned cultural norms. Latino mothers described the following traits as desirable for their children: respect for adults, being quiet, displaying appropriate demeanor, and having behaviors that ensure proximity with the caregiver as opposed to engagement in active exploration. Anglo mothers, in contrast, described desirable traits as self-control, independence, and active exploration (clingy infants were rated as less desirable). Thus, it is possible that Latino mothers may be more likely to instill insecure attachment patterns in their children.

Previous research has only narrowly examined relationships between attachment styles and health promoting behaviors. Additionally, little data exists concerning relationships between attachment style and health behaviors with a particular emphasis on college Latino samples. The current study proposes to increase the understanding of attachment styles with respect to health promoting behaviors and health symptoms in Latinos and Caucasians.

### Hypotheses

First, relationships among attachment style and health promoting behaviors will be examined. It is predicted that individuals with a secure attachment style will report practicing significantly more health promoting behaviors than those with insecure attachment styles (secure versus preoccupied, fearful and dismissive). Next, relationships between ethnic identity and attachment will be examined. How might ethnic group membership influence patterns of attachment style? This will be an exploratory analysis. Associations between ethnic identity and health practices will also be explored. It is hypothesized that there will be no differences between ethnic identity and health promoting behaviors or health symptoms.

Next, differences in symptom reporting and attachment will be examined. It is predicted that participants who endorse a preoccupied style will have higher reports of health symptoms than those endorsing a secure style. The final hypothesis is that individuals who endorse a dismissive attachment style will report fewer health symptoms than those who report a secure or preoccupied style.



## CHAPTER 2

### METHOD

#### Participants

The participants consisted of 323 undergraduate and graduate students recruited from psychology courses at a state university in central Texas. Responses from 14 initial participants were removed due to inaccurate data packets, reducing the subject pool to 309. The intended sample size was 300 participants. This figure was estimated to recruit a sufficient number of Hispanics in accordance with the ethnic breakdown of the university. Additionally, in accordance with Schlacks' (2003) recommendations, a sample size of approximately 300 would approach an appropriate dichotomy of secure and insecure styles. All students were eligible to participate if they were enrolled in summer psychology courses in which professors were willing to offer compensation.

Table 1 summarizes demographic information. Participants were between the ages of 19 and 49 ( $M = 23.28$ ). Males accounted for 38.5% of the sample and females 61.5%. Ethnic breakdown was as follows: 63.4% Caucasian, 18.8% Hispanic, 9.4% Mixed, 5.5% African American, 1.9% Asian American and .6% American Indian. The ethnic breakdown in the current sample is similar to the population of students of the university as a whole: 69% White, 22% Hispanic, and 5% African American. Breakdown

by class rank is as follows: four freshman (1.3%), 26 sophomores (8.4%), 88 juniors (28.5%), 188 seniors (60.8%) and 3 graduate students (1%).

Table 1

*Demographic Percentages for Participants*

Demographic Variable	N	%	M	SD	Range
<b>Age</b>	309		23.28	4.47	30
<b>Gender</b>					
Female	190	61.5%			
Male	119	38.5%			
<b>Ethnicity</b>					
Asian American	6	1.9%			
African American	18	5.8%			
Hispanic	58	18.8%			
Caucasian	196	63.4%			
American Indian	2	0.6%			
Mixed	29	9.4%			
<b>Class Rank</b>					
Freshman	4	1.3%			
Sophomore	26	8.4%			
Junior	88	28.5%			
Senior	196	60.8%			
Graduate	3	1.0%			

## Measures

### *Demographic & Health Information*

A brief demographic and health questionnaire (Schlack, 2003) was completed which ascertained gender, age, year in school, parental configuration while growing up, siblings, subjective health perception, and frequency of using health care services.

(*Appendix B*). Subjective overall health was assessed as excellent, good, fair, poor, very poor and other.

### *Attachment Style*

Attachment style was measured with the Relationship Questionnaire (RQ). The RQ (Bartholomew & Horowitz, 1991) is a categorical and continuous measure of adult attachment style that consists of four brief narratives describing each disposition: secure, fearful, preoccupied and dismissive (*Appendix C*). Respondents were directed to place a checkmark next to the narrative that most appropriately described their disposition. For example, if an individual endorsed a preoccupied style, their disposition would be as follows: I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them. Next, subjects rated each narrative on a seven-point likert scale ranging from one (not like me at all) to seven (very much like me) as to how strongly the narrative resonated with them. The second part of the instrument provides continuous scales which carry more precision in measurement than a standard categorical or typological approach (Fraley & Waller, 1998). Reliability coefficients have ranged from .74 to .95

(Bartholomew & Horowitz, 1991). Scharfe & Bartholomew (1994) found that RQ styles were moderately stable over an eight month period.

### *Ethnic Identity*

Ethnic identity was assessed with the Multigroup Ethnic Identity Measure (MEIM). The MEIM (Phinney, 1992; Roberts et al., 1999) is a 12-item scale that measures two factors (*Appendix D*): ethnic identity search (knowledge and pursuit of culture) and an affirmation, belonging, and commitment factor (an affective component). Participants were asked to rate their answer to each item based on a five-point Likert-type scale, ranging from one (strongly disagree) to five (strongly agree). A sample question from the commitment scale read: I have a strong sense of belonging to my own ethnic group. The overall mean score of the 12 items was calculated to represent the participants' ethnic identity. Means were also obtained for the ethnic identity search and affirmation, belonging, and commitment subscales. Previous studies have shown that the MEIM has good reliability, with a Cronbach's alpha score ranging from .80-.90 (Phinney, 1992; Roberts et al., 1999).

### *Health Symptom Reporting*

Frequency of health symptoms was assessed with the Pennebaker Inventory of Limbic Languidness (PILL). The PILL (Pennebaker, 1982) is a 54-item questionnaire that measures the tendency of a person to notice and report a broad array of physical symptoms and sensations such as chest pains, headaches and sore muscles (*Appendix E*). The PILL has also been conceptualized as a measure of somatic focus assessing a general tendency to experience and report symptoms instead of a person's specific symptom experience (Gijsbers van Wijk, van Vliet & Kolk, 1996). Participants rated symptom

frequency on a five-point Likert scale with A= never or almost never experience the symptom (scored as zero), B = less than three or four times a year (one), C = every month or so (two), D = every week or so (three), and E = more than once every week (four). Item responses of C, D and E alone were summed (binary method). Pennebaker (1982) found that the binary method correlated .96 with the summed method (adding all responses together) and yielded strong internal consistency reliability ( $\alpha = .91$ ) and high test-retest reliability over a two week span ( $r = 0.83$ ).

### *Health Promoting Behaviors*

Health Promoting Behaviors were measured with the Health Promoting Lifestyle Profile II (HPLP-II). The HPLP-II (Walker, Sechrist, & Pender, 1987; Walker & Hill-Polrecky, 1996) is a 52-item rating scale that measures health promoting behaviors across six subscales: physical activity, spiritual growth, health-responsibility, interpersonal relations, nutrition and stress management (*Appendix F*). Participants' responses were scored on a four-point likert scale as follows: 1 = never, 2 = sometimes, 3 = often, 4 = routinely. A question from the health-responsibility scale asked: how often do I report any unusual signs or symptoms to a physician or other health professional? Item subscale scores were obtained by summing the responses according to each subscale provided above. The authors sought to base the measure on a model of 'health promoting' rather than 'health protecting' behavior. Specifically, health promoting behavior generally goes beyond trying to avoid illness to striving to increase an individual's sense of overall well-being. Internal consistency reliability of the scale is strong, with subscale values ranging from .71 to .90 and an alpha of .93 to .95 for the total score (Stuifbergen, Seraphine & Roberts, 2000).

### Design and Procedure

Participants were recruited from 12 undergraduate summer psychology courses and received one to five extra credit points for their participation as allotted by each instructor. A brief study description was read to all students during recruitment. Approximately 69% of students recruited enrolled; class attendance was roughly 90%. Participants received consent forms and were told that they could withdraw from the study at any time (*Appendix G*). No students withdrew. A short study description was read to all participants before data collection which outlined the study premise and directions for completing the five questionnaires (*Appendix H*). There were no anticipated risks but instructions were provided to all students concerning how to contact the researcher should questions or concerns arise.

Students individually completed the packets in 20-25 minutes during class time, in the lab, or at home. Participants were debriefed at the conclusion of data collection in the classroom by the researcher or faculty member through a prepared statement. (*Appendix I*). A few respondents chose to complete an alternative assignment which required a one page summary of an article pertinent to attachment theory. All information was absent of personal identifiers and secured in a locked file in a lab on the second floor of the psychology building in accordance with APA ethical guidelines. All procedures and research designs were approved the institutional review board (confirmation number: 2009H9232). Each measure was hand-scored, and the data were analyzed with ANOVA's, chi-square analyses, correlation and simple regression via the SPSS program.

## CHAPTER 3

### RESULTS

To test the five hypotheses, data from 309 participants who properly completed the measures were analyzed. In addition to the dropped participants, several means were used to code for other missing data. First, four participants checked two attachment styles on the RQ. In each case, a coin was flipped to discern an attachment style. Second, 12 responses to one or two items on the HPLP-II were left blank. In each case, the missing item was coded by plugging in the average of the other items on the appropriate subscale. Third, three participants left 15 items blank on the PILL. Total scores for the PILL were not recorded for these subjects.

Subjective overall health for participants was high based on data from the demographic measure. Seventy-seven percent rated their health as good or excellent; only 20.7% endorsed a fair rating while 2.3% judged their health to be poor. Subjective overall health was significantly associated with total scores on the PILL,  $r(306) = .334, p < .01$ . That is, endorsement of a poorer subjective health status was associated with more health symptoms. Frequency of health symptoms as measured by the PILL was significantly negatively correlated with the total scores on the health promoting index,  $r(306) = -.116, p < .05$ . Frequency of attachment style endorsement is listed in Table 2. The current study finds are compared with a national sample of 8,098 adults (Mickelson, Kessler &

Shaver, 1997) and a sample of 120 college students in rural Tennessee (Schlack, 2003). Breakdown among attachment styles closely mirrored Schlacks' findings; however, Mickelson et al.'s results revealed a higher endorsement of the secure style using the older three-category model. Attachment style endorsement is as follows: 144 (46.6%) secure, 77 (24.9%) fearful, 36 (11.7%) preoccupied and 52 (16.8%) dismissive.

Table 2

*Frequency of Attachment Style Endorsement*

Attachment Style	Current Study	Schlack (2003)	Mickelson et al. 1997 Study
Secure	46.6%	43%	59%
Preoccupied	11.7%	9%	11%(a)
Dismissive	16.8%	22%	25%(b)
Fearful	24.9%	26%	--

(a) The Mickelson et al. (1997) study conceptualization of "anxious-ambivalent" is most congruent with the preoccupied style

(b) Bartholomew & Horowitz (1991) used fearful as the second type of avoidant style. The dismissing style most closely captures the older "anxious-avoidant" style.

By ethnicity, endorsement of attachment styles was virtually identical between Caucasians and Hispanics for each attachment style. Forty-eight percent of Hispanics and Caucasians endorsed a secure style while 28.5% of Caucasians and 27.5% of Hispanics were high on the anxiety dimensions (preoccupied and dismissive). While African Americans constituted a distinct minority, attachment styles differences were marked. African Americans were much more likely to endorse a dismissive style (38.8%) and much less likely to endorse a secure style (22.2%) or a preoccupied style (11.1%) in comparison to both Caucasians and Hispanics. Summary findings are listed in Table 3.



Asian American and American Indians only accounted for 2.6% of the sample. Twenty-nine participants did not identify with just one ethnicity and selected mixed; 37.9% endorsed secure style while 41.3% identified with a preoccupied style.

Table 3

*Attachment Endorsement by Ethnicity*

	Caucasian	African American	Asian American	Hispanic	Mixed	American Indian
Secure	95	4	5	28	11	1
Fearful	45	5	0	14	12	1
Preoccupied	25	2	0	6	3	0
Dismissing	31	7	1	10	3	0

### Hypotheses

*Attachment Style & Health Promoting Behaviors*

First, it was predicted that individuals with a secure attachment style would report practicing significantly more health promoting behaviors than those with insecure attachment styles (secure versus preoccupied, fearful and dismissive). An independent samples t-test was used to examine the effect of attachment style on total health promoting behaviors at the .05 level. Health promoting behaviors significantly differed between the secure and insecure groups,  $t(307) = 2.41, p = .02$ . Individuals endorsing a secure style ( $M = 2.80, SD = .41$ ) endorsed significantly more health behaviors than those endorsing insecure styles ( $M = 2.69, SD = .41$ ).

*Ancillary Analysis*

Additionally, a one-way ANOVA was run with attachment style as the factor and total health promoting behaviors as the dependant variable. Significant differences were

found between attachment styles,  $F(3, 305) = 3.40, p = .018, \eta^2 = .032$ . Scheffe post-hoc comparisons of the four groups indicated that those endorsing a secure style engaged in significantly more health promoting behaviors ( $M = 2.80, SD = .41$ ) than those endorsing a preoccupied style ( $M = 2.57, SD = .49$ ). Comparisons between the insecure groups were not statistically significant. In sum, a significant difference in health promoting behaviors was observed between those endorsing a secure and a preoccupied style only. Attachment style accounted for 3.2% of the variance in health promoting behaviors.

Second, a simple forced regression was run with the four attachment styles in relation to the total promotion score to obtain a more pure measure of attachment. The continuous measure of attachment from the RQ was used instead of the categorical assessment. Endorsement of a secure attachment significantly predicted total health promotion scores,  $\beta = .22, t(302) = 3.361, p < .01$ . Secure attachment also explained a small and similar portion of the variance in total health promoting behaviors,  $R^2 = .05, F(4, 302) = 12.20, p < .01$ . Endorsement of a preoccupied style was marginally negatively associated with total health promoting behaviors,  $\beta = -.10, t(302) = -1.69, p = .09$ .

#### *Ethnic Identity, Health Promoting Behaviors & Health Symptoms*

It was predicted that there would be no differences between ethnic identity and health promoting behaviors or health symptoms. A one-way ANOVA was used to measure the effect of ethnic identity on total health promoting behaviors with the African American, Hispanic and Caucasian groups. The effect of ethnic identity was not statistically significant,  $F(2, 269) = 1.12, p = .33, \eta^2 = .008$ . A one-way ANOVA was also run to measure the effect of ethnic identity on health symptoms with the African

American, Hispanic and Caucasian groups. The effect of ethnic identity was not statistically significant,  $F(2, 269) = 2.74, p = .066, \eta^2 = .02$ . Thus, ethnic identity was not related to overall health promoting behaviors or health symptoms. Ethnic identity accounted for .8% of the variance in total health promoting behaviors and 2% of the variance in health symptoms.

#### *Ethnic Identity & Attachment Style Endorsement*

Differences between attachment style endorsement and ethnicity was an exploratory analysis with respect to Hispanic participants. A chi-square test for independence was used to examine the relationship between attachment style endorsement and ethnic identity. Attachment endorsement and ethnic self-identity were not significantly related,  $\chi^2 (15, N = 309) = 17.88, p = .27, V = .14$ . Data were analyzed a second time removing the Asian-American and American-Indian and Mixed groups because of small sample sizes. Again, the relationship was not significant,  $\chi^2 (6, N = 272) = 7.86, p = .25, V = .12$ . That is, individuals endorsing a particular attachment style did not by-and-large predictably fall into a unique ethnic group (attachment style and ethnic self-identity are independent). These results collectively indicated that ethnic identity was not significantly related to health promoting behaviors and ethnic group membership and attachment style are independent of each other.

#### *Health Symptom Reporting & Attachment Style*

It was predicted that individuals who endorsed a preoccupied style as measured by the RQ would have a higher report of health symptoms as measured by the PILL than those endorsing a secure style. A one-way ANOVA was used to measure the effect of attachment style on the frequency of reported health symptoms. The effect of attachment

style was statistically significant,  $F(3, 302) = 5.16, p = .002$ . Scheffe post-hoc comparisons revealed several differences. Individuals who identified with a preoccupied style endorsed significantly more health symptoms ( $M = 48.51, SD = 25.79$ ) than those endorsing a secure style ( $M = 35, SD = 24.35$ ). Participants who endorsed a fearful style reported significantly more health symptoms ( $M = 46.42, SD = 26.84$ ) than those endorsing a secure style.

Second, it was hypothesized that individuals who endorsed a dismissive style would report fewer health symptoms as measured by the PILL than those who reported a secure or preoccupied style. Results from the aforementioned ANOVA revealed that there were large, but not significant differences between those endorsing a dismissive style ( $M = 36.88, SD = 28.81$ ) and those endorsing a preoccupied style ( $M = 48.51, SD = 25.79$ ). In sum, individuals who endorsed a secure style reported significantly fewer health symptoms than those who identified with preoccupied and fearful styles. Additionally, participants who identified with a dismissive style did not report significantly fewer health symptoms than those who were secure or preoccupied.

## CHAPTER 4

### DISCUSSION

Five primary hypotheses were examined concerning attachment style, ethnic identity, health promoting behaviors and healthy symptomology. First, it was predicted that individuals with a secure style would endorse significantly more health promoting behaviors than those with insecure styles. This was fully supported; however, the mean difference between the secure (2.80) and insecure groups (2.69) was small and likely a product of a large sample size. Additional analysis indicated that those endorsing a secure style reported significantly more health promoting behaviors than those aligning with a preoccupied style ( $M = 2.57$ ). This finding is consistent with previous research linking anxiety over relationships to higher emotional and somatic sensations (Brooks, 2000; Feeny, 2000; Schlack, 2003). Attachment style only accounted for 3.2% of the variance in health promoting behaviors. A forced regression was also run to with the continuous scale of attachment to obtain a more pure measure of security and results were nearly identical ( $t = 3.36$  and  $R^2 = .05$ ). That is, individuals endorsing a secure style practiced more health promoting behaviors on average. However, it is critical to note that one's attachment or relationship style is something integral to the nature of the person and potentially impacts health decisions on a daily basis. Over time, it is possible that small

differences such as these may well be much larger. Following the same individuals over time may be fruitful.

Second, differences between ethnic identity, health promoting behaviors and health symptoms were not expected but were examined. Results were as expected: no significant differences were found between African Americans, Hispanics and Caucasians for both total health promoting behaviors and health symptoms. One variable not examined that may contribute to this finding is acculturation. Frequently, positive health behaviors of an ethnic group dissipate with acculturation (Kar, Alcala & Alex, 2003). It is critical to understand and reinforce positive health behaviors of an ethnic group and encourage groups not to lose them in the process of acculturation. The implication for health promotion campaign designers, particularly in light of the noted disparate health outcomes, is that they must understand and reinforce existing positive behaviors of the minority group regarding desired behaviors and not predominantly focus on differences (Freimuth & Mettger, 1990; Kar, Alcala & Alex, 2003). The net result is the production of messages that emphasize differences rather than deficits. The lack of differences between ethnic identity and health symptoms is likely a product of the relative positive health of this sample.

Differences in attachment style and ethnic identity were also explored. Attachment endorsement and ethnic identity were independent of each other. These findings were consistent with Schlack (2003). It is possible, again, that acculturation had an impact. Latinos, at least in this sample, may have been highly acculturated and thus shielded from some of the more traditional Latino cultural value systems. It was surprising that Hispanics and Caucasians' attachment style would breakdown in such an

identical fashion. Harwood's (1992) assertion is in line with cultural norms experienced in Latino families. Less importance is traditionally placed on the need for children to express their feelings to primary caregivers. The emphasis is often on expressing respect for the matriarchal role. Additional cross-cultural research is needed to examine attachment patterns in Latino populations. However, attachment style endorsement was similar to previous research. More respondents endorsed a secure attachment style over the others (Mickelson et al., 1997; Schlack, 2003).

Relationships between attachment style and health symptomology were also examined. Again, the primary function of the attachment system is to ensure that individuals can balance the need for attachment with exploratory behavior, meaning that the attachment behavior is evident when strange or threatening situations arise, such as ill health (Bowlby, 1980). It was predicted that the endorsement of a preoccupied style would be associated with more health symptoms in comparison to the secure group while endorsement of a dismissive style would be associated with fewer health symptoms compared to both the preoccupied and secure individuals. Individuals endorsing both preoccupied and fearful styles endorsed significantly more health symptoms than the secure group; however, individuals endorsing a dismissive style did not report significantly fewer health symptoms. The hypothesis was partially supported and is consistent with previous research (Feeny, 1995; Schlack, 2003; Wearden et al., 2005). However, Feeney & Ryan (1994) found that endorsement of a secure style was not related to health symptoms. Though not reaching a level of significance, those endorsing a preoccupied style endorsed more health symptoms than those with a secure style. This finding is in line with previous research (Schlack, 2003). Thirty-six individuals identified

with a preoccupied style; given a larger sample of individuals endorsing a preoccupied style, significant differences would be likely.

### Limitations & Future Directions

There were several limitations in the study. First, as most participants were university students, results may not generalize to other populations. However, younger adults are an important population to study, as behaviors developed during adolescence and early adulthood may provide foundations for health practices across the lifespan. Second, the number of Hispanics (58) and African Americans (18) was significantly smaller than the number of Caucasians (196). Larger cross-sectional studies of Hispanics and African Americans are necessary to compare group differences in health promoting behaviors, symptoms and attachment endorsement. Third, future studies may want to remove the 'mixed' category, as it provides unnecessary noise. Finally, item 46 on the HPLP-II was most frequently left blank. The item asked participants if they felt they reached their target rate when exercising. Future studies should examine the utility of this item, as many more people may not understand exercise target heart rate than realized.

The temporal stability of attachment is also a limitation. While some argue that attachment patterns are generally stable (Scharfe & Bartholomew 1994; Svanberg, 1998), others have found that recent life stressors or positive events may impact attachment endorsement such as a breakup or satisfying relationship (Davila & Sargent, 2003; Ruvolo, Fabin, & Ruvolo, 2005). It is possible that participants were caught at a time of extremely good or bad experiences in their life which altered their attachment endorsement. Studies have also shown that attachment endorsement is highly plastic in the college years. Lopez & Gormley (2002) found that 43% of freshmen endorsed



different attachment styles at the beginning and end of the school year. Schlack (2003) found that individuals high on the anxiety dimension (preoccupied and fearful) were more likely to be juniors and seniors. The preponderance of respondents in the present study were juniors and seniors. Future research should include a student population that is more inclusive of class ranks. Ideally, future studies should follow the same individuals over time to gather more information about specific concerns and anxiety to test the temporal stability of attachment.

Significant differences between attachment styles and health symptoms may be a reflection of the relative health of youth in this sample. Additions of other populations (i.e. senior and clinical populations) may enhance measurement of attachment style differences in with respect to health promoting behaviors and health symptoms. Also, a more detailed attachments style measure may enhance categorization.

Future research should also breakdown several study variables more precisely. For example, the HPLP-II may yield differential findings across different subscales or load on different factors. Khaw et al.'s (2008) findings suggested that increased physical exercise and consumption of five fruits and vegetables were associated with significant life expectancy gains. Two subscales of the HPLP-II measure physical activity and nutrition and would be worth assessing. Also, how closely one identifies with their ethnic group may be related to attachment style endorsement, health symptoms and health promoting behaviors.

## APPENDIX A

**Figure 1.** Two-dimensional Model of Individual Differences in Adult Attachment with Views of Self and Other.

		Models of Others <i>Avoidance</i>	
		Positive <i>Low</i>	Negative <i>High</i>
Models of Self <i>Anxiety</i>	Positive <i>Low</i>	<i>Secure</i>	<i>Dismissing</i>
	Negative <i>High</i>	<i>Preoccupied</i>	<i>Fearful</i>

## APPENDIX B

### Demographic & Health Information Data Sheet

Directions: *Please answer all questions honestly to the best of your ability.*

1. Age: \_\_\_\_\_
2. Gender: (please circle)    Male    Female
3. Year in School (freshman, sophomore, ect.): \_\_\_\_\_
4. Please indicate number of siblings with whom you grew up and your parental configuration

Number of Siblings: \_\_\_\_\_

Parental Configuration (check one):

Single parent \_\_\_\_\_    Both biological parents \_\_\_\_\_

Step Parents \_\_\_\_\_    Adoptive parents \_\_\_\_\_

Other \_\_\_\_\_

5. How would you describe your overall health during the past year (circle and/or fill in the blank)?

Excellent    Good    Fair    Poor    Very Poor    Other: \_\_\_\_\_

6. How many times have you visited a doctor, clinic, ER or hospital in the last year?

0 – 1: \_\_\_\_\_    2 – 3: \_\_\_\_\_    4 – 5: \_\_\_\_\_

6-7: \_\_\_\_\_    8+: \_\_\_\_\_

## APPENDIX C

### The Relationship Questionnaire

#### Part I

*Directions: Following are four general relationship styles that people often report. Place a checkmark next to the letter corresponding to the style that best describes you or is closest to the way you are.*

\_\_\_\_\_ A. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

\_\_\_\_\_ B. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

\_\_\_\_\_ C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

\_\_\_\_\_ D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

## Part II

*Now please rate each of the relationship styles above to indicate how well or poorly each description corresponds to your general relationship style.*

	Not at all like me			Somewhat like me			Very much like me
Style A.	1	2	3	4	5	6	7
Style B.	1	2	3	4	5	6	7
Style C.	1	2	3	4	5	6	7
Style D.	1	2	3	4	5	6	7

## APPENDIX D

### The Multigroup Ethnic Identity Measure

In this country, people come from many different countries and cultures, and there are many different words to describe the different backgrounds or ethnic groups that people come from. Some examples of the names of ethnic groups are Hispanic or Latino, Black or African American, Asian American, Chinese, Filipino, American Indian, Mexican American, Caucasian or White, Italian American, and many others. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

**Please fill in: In terms of ethnic group, I consider myself to be:**

Use the numbers below to indicate how much you agree or disagree with each statement.

(1) Strongly Disagree    (2) Disagree    (3) Agree    (4) Strongly Agree

1.) I have spent time trying to find out more about my ethnic group, (1) (2) (3) (4)  
as its history, traditions, and customs.

2.) I am active in organizations or social groups that include mostly (1) (2) (3) (4)  
members of my own ethnic group.

3.) I have a clear sense of my ethnic background and what it means for me. (1) (2) (3) (4)

4.) I think a lot about how my life will be affected by my ethnic group membership. (1) (2) (3) (4)

5.) I am happy that I am a member of the group I belong to. (1) (2) (3) (4)

6.) I have a strong sense of belonging to my own ethnic group. (1) (2) (3) (4)

7.) I understand pretty well what my ethnic group means to me. (1) (2) (3) (4)

8.) In order to learn more about my ethnic background, I have often talked to other people about my ethnic group. (1) (2) (3) (4)

9.) I have a lot of pride in my ethnic group. (1) (2) (3) (4)

10.) I participate in culture practices of my own group, such as special food, music or customs. (1) (2) (3) (4)

11.) I feel a strong attachment towards my own ethnic group. (1) (2) (3) (4)

12.) I feel good about my cultural or ethnic background. (1) (2) (3) (4)

13.) My ethnicity is

(1) Asian or Asian American, including Chinese, Japanese, and others

(2) Black or African American

(3) Hispanic or Latino, including Mexican American, Central American, and others

(4) White, Caucasian, Anglo, European American; not Hispanic

(5) American Indian/Native American

(6) Mixed; Parents are from two different groups

(7) Other (write in): \_\_\_\_\_

14- My father's ethnicity is (use numbers above): \_\_\_\_\_

15- My mother's ethnicity is (use numbers above): \_\_\_\_\_

## APPENDIX E

### Pennebaker Inventory of Limbic Languidness

Several common symptoms or bodily sensations are listed below. Most people have experienced most of them at one time or another. We are currently interested in finding out how prevalent each symptom is among various groups of people. On the page below, write how frequently you experience each symptom. For all items, use the following scale:

A= Have never or almost never experienced the symptom

B= Less than 3 or 4 times per year

C= Every month or so

D= Every week or so

E= More than once every week

For example, if your eyes tend to water once every week or two, you would answer "D" next to question #1.

- |  |   |
|--|---|
| ___ 1. Eyes water                              | ___ 28. Swollen joints                              |
| ___ 2. Itchy eyes or skin                      | ___ 29. Stiff or sore muscles                       |
| ___ 3. Ringing in ears                         | ___ 30. Back pains                                  |
| ___ 4. Temporary deafness or hard of hearing   | ___ 31. Sensitive or tender skin                    |
| ___ 5. Lump in throat                          | ___ 32. Face flushes                                |
| ___ 6. Choking sensations                      | ___ 33. Tightness in chest                          |
| ___ 7. Sneezing spells                         | ___ 34. Skin breaks out in rash                     |
| ___ 8. Running nose                            | ___ 35. Acne or pimples on face                     |
| ___ 9. Congested nose                          | ___ 36. Acne/pimples other than face                |
| ___ 10. Bleeding nose                          | ___ 37. Boils                                       |
| ___ 11. Asthma or wheezing                     | ___ 38. Sweat even in cold weather                  |
| ___ 12. Coughing                               | ___ 39. Strong reactions to insect bite             |
| ___ 13. Out of breath                          | ___ 40. Headaches                                   |
| ___ 14. Swollen ankles                         | ___ 41. Feeling pressure in head                    |
| ___ 15. Chest pains                            | ___ 42. Hot flashes                                 |
| ___ 16. Racing heart                           | ___ 43. Chills                                      |
| ___ 17. Cold hands or feet even in hot weather | ___ 44. Dizziness                                   |
| ___ 18. Leg cramps                             | ___ 45. Feel faint                                  |
| ___ 19. Insomnia or difficulty sleeping        | ___ 46. Numbness or tingling in any<br>part of body |
| ___ 20. Toothaches                             | ___ 47. Twitching of eyelid                         |
| ___ 21. Upset stomach                          | ___ 48. Twitching other than eyelid                 |



- \_\_\_ 22. Indigestion
- \_\_\_ 23. Heartburn or gas
- \_\_\_ 24. Abdominal pain
- \_\_\_ 25. Diarrhea
- \_\_\_ 26. Constipation
- \_\_\_ 27. Hemorrhoids

- \_\_\_ 49. Hands tremble or shake
- \_\_\_ 50. Stiff joints
- \_\_\_ 51. Sore muscles
- \_\_\_ 52. Sore throat
- \_\_\_ 53. Sunburn
- \_\_\_ 54. Nausea

## APPENDIX F

### Health Promoting Lifestyle Profile II

*Directions: This questionnaire contains statements about your present way of life or personal habits. Please respond to each item as accurately as possible, and try not to skip any item. Indicate the frequency with which you engage in each behavior by circling:*

*N for never, S for sometimes, O for often, or R for routinely*

- |   |         |
|---|---------|
| 1. Discuss my problems and concerns with people close to me.  | N S O R |
| 2. Choose a diet low in fat, saturated fat, and cholesterol.  | N S O R |
| 3. Report any unusual signs or symptoms to a physician or other health official<br>or other health professional.  | N S O R |
| 4. Follow a planned exercise program.   | N S O R |
| 5. Get enough sleep.  | N S O R |
| 6. Feel I am growing and changing in positive ways.   | N S O R |
| 7. Praise other people easily for their achievements.   | N S O R |
| 8. Limit use of sugars and food containing sugar (sweets).  | N S O R |
| 9. Read or watch TV programs about improving health.  | N S O R |
| 10. Exercise vigorously for 20 or more minutes at least three times a week<br>(such as brisk walking, bicycling, aerobic dancing, using a stair climber). | N S O R |
| 11. Take some time for relaxation each day.   | N S O R |
| 12. Believe that my life has purpose.   | N S O R |
| 13. Maintain meaningful and fulfilling relationships with others.   | N S O R |

*N for never, S for sometimes, O for often, or R for routinely*

- |  |         |
|--|---------|
| 14. Eat 6-11 servings of bread, cereal, rice and pasta each day.   | N S O R |
| 15. Question health professionals in order to understand their instructions.   | N S O R |
| 16. Take part in light to moderate physical activity (such as sustained walking 30-40 minutes 5 or more times a week). | N S O R |
| 17. Accept those things in my life which I cannot change.  | N S O R |
| 18. Look forward to the future.  | N S O R |
| 19. Spend time with close friends.   | N S O R |
| 20. Eat 2-4 servings of fruit each day.  | N S O R |
| 21. Get a second opinion when I question my health care provider's advice.   | N S O R |
| 22. Take part in leisure-time (recreational) physical activities (such as swimming, dancing, bicycling).               | N S O R |
| 23. Concentrate on pleasant thoughts at bedtime.   | N S O R |
| 24. Feel content and at peace with myself.   | N S O R |
| 25. Find it easy to show concern, love and warmth to others.   | N S O R |
| 26. Eat 3-5 servings of vegetables each day.   | N S O R |
| 27. Discuss my health concerns with health professionals.  | N S O R |
| 28. Do stretching exercises at least 3 times per week.   | N S O R |
| 29. Use specific methods to control my stress.   | N S O R |
| 30. Work toward long-term goals in my life.  | N S O R |
| 31. Touch and am touched by people I care about.   | N S O R |
| 32. Eat 2-3 servings of milk, yogurt or cheese each day.   | N S O R |
| 33. Inspect my body at least monthly for physical changes/danger signs.  | N S O R |

*N for never, S for sometimes, O for often, or R for routinely*

- |   |         |
|---|---------|
| 34. Get exercise during usual daily activities (such as walking during lunch, parking car away from destination and walking). | N S O R |
| 35. Balance time between work and play.   | N S O R |
| 36. Find each day interesting and challenge.  | N S O R |
| 37. Find ways to meet my needs for intimacy.  | N S O R |
| 38. Eat only 2-3 servings from the meat, poultry, fish, dried beans, eggs, and nuts group each day.                           | N S O R |
| 39. Ask for information from health professionals about how to take good care of myself.                                      | N S O R |
| 40. Check my pulse rate when exercising.  | N S O R |
| 41. Practice relaxation or meditation for 15-20 minutes daily.  | N S O R |
| 42. Am aware of what is important to me in life.  | N S O R |
| 43. Get support from a network of caring people.  | N S O R |
| 44. Read labels to identify nutrients, fats, and sodium content in packaged food.   | N S O R |
| 45. Attend educational programs on personal health care.  | N S O R |
| 46. Reach my target heart rate when exercising.   | N S O R |
| 47. Pace myself to prevent tiredness.   | N S O R |
| 48. Feel connected with some force greater than myself.   | N S O R |
| 49. Settle conflicts with others through discussion and compromise.   | N S O R |
| 50. Eat breakfast.  | N S O R |
| 51. Seek guidance or counseling when necessary.   | N S O R |
| 52. Expose myself to new experiences and challenges.  | N S O R |

## **APPENDIX G**

Consent Form

IRB #2009H9232

The present research study examines relationships between how people relate to others and health behaviors. Previous research has shown a connection between one's health and how one relates to others. This research is being done for a master's thesis in Health Psychology under the direction of Dr. John M. Davis. If you have concerns or questions regarding your participation, please feel free to contact me (Adam Dziedzic; Texas State University-San Marcos Graduate Student; [AD1282@txstate.edu](mailto:AD1282@txstate.edu)) or Dr. Davis ([jd04@txstate.edu](mailto:jd04@txstate.edu)).

You have been asked to participate because a better understanding of the connection between various relationship styles and health behaviors could help us explain individual differences in health-related outcomes. Additionally, the feedback all participants receive may be useful and interesting to you personally in helping you better understand your relationship style and health behavior patterns.

If you consent to participate, you will be asked to fill out five questionnaires. The first covers demographic information. The subsequent four self-report measures concern relationship styles, ethnic identity, health symptoms, and health behaviors. Time for completion is estimated at 20 minutes. The surveys range in length from a few questions to 54. You may choose to not answer any question(s) for any reason.

Compensation will be offered to you in the form of 2 bonus points on your final exam. Alternatively, should you choose not to participate in this study, you may elect to

read a brief research article on a topic relating to this study and write a one page summary paper. This paper should be submitted to the researcher at the above email address one week after initial data collection.

Your participation is completely voluntary and is indicated by your completion of the following surveys. You have the right to withdraw at any point without it affecting your course grade or standing in the university. All information is strictly confidential and will be gathered by the researcher, maintained in a locked file in the psychology department and reported without any personal identifiers. The original forms will be destroyed upon completion of data analysis in July, 2009. Significant risks for participants are not expected. However, should any of the items on these questionnaires cause you to question the status or quality of your mental health, or if you believe that you may need to see a counselor after answering some of the questions in this study, you may contact the Texas State Counseling Center at 512-245-2208. As a registered Texas State student, mental health services at the Counseling Center are free for you, though the number of sessions allowed may be limited. If interested, you may request a copy of the findings by contacting Adam Dziedzic at the email provided above upon study completion. Results of the study may be obtained through the Texas State Library upon project completion in August, 2009. You will be provided with a copy of this consent form.

If you have any questions about the research, research participants' rights or research-related injuries, you should contact the IRB chair, Dr. Jon Lasser (512-245-3413; [lasser@txstate.edu](mailto:lasser@txstate.edu)) or the Compliance Specialist, Ms. Becky Northcut, (512-245-2102).

Consent and Signature: I have read and understood the description of the research, and I have been given an opportunity to ask questions. I agree to participate in the described research.

Name (please print): \_\_\_\_\_ Date: \_\_\_\_\_

Name (signature): \_\_\_\_\_ Date: \_\_\_\_\_

Researcher: \_\_\_\_\_ Date: \_\_\_\_\_

Professor & course to report your extra credit to: \_\_\_\_\_

## **APPENDIX H**

### **Study Description & Introduction Statement**

**Dear Prospective Participant:**

Thank you for taking the time to participate in this study! The present study examines social relationship styles, ethnic identity, and health behaviors. A better understanding of the relationships between these variables could add to our ability to explain individual differences in health outcomes. More specifically, how do relationship style differences and ethnic identity affect health-promoting choices and outcomes? These findings could help educators, mental health professionals and medical doctors better understand and treat clients and students. You will be asked to fill out a series of 5 questionnaires honestly and to the best of your ability. Time to completion is estimated at 20 minutes. Your personal information will be kept confidential. Please read both sides of the consent form carefully and sign it if you agree to participate. Should you have any questions while completing the subsequent forms, please ask!

**\*\*\*Note:** If you have participated in this study through another psychology course in Summer I, then you are not permitted to enroll again.



## **APPENDIX I**

### **Debriefing Statement**

Dear prospective Participant:

Thank you again for taking the time to complete the study. The questionnaire packet you filled out was seeking to ascertain the relationship between your attachment style and health promoting behaviors, with a particular interest upon how our ethnic identity influences both attachment style and health behaviors. In short, attachment refers to how we form interpersonal relationships with others in adulthood. The attachment style we endorse is based upon the interaction of our self-esteem and interpersonal trust, and previous research has illustrated that the attachment pattern we have influences our health patterns. However, previous research has only narrowly examined how these attachments patterns interact with health and ethnic identity. It is hoped that these findings help educators, mental health professionals and medical doctors better understand and treat clients and students, as well as understand individual differences in health practices. If you are interested in the results of this study, you may contact me at [AD1282@txstate.edu](mailto:AD1282@txstate.edu) in late November. Again, thank you for your contribution to the research process.

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## **VITA**

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