Adult Attachment Styles and Psychopathology

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Adult Attachment Styles and Psychopathology

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First Core: Lee Winderman, Ph.D.
Abstract

This study investigated the relationship between a self-report measure of adult attachment and a self-report measure of psychopathology. Sixty-one outpatients and fourteen acute inpatients were administered the Experiences in Close Relationships (Brennan, Clark, & Shaver, 1998) questionnaire and the Millon Clinical Multiaxial Inventory--3rd Edition (Millon, 1994), along with a basic demographics questionnaire. Results indicated that only ten percent of the participants were classified as secure while ninety percent were insecure. Relative to the secure group, both preoccupied and fearful attachment styles reported significantly higher levels of overall psychopathology, especially in regard to personality dysfunction. Moreover, when compared head-to-head with dismissing attachment, preoccupied individuals were more likely to experience elevated symptoms of borderline personality disorder and dismissing individuals reported more symptoms of antisocial personality disorder. There were no identifiable differences between preoccupied and fearful attachment. Results were discussed in terms of their general degree of consistency with previous research conducted with other self-report measures of attachment as well as interview methods such as the Adult Attachment Interview (Main & Goldwyn, 1998). Moreover, specific recommendations were made for future researchers using self-report measures of attachment within clinical settings.
DEDICATION:

This study is dedicated to the people in my life who have made it possible for me to feel safe and to explore my dreams. To my wife, who has supported me and tolerated my stubborn nature. To my dad, who has always believed in me. To my children, who have given me the courage to love them deeply. To my friends, who have encouraged me along the way.
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John Bowlby: Early developments of attachment theory

John Bowlby was a British psychiatrist who was trained as both a physician and a psychoanalyst in the early part of this century (See Karen, 1994). His interests shifted from classic psychoanalysis to the study of parent-child interactions. Drawing from a wide array of scientific disciplines, including psychoanalysis, ethology, cognitive psychology, and developmental psychology, Bowlby combined various compatible concepts in order to explain the development and maintenance of affectional bonds between a child and its caregiver. Moreover, he was interested in discovering the long-term impact of early attachment experiences on personality development and psychopathology.

From an evolutionary perspective, Bowlby (1969/1982) conceptualized attachment as a behavioral system, a concept borrowed from ethology, which not only increases the infants chances of survival, but also sets the foundation for relationship formation, autonomy, and emotion regulation. Essentially, the attachment behavioral system consists of the mother and her infant developing a coordinated partnership in which the infant utilizes attachment behaviors (e.g. crying, clinging, signaling, crawling) during times of stress in order to obtain proximity to the caregiver, who in turn provides comfort, protection, and a secure-base from which the child can explore its environment. These early caregiving experiences become encoded into mental representations called internal working models. These models serve as potent templates which pervasively influence one's sense of self and others as well as provide unwritten rules for organizing,
experiencing, expressing, and coping with attachment related experiences as well as distressing emotions.

Mary Ainsworth and the Strange Situation: Attachment at the Behavioral Level

Subsequent to Bowlby’s formulations, Mary Ainsworth and her colleagues (Ainsworth, 1973; Ainsworth, Blehar, Walters, & Wall, 1978) developed a procedure for identifying individual differences in attachment behavior based on 12 to 18-month-old’s responses to a series of separations from and reunions with its mother within a laboratory setting. This procedure, known as the Strange Situation, focused largely on the infant’s behavior and classified it into one of three main groups: A, B, and C (Main & Solomon, 1990) later identified a fourth type of insecure attachment label groups D). Secure (Group B) infants actively explored the environment, using the caregiver as a secure base. Upon separation they would show some signs of distress such as crying and inhibiting play and would actively pursue contact with the mother at reunion, seeking to be held and comforted. After settling, the infant then returned to a mode of exploration and play. Insecure avoidant (Group A) infants would also actively explore their environment, but exhibited no signs of distress at separation, focusing almost exclusively on the toys and the environment throughout the procedure. At reunion, they would actively avoid and ignore the caregiver, turning away and even leaning away when picked up. In contrast, the anxious-resistant (Group C) infants had difficulty separating and exploring their environment, being almost exclusively preoccupied with the caregiver through out the procedure. At separation they showed marked signs of distress and exhibited a wide array of behaviors at reunion, ranging from striking passivity to crying and fussiness to a
combination of contact seeking and contact resistant (e.g., hitting, kicking, squirming) behaviors. They were unable to be comforted and would not explore the environment as they continued to focus on the caregiver and to cry. Infants classified as *Disorganized-disoriented* (Group D) demonstrated an assortment of aberrant or conflicted behaviors in the presence of the caregiver, such as rocking on its hands and knees after aborting an approach to the parent; freezing all movement while holding its hands in air and exhibiting a trancelike, emotionless facial expression; rising to meet the caregiver and then falling prone; or avoiding the parent when frightened and leaning its head against the wall.

Ainsworth et al (1978) also discovered that each of the attachment categories was systematically related to the parent-infant relationship outside of the laboratory setting. For example, parents of secure infants were generally more available, responsive, attuned and sensitive to their infants’ emotional and physical needs than parents of insecure infants. Parents of avoidant infants were likely to be rejecting and aloof, rebuffing physical contact and withholding support and comfort during times when their infants were markedly distressed and in need of soothing. Parents of anxious-resistant infants were more self-preoccupied and focused on their own anxiety and tended to be more intrusive and inconsistent in their parenting style. Disorganized-disoriented infants had parents who were more troubled, depressed, abusive, and struggling with the mourning of unresolved attachment-related losses and other interpersonal traumas.

**Developmental outcomes of childhood.**

Largely consistent with Bowlby’s postulate that early attachment organization would play an important role in personality development (Bowlby, 1969/1982, 1973,
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1980, 1988), the child literature has linked infant attachment status with a wide array of psychosocial variables, including social competence, mood regulation, and psychopathology (Weinfield, et al., 1999). In regard to social competence, a number of longitudinal studies demonstrated that infants classified as insecure were significantly more dependent on their preschool teachers than their secure cohorts (Sroufe, 1983; Sroufe, Fox, & Pancake, 1983). These differences were maintained at age 15, even after statistically accounting for current parenting behaviors (Sroufe, Carlson, & Shulman, 1993). Other studies found that children with secure histories were rated as more ego-resilient (i.e., "...a child’s ability to respond flexibly to the changing requirements of a situation, particularly in the face of frustration,” (Weinfield, 1999, p. 77) than their anxiously attached cohorts (Arend, Gove, & Sroufe, 1979; Lutkenhaus, Grossman, & Grossman, 1985; Matas, Arend, & Sroufe, 1978; & Sroufe, 1983).

In regards to mood regulation and behavior, insecure-avoidant infants, as preschoolers, were emotionally detached, hostile, and aggressive (Erickson, Sroufe, & Egeland, 1985; Sroufe, 1983). When older, they tended to avoid their parents and ignore or defy parental commands (Main & Cassidy, 1988). Insecure-resistant infants were tense and impulsive as toddlers, and as preschoolers they were passive, helpless, and more likely to be the victims of insecure avoidant children (Sroufe, 1983). As older children, they exhibited an amalgamation of insecurity and antagonistic behaviors in interaction with their parents (Main & Cassidy, 1988).

Several studies have also discovered differences on measures of empathy as a function of attachment organization (Kestenbaum, Faber, & Sroufe, 1989; Sroufe, 1983).
These differences emerged between children with secure versus avoidant histories, with the former exhibiting a greater number of empathic responses to other children in distress. Although no differences on empathy ratings were observed between the secure and ambivalent attachment groups, it was noted that the ambivalent group had difficulty establishing a boundary between their own distress and that of other children.

As may be inferred from the afore mentioned research, attachment organization in infancy is associated with different forms of psychopathology. Weinfield, Sroufe, Egeland and Carlson (1999) provide a rationale for how different forms of attachment organization elevate a child’s risk for developing broadband patterns of maladjustment and psychopathology:

There are numerous reasons why anxious attachment histories may put children at risk for psychopathology. The anxiety and low frustration tolerance of some individuals with resistant [preoccupied] histories, and the alienation, lack of empathy, and hostile anger of those with avoidant histories, may make the former vulnerable to conduct problems and certain personality disorders. Both may be vulnerable to depression, but for different reasons (passivity and helplessness on the one hand [a characteristic of preoccupied children] and alienation and aloneness on the other [a characteristic of avoidant children]). Both struggle with social relationships, which may exacerbate developmental problems.... and limit social support, thus reducing an important buffer for stress. Those with histories of disorganized attachment, characterized by a failure to maintain
a coherent attachment strategy and postures resembling trance-like states...may be at risk for diverse forms of pathology and in particular, dissociation (81).

Dozier, Stovall, and Albus (1999) make a more specific claim about how individual differences in attachment organization should be associated with different forms of psychopathology. They suggest that those with avoidant attachment should be more disposed to externalizing forms of psychopathology (e.g., antisocial personality, eating disorders, and substance abuse) because such individuals tend to downplay attachment needs and suppress or ignore negative feeling states. Preoccupied individuals, however, tend to amplify their attachment needs and become overwhelmed by negative emotional states. Consequently, they should be at risk for internalizing disorders such as anxiety, depression, and certain personality disorders like borderline personality. Several studies have supported these specific predictions. For example, Lewis, Feiring, McGuffog, and Jaskir (1984) conducted a longitudinal study following children from infancy to age 6. They focused on how well attachment status in infancy predicted the development of psychopathology, as assessed by maternal rating scales. Their results suggested an attachment-gender interaction, where boys classified as resistantly/preoccupiedly attached in infancy were more likely than their secure cohorts to manifest somatic complaints. Moreover, boys with either type of anxious attachment (resistant or avoidant) were more likely than secure children to exhibit social withdrawal. One weakness of this research was that psychopathology was assessed with parent ratings. The difficulty with this method is that it does not account for how each parent’s attachment history may influence how she
perceives her own child and how she might selectively attend to certain behaviors and systematically ignore others. The following two studies both make improvements in their methodology by using external sources for assessing the child’s psychopathology.

In a study investigating the more specific hypothesis between resistant attachment and internalizing symptoms such as anxiety (as assessed by the Schedule for Affective Disorders and Schizophrenia for School-Aged Children), Warren, Huston, Egeland, and Sroufe (1997) found that resistant attachment organization in infancy predicted the development of anxiety disorders later in childhood. This prediction remained significant even after accounting for neurological risk factors assessed by the Brazelton Neonatal Behavioral Assessment Scale. Moreover, resistant attachment was not associated with the development of externalizing types of behavioral problems (e.g., behavioral disorders and aggression) and avoidant attachment did not predict anxiety symptoms.

Another study, Renken, Egeland, Marvinney, Mangelsdorf, and Sroufe (1989) examined the relationship between attachment and conduct problems. They found that children with avoidant histories were more aggressive than both their secure and resistant confederates. Aggression was assessed through teacher ratings on a well standardized behavioral rating scale.

Additional research has linked externalizing behavioral problems with the disorganized/disoriented attachment classification. Lyons-Ruth, Zoll, Connell, and Grunebaum (1989) studied a low income sample of caregiver-child dyads living in Cambridge Massachusetts. When combined with maternal depression, disorganized attachment in infancy predicted hostility in preschool. More specifically, 55% of children
with both risk factors (e.g., disorganized attachment and a depressed caregiver) were hostile and aggressive in kindergarten, compared to only 5% of children with neither risk factor. Another study that identified this type interaction effect for disorganized attachment was conducted by Shaw, Owens, Vondra, Keenan, and Winslow (1997). They found that the combination of attachment disorganization and low intelligence predicted externalizing behavioral problems at age 7. When compared to children with neither risk factor, 50% of the disorganized/low-intelligence group exhibited externalizing behavioral problems versus only 5% in the other group.

Disorganized attachment has also been closely linked to dissociative symptoms. Ogawa, Sroufe, Weinfield, Carlson, and Egeland (1997) found that disorganized attachment predicted dissociative symptoms from ages 16 to 19, even after statistically controlling for abuse history.

The issue of continuity and the concept of representational models of relationships. Several longitudinal studies ranging from 16 to 20 years in duration have demonstrated a “remarkable” (Main, 1996, p. 239) degree of continuity between infants’ attachment classifications, assessed by the Strange Situation procedure (Ainsworth et al., 1978), and their adult attachment classifications as assessed by an interview procedure known as the Adult Attachment Interview (George, Kaplan, & Main, 1985; this interview is described in more detail below). These studies have found a correspondence rate between 75 and 78 percent (Hamilton, 1995; Waters, Merrick, Albersheim, & Treboux, 1995; & Benoit & Parker, 1994). The results suggest that there is a significant degree of continuity between attachment as it is organized at the behavioral level in infancy and how
such behavioral experiences are organized and represented in adulthood. These organized representations are considered the key to understanding the continuity between one's early interactional experiences with caregivers and one's cognitive-affective models of understanding and experiencing relationships as an adult. Blatt, Auerbach, and Levy (1997) indicate that investigators from both psychoanalysis and cognitive developmental psychology have examined the nature and function of such mental representations and how they develop over the life cycle (Ainsworth, 1969, 1982; Beebe, 1986; Blatt, 1974; Bowlby, 1969, 1973, 1988; Fonagy, Steele, Steele, Leigh, Kennedy, Mattoon, & Target, 1995; Kernberg, 1976; Kohut, 1971; Mahler, Pine, & Bergman, 1975; Main, Kaplan, & Cassidy, 1985; Piaget, 1945/1962). Bowlby (1973, 1980, 1982) referred to these mental representations as internal working models (IWM). As described below, Bowlby considered these models to contain a number of beliefs and expectations about the self and others:

In the working model of the world that anyone builds a key feature is his notion of who his attachment figures are, where they may be found, and how they may be expected to respond. Similarly, in the working model of the self that anyone builds a key feature is his notion of how acceptable or unacceptable he himself is in the eyes of his attachment figures. On the structure of these complementary models are based that person's forecasts of how accessible and responsive his attachment figures are likely to be should he turn to them for support. And, in terms of the theory now advanced, it is on the structure of those models that depends, also, whether
he feels confident that his attachment figures are in general readily available
or whether he is more or less afraid that they will not be available—
occasionally, frequently or most of the time (Bowlby, 1973, p. 203.)

Main et al (1985) describe IWM's as a set of rules that organize and interpret
attachment related information. These rules are both conscious and unconscious, and serve
as potent structures for assimilating new information regarding one's self in relation to
significant others throughout the life cycle. As Blatt et al. (1997) noted,

Internal working models.... are formed early in life and vary in their level of
flexibility, adaptiveness, and maturity. They are central to the development
of a sense of self and others, and they pervasively influence the nature and
quality of interpersonal relationships throughout the life cycle. These
schemas are heuristic guides that organize experiences, modulate affect,
and provide direction for subsequent behavior. They become enduring
psychological structures or templates that process and organize information
and that promote the assimilation of new experiences to existing mental
structures (p.355).

In the following section, two different methods for assessing internal working
models of attachment will be discussed: (1) the interview-based strategies, with prominent
attention given to the Adult Attachment Interview, and (2) self-report measures. The
former is concerned with accessing processes that are, to some extend, outside conscious
awareness and that influence how attachment related information (e.g., memories,
thoughts, emotions) is organized. The latter taps into attachment related beliefs and
attitudes that are more directly accessible to consciousness. The Adult Attachment Interview is concerned about measuring attachment as it relates to an individual’s past experiences with his or her primary caregivers. Self-report measures, however, examine attachment in the context of adult romantic relationships.

Mary Main and the Adult Attachment Interview (AAI): Attachment at the Representational Level

As previously noted, Bowlby hypothesized that early attachment experiences would be encoded at the representational level as internal working models (IWMs; see Bowlby, 1969, 1973, 1988). Thus, several investigators during the mid 1980’s began to develop methods for measuring IWMs in adults and adolescents. Mary Main and her colleagues (Main et al., 1985; George, Kaplan, & Main, 1985) first developed the Adult Attachment Interview (AAI), which consists of a 1-hour interview that assesses the adult’s “state of mind with respect to attachment” (Main & Goldwyn, 1998) by eliciting the interviewee’s memories and discourses regarding early attachment related experiences. The interview is transcribed verbatim and coded by specially trained researchers. The primary interest of the interview is not to provide a veridical account of childhood events, but rather to assess the coherence of one’s “state of mind with respect to attachment,” as it relates to childhood experiences. Four primary attachment classifications were identified, each of which is theoretically and empirically linked to the four infant attachment styles (Main & Goldwyn, 1985-94). Autonomous states of mind (the analog of Secure) are characterized by coherence, where the speaker provides a direct, logical, and believable account of early attachment experiences with his caregiver. Moreover, the speaker
supports general appraisals of his caregivers with clear, concrete examples that are consistent with and relevant to these appraisals. For example, if the caregiver is described as “loving,” the individual is able to produce specific examples in which the caregiver behaved in a loving way toward the interviewee. Dismissing states of mind (the analog to Avoidant) are characterized by incoherence, wherein there is a tendency to idealize the caregiver while insisting on an inability to recall specific examples that support such descriptions. For example, the speaker may portray the caregiver as “loving” and yet is unable to provide concrete examples of the caregiver behaving this way toward the interviewee. Another variable related to dismissive attachment is the tendency to “derogate” and downplay the importance of attachment experiences. Preoccupied states of mind (the analog of Resistant/Ambivalent) are also characterized by incoherence. Moreover, the speaker appears angrily preoccupied or fearful and passive as he or she describes early interactions with caregivers. The transcripts are often quite lengthy and grammatically difficult to follow because of perplexing grammatical usages. Unresolved states of mind (the analog of Disorganized) are characterized by lapses in metacognitive monitoring and strained reasoning during the discussion of loss and abuse.

An astonishing discovery by Van Ijzendoorn (1995) was that 12-month-old infants attachment security could be predicted with around 70% accuracy from their mothers’ attachment security classification measured by the AAI prior to the infants’ birth. This degree of correspondence remained unchanged even when controlling for socioeconomic status. Additionally, as previously mentioned, there is a significant degree of correspondence (nearly 80%) between an individual's attachment classification status as
assessed by the Strange Situation and his or her adult attachment classification as assessed by the AAI between 16 to 20 years later.

**AAI, Personality and Psychopathology**

Although the AAI has been consistently linked to parenting behavior and attachment status of children (Van Ijzendoorn, 1995), fewer studies have revealed reliable linkages between attachment states of mind and psychopathology. This section will briefly review the literature regarding the AAI and psychiatric syndromes, with an emphasis on depression, anxiety, borderline, and antisocial personality disorders (for a more extensive review, see Dozier, Stovall, & Albus, 1999).

**Degree of symptom reporting.**

Pianta, Egeland, and Adam (1996) administered both the AAI (using the three way classification system: autonomous, dismissal, preoccupied) and the Minnesota Multi-Phasic Personality Inventory-2 (MMPI-2, Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) to 110 high-risk, poverty sample of pregnant women. Results indicated that on the 10 clinical scales, preoccupied women reported statistically higher levels of psychopathic deviance, paranoia, and psychotic-type symptoms than the other women in the study. The dismissing group reported the more traditional masculine type characteristics and lower levels of hysteria when compared to the other women in the sample (notably, the dismissing women were 7 points below that of the normative mean on the “hysteria” scale). On the validity scales, the preoccupied group “....portrayed themselves in extreme psychological and emotional distress, possibly exaggerating their distress, and viewing themselves in need of sympathy and attention” (p. 277). In a similar
vein, Kobak and Sceery (1988) found that college freshman who were classified as hyperactivating (the equivalent of the preoccupied attachment style) reported significantly more symptoms than both the secure and deactivating (the equivalent of the dismissing attachment group) women. Moreover, the deactivating group was not significantly different from the secure group on the level of symptomatology reported. Finally, Dozier and Lee (1995) administered the AAI to 76 subjects diagnosed with serious mental disorders, the majority of which were diagnosed with schizophrenia (62%) and a significant minority diagnosed with bipolar disorder (32%). On self-report instruments, the preoccupied group reported significantly more symptomatology than either the avoidant or the secure groups. However, analysis of ratings made by expert observers revealed that avoidance was associated with high levels psychopathology.

Mood disorders.

Studies examining the link between unipolar depression and attachment states of mind have revealed mixed results. Cole-Detke & Kobak (1996), Fonagy et al (1996), and Rosenstein and Horowitz (1996) all found a positive association between depression and preoccupied states of mind. However, Patrick and associates (Patrick, Hobson, Castle, Howard, & Maughan, 1994) have found a connection between depression and dismissing states of mind. Although these results appear discrepant, Dozier et al (1999) argue that after between-study differences in inclusion diagnostic criteria are adequately taken into account, the results are actually quite similar.

The available data on the relationship between states of mind and bipolar disorder are consistent, but lack adequate sample size. Fonagy et al (1996) found that subjects
diagnosed with bipolar disorder were more likely to be classified as dismissing than those diagnosed with other types of mood disorders. Likewise, Dozier and Tyrrell (1998) discovered that all seven of their subjects who were diagnosed with bipolar disorder were classified with dismissive states of mind.

**Anxiety disorders.**

Only minimal data exist on the relationship between attachment states of mind and anxiety disorders. Rosenstein and Horowitz (1996) found that of adolescent clinical subjects with elevations on the anxiety scale of the Millon Multiaxial Clinical Inventory (1983), 65% were classified as preoccupied and 35% were classified as dismissing. Fonagy et al (1996) found that the majority of subjects with anxiety disorders were also identified as preoccupied; however, this failed to adequately differentiate them from subjects with other clinical disorders. Dozier et al. (1999) comments that instead of looking at specific diagnostic categories, a more fruitful avenue of exploration may be the relationship between attachment states of mind and internalizing versus externalizing forms of symptomatology.

**Personality disorders: borderline and antisocial.**

Both Fonagy et al. (1996) and Patrick et al. (1994) found that the majority of individuals diagnosed with borderline personality disorder had preoccupied states of mind with respect to attachment. The former discovered that 75% of those with borderline personality were preoccupied, and half of those were classified as fearfully preoccupied with regard to traumatic experiences (a rarely used subcategory of the preoccupied classification schema). The latter found that 100% of its 12 borderline subjects were
preoccupied and 83% were fearfully preoccupied with regard to traumatic events. Moreover, both Fonagy et al and Patrick et al. observed that a large proportion of their borderline subjects were also classified as preoccupied and unresolved (which is closely related to fearful preoccupation), 89% and 75% respectively. Dozier et al. (1999) comments on these data, stating that “.... the combination of maximizing strategies [referring to preoccupied attachment] and the experience of unresolved abuse appears central to borderline personality disorder” (p. 511).

The relationship between attachment states of mind and antisocial personality disorder have been less clear than those with borderline personality. Allen, Hauser, and Borman-Spurrel (1996) examined the long-term sequelae of severe adolescent psychopathology. Hospitalized adolescents were matched with a demographically similar group of high school students and then followed for 11-years. At that point, each subject was administered the AAI and three additional measures of adult psychosocial functioning. Results indicated that even after partialing out the effects of previous hospitalizations, insecure attachment predicted adult criminality and “hard drug” usage. More specifically, those individuals with a combination of dismissive attachment and lack of resolution with regard to previous traumatic events were most likely to engage in acting-out types of behavior. Notably, 15% of the inpatient sample was unclassifiable with respect to attachment because of an amalgam of fundamentally incompatible strategies. This sub-group of individuals engaged in the most criminal behavior, statistically higher than both the secure and preoccupied groups, and the dismissive group manifested statistically higher levels of criminal behavior than the secure group.
In another study of an adolescent inpatient sample, Rosenstein and Horowitz (1996) found that of the seven subjects who were diagnosed exclusively with conduct disorder, six were classified as dismissing and none were classified as unresolved. For those diagnosed with conduct disorder comorbid with an affective disorder, 50% were classified as dismissing and nearly half were classified as unresolved with respect to trauma.

In contrast, Fonagy et al. (1996) found that in a group of psychiatric patients, consisting of a combination of antisocial and paranoid personality disorders, fewer were classified as dismissing than either secure or preoccupied. When a four-category system was used, more of the subjects were classified as unresolved with respect to trauma than any other category.

Hazan and Shaver: Self-Report Measures of Adult Attachment

Hazan and Shaver (1987) developed a self-report measure of adult attachment that applies the childhood attachment paradigm to adult relationships by conceptualizing romantic love as an attachment process. The measure was constructed by converting Ainsworth’s attachment styles into statements describing adult relationship strategies, resulting in three discrete attachment descriptions *(secure, avoidant, and anxious-ambivalent)*. Respondents were to choose the one statement that best reflected their attachment style. Based on their self-endorsed attachment style, adults predictably differed in how they experienced romantic relationships (for a review, see Hazan & Shaver, 1987; 1990).
An important conceptual development in the area of adult attachment measures came from Bartholomew (1990; Bartholomew & Horowitz, 1991) in which a disparity was identified between Hazan and Shaver’s (1987) and Main et al.’s (1985) conceptions of avoidant attachment. The former characterized avoidance as vulnerable, aware of emotional distress, and anxious, whereas the latter conceptualized avoidance as defensive, self-reliant, and conspicuously devoid of overtly expressed emotionality. In other words, Main’s avoidantly attached individual is dismissing and Hazan and Shaver’s is fearful. Thus, just as Crittenden (1988) and Main and Solomon (1990) identified four categories of child attachment, so adult attachment was re-conceptualized in terms of four attachment styles by dividing avoidant attachment into two subtypes, dismissing and fearful.

This distinction was more than just conceptual, Bartholomew (1990; Bartholomew & Horowitz, 1991) identified significant individual differences between the fearful and dismissing sub-types of avoidant attachment. The dismissing type was characterized by a denial of relationships needs, a tendency to rate oneself as having high self-esteem, as being socially confident, unemotional, autonomous, cynical, critical, and distant from others. In contrast, others perceived them as controlling and hostile. The fearful group was characterized by a strong desire for social relatedness accompanied by fears of rejection and abandonment. They rated themselves as low in self-confidence and self-esteem, hesitant, shy, lonely, vulnerable, dependent, and self-abasing.

Griffin and Bartholomew (1994) also developed a two-dimensional, four category scheme for conceptualizing adult internal working models. As such, the internal working
model consists of two primary dimensions: one’s view of self (positive or negative) and one’s view of others (positive or negative). From these two dimensions, four attachment patterns were identified. Secure attachment is characterized by a positive view of self and a positive view of others. Individuals in this group are generally comfortable with intimacy and autonomy. Preoccupied attachment is marked by a negative view of self and a positive view of others. Members of this group tend to be preoccupied with relationships and worry about abandonment. Dismissing attachment is characterized by positive view of self and negative view of others. Such individuals tend to downplay the importance of intimacy and are “compulsively self-reliant.” Fearful attachment is marked by a negative view of self and negative view of others. Those who fall into this category are likely to fear intimacy and are socially avoidant.

In response to the proliferation of adult attachment instruments, Brennan, Clark, and Shaver (1998), constructed an integrated measure by using all of the non-redundant items from all published (and even some unpublished) adult attachment instruments. This resulted in a 323-item instrument which was administered to 1,086 college students. Factor analysis revealed two primary factors, similar to Bartholomew’s two primary dimensions, which accounted for 62.8% of the total variance. Brennan and her colleagues labeled these factors as avoidance and anxiety. Hierarchical cluster analysis also revealed four categories which parallel Bartholomew’s four categories of secure, preoccupied, dismissing, and fearful. Individuals with low anxiety and low avoidance were classified as secure. Those who were low anxiety, and high on avoidance were classified as dismissing. Subjects who were high on anxiety and low on avoidance were placed in the preoccupied
category and those who were high on both anxiety and avoidance were classified as fearful.

**Self-Report Measures: Affect Regulation**

Affect regulation and self-presentation.

Mikulincer (1998) conceptualized individual differences in attachment styles as cognitive manifestations of different affect regulatory strategies. More specifically, he postulated that defensive and self-regulatory mechanisms are manifested in one's "self-claims" (i.e., the kinds of traits one attributes to herself). Moreover, he theoretically ties regulatory strategies to self-presentation and impression management theories in social psychology (e.g., Baumeister, 1982, 1986; Goffman, 1959; Schlenker, 1980). Consequently, part of the regulatory strategy is to not only convince the self of certain self-claims, but to also convince others of these claims. Based on this conceptualization, Mikulincer hypothesized that in the face of distress, avoidant individuals would *deactivate* their attachment system and enhance their sense of self-reliance by inflating their positive self-view. This is theoretically consistent with the previous description of the *positive-self/negative-other* conceptualization of the avoidant attachment style. Because avoidant persons trust in the self and not the other to manage distress, their goal is to enhance their sense of self-reliance by demonstrating to self and others that they are in control and are capable of managing distress completely on their own. Preoccupied persons, on the other hand, attempt to regulate distress by hyperactivating their attachment system and presenting themselves as needy and ineffectual. This theoretically converges with the *negative-self/positive-other* conceptualization of the preoccupied attachment style.
Because preoccupied individuals do not value their inner resources to cope, they look to others to alleviate distress. Thus their strategy is to portray themselves as needy and helpless, thus securing others’ support and nurturance. Secure persons would neither deactivate or hyperactivate their attachment system in the face of distress and would maintain a more balanced self-view. Therefore it was hypothesized that when distressed, the secure participants’ portrayal of themselves would not be as favorable as the avoidant participants, but more favorable than the preoccupied group. It was also hypothesized that when these defensive strategies (i.e., the inflated self-view versus the debased self-view) were inhibited, both forms of insecure attachment (avoidant and preoccupied, respectively) would become increasingly dysphoric, relative to the secure group.

Mikulincer (1998)check spelling published multiple studies in which the above hypotheses were all confirmed. More specifically, in distress producing situations, avoidant individuals inflated their self-view and preoccupied persons’ self-view became more negative. Moreover, whenever their regulatory strategies were inhibited, neither insecure attachment style manifested changes in their self-views and their dysphoria increased. Mikulincer comments that these data suggest that the different self-views characteristic of each insecure attachment style are not mere reflections of self-confirmatory processes. Rather variations in self-view in response to distress are also cognitive manifestation of defensive regulatory strategies:

It is important to note that insecure persons’ changes in self-view upon distress arousal are not a simple reflection of self-confirmatory responses.

Although these changes reflect an exacerbation of baseline self-views, they
seem to be related to specific attachment-related regulatory concerns. The findings suggest that avoidant persons’ positive self-view was specifically related to their pursuit of self-reliance, and [preoccupied] persons’ negative self-view to their pursuit of others’ love and support. This is not to say that self-confirmation does not play a role in these defensive responses. In fact, one should consider the interplay between this general motivation and more specific attachment-related concerns (p. 433).

Kemp & Neimeyer (1999) investigated how attachment styles explain individual differences in experiencing, expressing, and coping with stress. One-hundred-and-ninety-three college students, who had been selected from a larger sample of undergraduate college students (n=1,157) on the basis of having “clearly identifiable forms of attachment” (p. 388), were asked to write about a specific stressful event and then complete various instruments measuring psychological symptoms and styles of coping. Several sets of hypotheses were made: (1) secure attachment would be associated with lower levels of psychological distress relative to the insecure attachment categories; (2) individuals with preoccupied attachment were expected to experience the most psychological distress; (3) preoccupied attachment would be most strongly associated with intrusive types of symptomatology, and avoidant attachment would be most strongly associated with avoidant symptoms of distress; (4) different attachment styles would be associated with specific ways of coping with distress: Secure individual were predicted to use social support strategies more frequently than avoidant people, and avoidant persons were expected to use more distancing types of strategies relative to their secure cohorts.
No specific hypotheses were made about either fearful or preoccupied attachment with respect to ways of coping.

A 4 (attachment styles) x 2 (gender) ANOVA was used to analyze the primary hypotheses. With regard to overall symptomatology, the avoidant group reported the least amount of symptoms, followed by the secure, fearful, and preoccupied groups, respectively. The avoidant and secure groups were not significantly different from each other, and both groups were lower than the preoccupied participants. Only the avoidant group was significantly lower than the fearful group.

With regard to intrusive and avoidant types of symptomatic distress, the preoccupied group reported significantly more intrusive symptoms than both the fearful and secure groups, but was not significantly different from the avoidant group. Concerning avoidant symptoms, there was no significant main effect for attachment, indicating that the predicted relationship between avoidant attachment and avoidant types of psychological symptoms did not materialize.

With regard to coping strategies, the expected difference between the secure and the avoidant attachment styles were not supported by the data. However, differences between males and females were identified, with the latter seeking more social support following a stressful event.

Social perception, affect regulation, and interpersonal behavioral strategies.

In addition to linking attachment styles to individual differences in self-perception, research has linked attachment style to individual differences in social perception, affect regulation, and interpersonal behavioral strategies. For example, Collins (1996)
conducted two studies that examined how working models of attachment influence how individuals perceive, feel, and respond to close, interpersonal relationship events. In the first study, participants were given several hypothetical relationship events and were instructed to write open-ended explanations of the events and then indicate how they would both feel and behave in response. The results indicated that in relation to the secure individuals, preoccupied participants explained events more negatively and reported more emotional distress in response to the events. Moreover, their planned behavioral responses were more punitive and likely to generate conflict. Path analysis revealed that differences in attachment, particularly the fear of being unloved, lead to negative explanations, which lead to elevated emotional distress, which, in turn, lead to punitive behavioral intentions.

The second study replicated the first, using participants who were involved in an ongoing relationship. The chief goal was to evaluate the role of attachment style in predicting patterns of explanation, emotion, and behavior, after statistically controlling for the impact of current relationship quality. In other words, in addition to their more abstract attachment beliefs, individuals involved in ongoing relationships are likely to draw from their partner-specific relationship models (i.e., beliefs about their partner’s commitment to the relationship, beliefs about their partner’s personality and relationship style, etc.) when evaluating relationship-relevant experiences. Path analysis confirmed that independently of relationship-specific working models, attachment beliefs centering on a fear of being unloved predicted explanation patterns. The analysis also revealed that individuals who were concerned with being unloved and who generated negative explanations of relationship events were likely to experience heightened emotional
distress. Those who were comfortable with closeness and with depending on others reported more distress than those who were not, which is consistent with previous research on avoidant or dismissive individuals' (i.e., those who score low on these two dimensions of attachment beliefs) tend to minimize negative emotions.

**Interpersonal behavior: self and other perception.**

Bartholomew and Horowitz (1991) used a four-category model of attachment based on positive and negative views of both self and other (this model was outlined previously). In addition to the self-report measure of attachment, subjects completed several other instruments, including a measure of interpersonal problems. Also, friends of each participant were asked to complete ratings on the participant’s interpersonal behavior. Results from both the self-report and other ratings were consistently correlated significantly with insecure attachment, indicating that the three insecure attachment styles were associated with marked interpersonal difficulties. Dismissing subjects were characterized by coldness, competitiveness, and introversion. Their friends rated them in a similar fashion, but tended to emphasize their tendency toward introversion. Fearful subjects also portrayed themselves as introversive, but viewed themselves as unassertive and easily exploited. Their friends generally agreed with them, but were not as extreme in their ratings along these dimensions. This suggests that fearful individuals view themselves as less assertive and more exploited than others perceive them to be (Shaver & Clark, 1994). Preoccupied subjects reported the most difficulty, especially with being overly expressive, overly nurturing, and excessively dictatorial. Their friends' ratings generally converged, but they were not as excessive in their ratings concerning problems with
nurturance, competitiveness, and dictatorialness. Secure subjects reported an average number of problems across all interpersonal domains. More so than the three insecure groups, the secures’ perceptions of their social problems and their friends’ perceptions were highly correlated. This suggests that secure individuals are more self-aware of their interpersonal behavior and are considerably less defensive than their insecure cohorts (Shaver & Clark, 1994).

Bartholomew and Keelan (1993, cited in Shaver & Clark, 1994) also used a four category model of attachment and correlated it with an empirically derived measure of interpersonal dependency. The factor structure of this scale contained three dimensions: emotional reliance (e.g., “I would be completely lost if I didn’t have someone special”), lack of social self-confidence (e.g., “In social situations I tend to be very self-conscious”), and assertion of autonomy (e.g., “I don’t need anyone”). As predicted, preoccupied attachment was positively related with emotional reliance and negatively with assertion of autonomy; fearful attachment was positively associated with lack of social self-confidence; dismissive attachment was positively correlated to assertion of autonomy and negatively correlated with emotional reliance; secure attachment was positively correlated to social self-confidence. Shaver and Clark (1994) commented on these data, noting that while both preoccupied and fearful attachment were positively associated with interpersonal dependency, the former was more active and unrelenting in their pursuit of the other and the latter was more docile and passive. Both secure and dismissive individuals reported lower levels of overall dependency; but while secure individuals acknowledged their need
for closeness, dismissive participants disavowed any attachment needs and were reluctant to acknowledge a desire for closeness.

Shaver and Brennan (1992) theorized that Bartholomew’s (1990) attachment typology (i.e., self-model and other-model) would converge with Eysenck and Eysenck’s (1975) two dimensional model of personality that is based on neuroticism and extraversion. The former was expected to be related to Bartholomew’s self-model and the latter to the other-model. Attachment was assessed through self-report, and neuroticism and extraversion, along with three other personality traits, were measured with the NEO Personality Inventory (NEO-PI; Costa & McCrae, 1985). As predicted, secure attachment was significantly correlated with non-neuroticism and extraversion; fearful avoidance was associated positively with neuroticism and introversion. Thus secure individuals had a positive view of self (non-neuroticism) and a positive view of others (extraversion), and fearful participants reported a negative view of self (neuroticism) and a negative view of others (introversion). Overall, however, the traits of neuroticism and extraversion did not account for a great deal of variance across the entire set of attachment variables.

Another important aspect of Shaver and Brennan’s study was that it entailed a prospective design. They followed their participants (242 university students) for eight months in order to examine how well both attachment variables and the so-call Big Five personality traits (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) would predict romantic relationship outcomes. Comparatively, the attachment scales accounted for more variance than all of the NEO-PI variables. As
pointed out by Shaver and Clark (1994), this is quite impressive, given the relative brevity of the self-report attachment scales. The authors, Shaver and Brennan, note that the attachment measure, though shorter than the NEO-PI, is more specifically tailored to account for romantic relationship outcomes.

**Depression and other forms of psychological distress.**

Carnelley, Pietromonaco, and Jaffe (1994) examined the relationship between attachment styles and depressive symptoms in two groups of women. The first group consisted of unmarried, undergraduate college women, half of whom were mildly depressed (dysphoric); the second group was made-up of married women, half of whom were recovering from clinical depression. Both groups completed several self-report instruments, including those measuring the quality of relationships with parents, adult relationship functioning, and adult attachment styles. In the college sample, the mildly dysphoric group reported higher levels of both preoccupation and fearful avoidance compared to their non-depressed cohorts. In contrast, the sample of depressed married women reported elevated levels of fearful avoidance, but not preoccupation, relative to the normal comparison group. The authors suggest that this finding may indicate that the experience of clinical depression is uniquely linked to fearful avoidance. In both groups (female college students and married women) depression was negatively related to reporting positive childhood experiences with one's mother. A series of hierarchical multiple regression analyses revealed that both preoccupation and fearful avoidance (especially the latter) were stronger predictors of their current relationship satisfaction than either depression or the quality of childhood relationship experiences with their
parents. The authors discussed their findings in terms of the importance of integrating both cognitive and interpersonal theories of depression:

Given the strong contribution of attachment style to relationship functioning, it will be important for interpersonal theories of depression ... to specify how cognitive processes and, in particular, internal working models of attachment contribute to depressives' social difficulties. [For example], [a]n attachment perspective suggests that depressives' negative working models of relationships lead them to expect rejection and lack of support from others. As a consequence, they may choose partners who will confirm their negative expectations, or they may behave in a way that encourages their partners to confirm their expectation (p. 137).

Hammen and associates (Hammen, Burge, Daley, Davila, Paley, & Rudolph, 1995) employed a prospective design in order to further explore the cognitive-interpersonal hypothesis of psychological distress in general and depression in particular. More specifically, they were interested in the role of attachment related cognitions in the prediction of psychological distress, following stressful relationship events. Participants were one-hundred and fifty-five females who had recently graduated from high school. They were followed for one year as part of a project on “young women’s transition to adulthood” (p. 137). On various occasions throughout the year, they completed numerous measures (both self-report and interview-based) of depression, interpersonal stress, and general psychopathology. Attachment cognitions were measured with Collins and Read’s (1990) Revised Adult Attachment Scale. The instrument contains three factors: Depend
(how much individuals feel comfortable trusting others and depending on them during times of distress), *Anxiety* (abandonment fear and worry about not being loved), and *Close* (how much individuals feel comfortable with interpersonal closeness and intimacy).

A series of hierarchical multiple regression analyses revealed that interpersonal stress and two types of attachment cognitions (*depend* and *anxiety*) each independently predicted changes in depression scores over the course of the year. Moreover, the interaction effect of *anxiety* and interpersonal stress made a significant incremental contribution to the prediction equation. Thus, stressful relationship events combined with attachment beliefs centering around a fear of being abandoned and unloved are strongly linked to an increase in depressive symptoms. In regards to predicting the severity of general psychopathology, all three types of attachment cognitions were linked, both as main effects and interaction effects. The authors discussed these data in terms of integrating cognitive and life-stress theories into a developmental psychopathology model of depression. Within this model, insecure attachment beliefs are conceptualized as a form of a “cognitive vulnerability” (Hammen et al., 1995, p. 440) that renders individual vulnerable to psychological maladjustment in the face of interpersonal stress:

By linking the cognitive and life stress literature with the growing body of research on attachment, the present results contribute to a developmental psychopathology model of depression....Individual vulnerability in the interpersonal realm, as indicated by fears of abandonment and desire to merge with another, and insecurity about one’s ability to maintain the
caring of others, is highly likely to predict maladjustment and symptomatic reactions to negative interpersonal events (Hammen et al., 1995, p. 439).

From a more cognitive orientation, Roberts, Gotlib, and Kassel (1996) examined the link between depression and adult attachment styles. In particular they hypothesized that the link between attachment and depression was mediated by dysfunctional attitudes and low self-esteem. Using college samples, three studies were conducted. The first study was cross-sectional, and simultaneous multiple regression analysis revealed that adult attachment styles were significantly associated with self-reported depression (accounting for a total of 12% of the variance in depressive symptoms). Only preoccupied attachment made a unique contribution to the regression equation.

Studies 2 and 3 were prospective in design. They examined the model that the link between attachment and depression was mediated by dysfunctional attitudes and low self-esteem. A series of simultaneous multiple regression analyses confirmed their prediction: from time 1 to time 2, the link between attachment and depressive symptoms was mediated by dysfunctional attitudes and low self-esteem. The authors discussed these data in terms of how early interpersonal experiences can contribute to specific cognitive vulnerabilities to depression:

These findings contribute to an emerging understanding of the developmental and interpersonal antecedents of cognitive vulnerability to depression. Previous research has found that early adverse interpersonal experiences, such as inadequate parenting, contribute to negative cognitive styles.... Our results suggest that such vulnerabilities (dysfunctional
attitudes and low self-esteem) also may be influenced by insecurity in adult
attachment. Such insecurity presumably results from a lifetime of negative
transactions with important attachment figures. ... Although attachment
insecurity is thought to develop in early childhood in response to
inconsistent or unavailable parents, ... continuity of attachment insecurity
across the life span results both from the internalization of those early
relationship experiences into internal working models, and from
confirmation of those representations in contemporary relationships. ...
Thus, important interpersonal relationships might affect cognitive
vulnerability to depression throughout the life span (p. 311).

Attachment styles have also been linked to a history of childhood abuse. Alexander
(1993) administered a self-report measure of attachment to 112 women who were
sexually victimized as children. Various other instruments measuring psychological
distress and personality functioning were also administered, including a depression
inventory, a measure of stressful life events, a symptom checklist, and the Millon
Multiaxial Clinical Inventory-II (a measure of personality functioning). Results indicated
that only 14% of the sample was secure, 16% was dismissing, 13% was preoccupied, and
58% was fearful. With regard to the percentages of secures and fearfuls, these results are
quite disparate from normative populations, which are 47% and 21% respectively (e.g., see
Bartholomew and Horowitz, 1991). A positive association was obtained between fearful
attachment and the Millon avoid, self-defeating, and borderline personality scales. Fearful
subjects also reported the most symptoms on the symptom checklist. Preoccupied
attachment was positively correlated with the Millon dependent, self-defeating, and borderline personality scales. Preoccupation was also negatively correlated with the avoidant subscale of the Impact of Events Scale, indicating that those with preoccupied attachment were less likely to use avoidant coping strategies when dealing with their abusive pasts. These results are partially consistent with Kemp and Neimeyer's (1999) study (cited previously), which found no differences between the four attachment styles and avoidant coping strategies on the Impact of Events Scale. Kemp and Neimeyer did, however, find that preoccupation was positively associated with the intrusive subscale of the Impact of Events Scale, suggesting that preoccupied individuals were more likely to be overwhelmed by stressful events.

Alexander (1993) also found that avoidant attachment was positively associated with the Millon's dependent personality scale. Secure attachment was negatively associated with the Millon's avoidant personality scale. Moreover, it was negatively associated with both the avoidant and intrusive subscales on the Impact of Events Scale, suggesting that the secure individuals had cognitively assimilated their traumatic experiences and were not overwhelmed by flashbacks and other forms of intrusive phenomena regarding their childhood abuse.

Finally, Brennan and Shaver (1998) conducted an important study using a large nonclinical sample comprised mostly of adolescents and young adults (N=1407). The study had two primary objectives: (1) to examine the relationship between adult attachment and personality disorders, using the revised Personality Diagnostic
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Questionnaire (PDQ-R; Hyler & Rieder, 1987), and (2) whether adult attachment styles and personality disorders both share a common underlying structure.

The results indicated that the distribution of attachment styles for secure, fearful, preoccupied, and dismissing was 47.9%, 21%, 15.2%, and 15.9%, respectively. These results were very similar to other research (e.g., Bartholomew & Horowitz, 1991). It was also found that the instrument used to assess personality disorders had a positive bias, with fully 75% of the sample identified as having at least one personality disorder. Looking at the percentage of individuals having at least one personality disorder across the four attachment styles, the study found that 60.6% of secures were identified with a personality disorder, compared to 92%, 90%, and 79% for the fearful, preoccupied, and dismissing groups, respectively.

A MANOVA was conducted to evaluate personality disorder ratings as a function of attachment styles. The results indicated that with few exceptions, individuals classified as securely attached scored lower on each of the PDQ-R’s scales than the insecure groups. Secures scored higher than the dismissing group on the dependent scale. The dismissing group’s scores on most of the personality disorder ratings fell between the secures and the fearfuls, with the former representing the lower end of the scores and the latter representing the higher. Exceptions to this rule included the following: The dismissing group scored the lowest on the Dependent scale and was lower than both the fearful and preoccupied groups on the Histrionic scale. Dismissing individuals were generally higher than the fearfuls on the Schizoid scale. Dismissing individuals scored very similarly to both
the preoccupied and fearful groups on both the Sadistic and Antisocial scales, and they were also similar to (but lower than fearfults) on the Paranoid scale.

Using a discriminant-function analysis, Brennan and Shaver attempted to use the 13 personality-disorder scales to predict participants’ attachment style. Three functions were identified: Function 1, which accounted for 66.17% of the variance, distinguished insecrets (especially those with a fearful attachment style) from secenters (p< .001). Function 2 differentiated the preoccupied and dismissing attachment styles (p<.001) and accounted for 31.27% of the variance. Function 3 accounted for only 2.56% of the variance and weekly discriminated the dismissing and preoccupied groups from the fearfults (p < .10). The fearful group corresponded correlated mostly with function 1, which included personalities characterized by paranoia, odd, eccentric types of thinking, self-preoccupation, and emotional disregulation (Paranoid, Schizotypal, Avoidant, Self-defeating, Borderline, Narcissistic, Obsessive-Compulsive). The preoccupied group positively correlated most strongly with function 2, which entails Dependent and Histrionic Personality characteristics versus Schizoid Personality features. The Dismissing group appeared to experience personality characteristics that were almost exactly opposite of the preoccupied group. The third function correlated strongly with psychopathic characteristics (e.g., Antisocial, Sadistic, Passive-aggressive), but accounted for very little variance among the attachment categories. This is consistent with other research on psychopathy and attachment (Dozier, 1990).

Next, Brennan and Shaver attempted to identify the underlying structure of the 13 personality-disorder rating scales in conjunction with the different attachment styles. They
first conducted a principle component analysis of the different attachment scales, resulting in two factors that accounted for a combined 72.8% of the variance. Factor I (labeled, \textit{Insecurity}) was defined in terms of the distinction between secure and fearful attachment, with loadings of -.88 and .82 respectively. The second factor (labeled, \textit{Defensive Emotional Style}) was defined in terms of the difference between preoccupied and dismissing attachment, with loadings of .82 and -.72 respectively. The two factors were essentially orthogonal in their relationship to each other (.03).

Next, Brennan and Shaver conducted a principle component analysis on the 13 personality-disorder scales, which yielded three factors that accounted for a combined 56.3% of the variance (the loadings on these factors basically mirrored the loading on the previously mentioned discriminant function analysis). The first factor was labeled “General Pathology”, which reflects “...low sociability, distrust, low self-esteem, and disordered thinking patterns...”(p. 858). The second factor, named “Counter-Dependence”, was associated with high dependence versus excessive self-reliance. The third factor was associated with a lack of empathy and aggression, and was labeled “Psychopathy.”

Finally, the authors conducted a higher-order principle component analysis using the three factors extracted from the 13 personality-disorder scales and the two factors extracted from the attachment scales. Two orthogonal factors emerged, accounting for a combined 64.5% of the variance. The first higher-order factor contained the Insecurity attachment factor and the Psychopathy personality-disorder factor, with loadings of .82 and .66 respectively. The second higher-order factor consisted of the Counter-
Dependence personality-disorder factor (with a loading of .83) and the Defensive Emotional Style attachment factor (with a loading of .82). Brennan and Shaver comment that these data indicate that at least 10 of the 13 personality-disorder scales (the three excluded scales comprise the Psychopathy factor) can be conceptualized within a two-dimensional space along with the attachment styles. This is consistent with Bartholomew's (1990) attachment style typology in which the four attachment styles are defined in terms of two underlying dimensions: anxiety and avoidance. This is also consistent with other researchers who have found these two factors to underlie the attachment styles (Brennan et al., 1998).

**Summary**

In summary, the literature supports a relationship between adult attachment insecurity and psychiatric symptomatology. In particular, individuals classified as anxiously attached tend to portray themselves as vulnerable and helpless, and acknowledge a variety of psychiatric symptoms, especially anxiety, dysphoria, and interpersonal difficulties. Those classified as avoidantly attached tend to portray themselves as emotionally controlled and healthy, denying both anxiety and dysphoria, although their peers rate them as irritable, aggressive, and relationally distressed.

The studies using the Adult Attachment Interview have employed clinical samples and have found that insecure attachment is linked to various forms of psychological maladjustment, ranging from anxiety disorders, depression, and personality dysfunction. While studies using self-report measures of attachment have echoed the pattern of results obtained by the AAI, the majority have used convenience samples consisting primarily of
college students. Thus, it is difficult to extrapolate the results to clinical populations. The chief aim of this study was to examine the pattern of relationships between a self-report measure of adult attachment and a self-report measure of psychopathology in a clinical population.

**Uniqueness and Importance of this Study**

One of the unique aspects of this study was that it attempted to synthesize two disparate research traditions. The attachment literature is presently divided into two camps (Bartholomew & Shaver, 1998). The first is associated with Mary Ainsworth and her colleagues. These individuals are primarily clinical child and developmental psychologists who are psychodynamically oriented, tend to focus on clinical syndromes, prefer using interviews and behavioral observations in place of self-report measures, and tend to study small samples. Based on the work of Mary Main and her colleagues, these researchers investigate how an adult’s “state of mind with respect to attachment” is measured by using the semi-structured Adult Attachment Interview in order to tap into an individual’s representations of her childhood relationships with her parents. Moreover, it was hypothesized, and later confirmed (see van Ijzendoorn, 1995 for a review), that a correspondence exists between an adult’s ‘state of mind with respect to attachment’ and her child’s attachment behavior. Thus this camp is interested in measuring adult attachment as it relates to retrospective narrative accounts of early parent-child relationship experiences and uses a semi-structured interviews as primary assessment strategy. In addition, these researchers tend to investigate smaller samples of clinical populations.
The second research tradition is associated with the work of Hazan, Shaver, and other personality/social psychologists who are interested in personality traits and adult social interactions. Rooted in the suggestion that chronically lonely adults are unsuccessful at acquiring healthy romantic relationships due to poor attachment experiences in childhood (Weiss, 1982), this camp of researchers focuses on measuring adult attachment within the *domain of romantic relationships*. Unlike the previous group that uses an interview as the primary assessment tool, this camp uses *self-report instruments* to measure attachment related beliefs regarding one's romantic and/or friendship relationship experiences. Moreover, this camp tends to study larger groups of *non-clinical populations*, usually college students.

Though the two styles of measures appear to measure different domains of adult attachment, it is possible that they measure different sides of the same coin. The interview-based measures are capable of obtaining material concerning early childhood relationships of which the person is not directly aware, whereas the self-report instruments measure beliefs and feeling about relatively recent relationships and these thoughts and feelings are more directly accessible to the persons awareness.

However, a debate has emerged in recent years concerning the convergence of self-report and interview-based measures of attachment. For example, Borman and Cole (1993), and Crowell, Treboux, and Waters (1993) published papers comparing the two measures. Their results suggested that the two measures did not converge and thus they concluded that self-report instruments have flawed validity. As Bartholomew and Shaver (1998) point out, it is not surprising that the two measures did not converge, not
necessarily because they measure two different domains of attachment, but because of the statistical inadequacies (i.e., low statistical power) imposed by categorical measures.

Besides questions of convergent validity, there are unanswered questions concerning the construct validity of self-report measures of attachment, particularly in regards to clinical syndromes within clinical samples. As mentioned above, most of the research conducted on clinical populations has been with interview-based measures. Few studies have been identified that examine the relationship between self-reported attachment beliefs and psychopathology in a clinical population. More specifically, no studies have examined the correspondence between specific types of adult attachment insecurity and specific types of personality dysfunction within a predominately clinical sample.

This study attempts to fill the gap in the literature on self-report measures of attachment by examining the correspondence between self-reported attachment beliefs and psychopathology. In so doing, it will also attempt to wed two camps of attachment research by answering the question of whether self-reported attachment beliefs correspond with psychopathology in clinical populations.

Finally, this study should yield some clinically useful information as to whether certain types of psychopathology are associated with specific types of attachment beliefs. Such information may be useful in treatment planning and treatment delivery, given that a person's attachment style will likely influence the types of transference phenomena expressed in therapy (Holmes, 1996).
Hypotheses for Present Study

On the basis of the aforementioned literature review, several hypotheses were examined. First, in a national normative sample, Mickelson and associates (Mickelson, Kessler, & Shaver, 1997) found that secure attachment is clearly more prevalent (59%) relative to avoidant (25%) and anxious (11%) attachment. However, the present study used a sample of individuals diagnosed with a mental disorder, and, given the assumption that insecure attachment is a central feature in psychopathology, it was predicted that insecure attachment (especially Preoccupied and Fearful) would be more prevalent than secure attachment. Second, given that this sample was characterized by adults seeking mental health treatment, it was predicted that a fewer percentage of individuals would be classified in the Dismissing attachment category (relative to the other insecure attachment categories), given that such individuals tend to portray themselves as self-reliant, deny emotional problems (Pianta et al., 1996), and reject help from mental health therapists (Dozier, 1990). Third, as an extension of Rosenstein and Horowitz (1996), different attachment strategies and beliefs should be associated with broad band forms of psychopathology. The Dismissing attachment style was predicted to be associated with psychiatric disorders in which the self is portrayed in a desirable fashion by minimizing distress, empathy is scant, and symptoms are externally expressed and directed toward others, as in narcissistic, antisocial and paranoid personality disorders, and substance abuse disorders (see Sperry, 1995; Millon, 1996, and Choca & Van Denburg, 1997 for depictions of each of these personality disorders). Fourth, was also predicted that the Preoccupied attachment style would be associated with psychiatric disorders which are
characterized by self-debasement, unregulated affect, and a tendency to need others for comfort and reassurance, as in the borderline and dependent personality disorders, and depressive and anxiety disorders (see Sperry, 1995; Millon, 1996, and Choca & Benburg, 1997). Fifth, it was predicted that Fearful attachment (as proposed by Bartholomew), which is characterized by a combination of both dismissing and preoccupied strategies, would be associated with an increased number of comorbid disorders that represent a mixture of both internalizing and externalizing symptoms (e.g., depression and antisocial personality style or anxiety and narcissistic personality style) and borderline personality disorder. Finally, it was predicted that the two attachment dimensions (Attachment Anxiety and Attachment Avoidance) would be significantly related to psychopathology, with the former being more strongly related to internalizing symptoms and the latter with externalizing symptoms and social withdrawal, as in schizoid and avoidant personality disorders.

Method

Participants and Procedures

Participants were 75 patients (28 males and 47 females) obtained from both an acute care, inpatient, psychiatric unit (n = 14) and a large, hospital-based outpatient practice (n = 61) --both facilities are within the same hospital. Each patient was invited to participate in the study by his or her psychiatrist or therapist. Those patients agreeing to participate were given a one page sheet, outlining the details of the study, and were asked to sign an informed-consent (see Appendix A). Subjects were also given the following measures to complete on the hospital premises: (1) a demographics questionnaire (see
Appendix B) which acquired both basic demographic data and some information about each subjects family of origin, (2) the Millon Clinical Multiaxial Inventory, Third Edition (MCMI-III), and (3) the Experiences in Close Relationships scale (see Appendix C). Data were collected over a period of about three months, until 75 subjects successfully completed the questionnaires.

Fully 61 (81%) classified themselves as Caucasian; 7 (9.3%) Asian; 3 (4%) American-Indian; 3 (4%) African-American; and 1 (1.3%) classified herself as “other.” In terms of marital status, 24 (32%) indicated that they were married; 28 (37.3%) single; 9 (12%) separated; 9 (12%) divorced; 2 (2.7%) divorced and remarried; 2 (2.7%) co-habitating; and 1 (1.3%) widowed. In terms of household income, nearly 22% of the participants indicated a yearly income of $10,000 or less, with mode range of income (23%) between $21,000 and $30,000. The age of the sample ranged from 18 to 77 (m = 34.7, sd = 13.31).

Measures

Demographic questionnaire.

A questionnaire containing basic demographic data such as age, sex, marital status, and socio-economic status was administered. On the same questionnaire, the subjects were asked some questions about parental divorce, who was their primary caregiver, and whether each parent was still living.
Attachment styles.

Attachment was assessed by Brennan and Shaver's (1998) new 36-item measure of adult attachment, *Experiences in Close-Relationships* (ECR). This instrument was created by taking all non-redundant items from every published, and some non-published, multi-item inventories of adult attachment available in 1996. All items were rated on a 1 (strongly disagree) to 7 (strongly agree) Likert-type scale and were worded such that they were relevant to romantic relationships. The resulting 323-item instrument was administered to 1,086 college students. Factor analysis revealed two primary factors, similar to Bartholomew's two primary dimensions, which accounted for 62.8% of the total variance. Brennan and colleagues labeled these factors as avoidance and anxiety. Hierarchical cluster analysis also revealed four categories which parallel Bartholomew's four categories of secure, preoccupied, dismissing, and fearful. Individuals with low anxiety and low avoidance were classified as Secure. Those who were low anxiety, and high on avoidance were classified as Dismissing. Subjects who were high on anxiety and low on avoidance were placed in the Preoccupied category and those who were high on both anxiety and avoidance were classified as Fearful.

These four categories (*Secure, Dismissing, Preoccupied, and Fearful*) were used in the following analyses. The Secure attachment category is consistent with the secure attachment classification of childhood. As adults, these individuals find it easy to become emotionally close to others. They feel comfortable depending on others and they feel comfortable having others depend on them. They are not worried about being abandoned and they do not fear that others will reject them.
The *Dismissing* attachment category is analogous to the *Avoidant* attachment style of childhood. As adults, they are comfortable with not being involved in close, intimate relationships. They tend to emphasize the importance of being independent and self-reliant. They are not comfortable depending on others and they prefer that others do not depend upon them.

The *Preoccupied* attachment category is analogous to the ambivalent/resistant childhood classification. As adults, such individuals are consumed with the desire to “merge” with someone in an emotionally intimate relationship. They are often disappointed that others are hesitant to reciprocate their desire for intense emotional intimacy. They are very uncomfortable when they are not involved in a close relationship and worry that others will not value intimacy as much as they do.

The *Fearful* attachment style parallels the disorganized attachment category of childhood. In adult relationships, such individuals are not comfortable getting close to others. Unlike the *Dismissing* individual, however, this person desires close relationships, but finds it very difficult to trust others completely. They often avoid emotional intimacy because they fear being rejected or abandoned.

The two dimensions of *anxiety* and *avoidance* on the ECR were referred to as *Attachment Anxiety* and *Attachment Avoidance* throughout the remainder of this document. The anxiety dimension taps into the view of self, with high scores indicating a negative view of self, and low scores reflecting a positive view of self. The avoidance dimension measures the view of others, with high scores reflecting a negative view of others, and low scores reflecting a positive view of others.
The authors of the ECR did not report internal alphas coefficients or test-re-test reliability estimates for each of the attachment dimensions. However, internal alpha coefficients for each dimension were calculated on this sample, resulting in alphas of .93 for *avoidance attachment* and .89 for *anxiety attachment*. Brennan and Shaver's (1998) reported preliminary evidence supporting the validity of the ECR, including concurrent validity characterized by strong correlations with other self-report attachment measures.

**Psychopathology.**

Clinical maladjustment and personality dysfunction were measured using the *Millon Clinical Multiaxial Inventory, Third Edition (MCMI-III -Millon, 1994).* This 175-item self-report personality and diagnostic inventory is designed to assess 14 personality disorders, 10 clinical syndromes, and 4 modifying indices. It is particularly useful for diagnosing personality disorders and dysfunctional relational patterns. According to Millon (1994), the MCMI has been used in literally hundreds if not thousands of studies to assess personality functioning and to assist in the diagnosis of personality disorders. The MCMI-III has adequate internal consistency (alpha's ranging from .66 to .90) and test-retest reliability (coefficients ranging from .84 to .96). Validity has been established for the third edition of the MCMI by using a norming sample of 998 clinical subjects. The MCMI-III demonstrated strong correlations between clinician ratings and various MCMI-III scales, especially for syndromes that are easily identified and can be detected with minimal diagnostic interviewing. Significant correlations were also obtained between the MCMI-III scales and various collateral instruments (e.g., the MMPI-II, SCL-90-R, General Behavioral Inventory, etc.) that purport to measure similar constructs. Finally, the
diagnostic efficiency of the MCMI-III was also computed for both the personality scales and the clinical syndrome scales. When the cut-off BR score was 75, hit rates (i.e., the correspondence between the clinician’s judgement—true positive—and the MCMI-III—test positive) ranged between 61% and 84% for personality disorders and 47% and 94% for clinical syndromes. When the cut-off BR score for personality disorders was set at 85, the hit rate increased, ranging from 74% to 97%. Hit rates were not calculated for clinical syndromes using the BR cut-off score of 85.

These rates are actually only about half as accurate as those obtained by the MCMI-II validation studies (Retzlaff, 1996). However, as Millon (1997) pointed out, a significant weakness of the MCMI-III validity study was that the clinician ratings were based on very little formal knowledge about the patient, whereas the clinicians in the MCMI-II validation study were not only more thoroughly aware of their patients’ conditions, but better trained in clinically diagnosing personality disorders. Consequently they were probably more accurate in their diagnosis. Retzlaff (1996) extended Millon’s (1997) contention, and suggested that the low diagnostic validity of the MCMI-III (relative to the MCMI-II) is likely to be accounted for by the poor design of the validity study, not the test itself. Moreover, the MCMI-III is very similar in content to the MCMI-II and has strong convergent validity with other measures of similar constructs, thus it is reasonable to assert that the MCMI-III is a valid measure. Furthermore, Retzlaff (1996) and Millon (1997) both believe it is reasonable to predict that the MCMI-III will exhibit enhanced diagnostic validity in future validity studies that include the use of better trained clinicians and formal diagnostic interviewing techniques for determining clinical diagnoses.
The MCMI-III was chosen over the MMPI-2 for two reasons. First, unlike the MMPI-2, the MCMI-III it is a criterion referenced instrument that has cut-off scores for identifying DSM-IV related categories of psychopathology. This made it possible to see how well the attachment beliefs were related to specific categories of psychopathology, including both Axis I and Axis II (to use DSM language) types of maladjustment. Second, MCMI-III is considerably shorter than the MMPI-2, thus making it more likely that subjects would cooperate with the entire testing protocol, especially since there are no funds for compensating individuals for their participation.

Results

Preliminary Analyses

Before addressing the specific hypotheses of this study, several variables were examined. First, in order to better understand the clinical characteristics of this population, the prevalence rates of the MCMI-III scale elevations were reported. Second, several analyses were used in order to determine if gender, patient status (inpatient versus outpatient), education level, income, marital status, and medical status should be used as covariates in the primary analyses.

Prevalence rates.

As previously noted, a BR cut-off score of 75 was used as the criterion for determining the presence of either a personality disorder or a clinical syndrome on the MCMI-III. The Total Number of Personality Disorders and the Total Number of Clinical Syndromes were calculated separately for each participant. Tables 1 and 2 exhibit the
### Table 1

**Frequencies and percentages: Total Number of Personality Disorders**

<table>
<thead>
<tr>
<th>Number</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
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<td>5.3</td>
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<td>1.00</td>
<td>10</td>
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\[ \bar{x} = 3.84 \]

\[ s = 1.68 \]
Figure 1: Distribution of Total Number of Personalities
Table 2

**Total Number of Clinical Syndromes**

<table>
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<th>Frequency</th>
<th>Valid</th>
<th>Cumulative</th>
</tr>
</thead>
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<td>16.0</td>
<td>54.7</td>
</tr>
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<td>3.00</td>
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<td>20.0</td>
<td>74.7</td>
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<td>4.00</td>
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<td>6.00</td>
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<td>2.7</td>
<td>100.0</td>
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</tbody>
</table>

\[ \bar{x} = 2.26 \]

\[ s = 1.69 \]
Figure 2: Distribution of the Total Number of Clinical Syndromes
frequencies, percentages, means, and standard deviations for *Total Number of Personality Disorders* and *Total Number of Clinical Syndromes* (see also Figures 1 & 2). The mode number of *Total Personality Disorders* was 5 (22.7%) and the mode number of *Total Clinical Syndromes* was 3 (20%).

**Gender differences.**

Gender differences were examined in two ways. First, as described above, the MCMII-III scales were scored categorically in order to calculate the *Total Number of Personality Disorders* and the *Total Number of Clinical Syndromes*. Each of these variables was used as a dependent variable. The results of two one-way ANOVAs indicated that there were no differences between males and females on the *Total Number of Personality Disorders* \( [F(1, 74) = .027, p< .87] \), but approached significance on the *Total Number of Clinical Syndromes* \( [F (1, 74) = 3.81, p<.055] \).

Secondly, gender differences were examined with three one-way MANOVAs, each using one of three combinations of the *continuously scored* MCMII-III scales: (1) the validity indexes (disclosure, desirability, and debasement), (2) the personality scales, and (3) the clinical syndrome scales. No differences between males and females were found on either the validity scales, \( [F (3, 71) = 2.27, p <.088] \), the personality scales, \( [F (3, 71) = 1.4, p < .184] \), or the clinical syndrome scales, \( [F (3, 73) = .69, p < .736] \). Because gender failed to be associated with any of the MCMII-III scales, it was not included as a covariate in the subsequent statistical procedures using the MCMII-III as the primarily dependent variable.
Patient status and MCMI-III scales.

A series of one-way MANOVAs were used to examine the effects of patient status (inpatient verses outpatient) on the same three combinations of MCMI-III scales used previously with gender (see Tables 3 & 4). The results indicated a significant effect for patient status on both the validity scales and the clinical scales [Wilks Lambda F (3,71) = 3.03, \( p = .035 \); [Wilks Lambda F (10,64) = 3.5, \( p = .001 \)], respectively] and a nonsignificant effect for patient status on the personality scales, [Wilks Lambda F (14, 60) = 1.65, \( p = .090 \)]. Follow-up ANOVAs revealed that on the validity scales, inpatients were more likely to portray themselves in a negative light, engaging in more self-devaluation and self-deprecation than outpatients. Moreover, on the clinical scales, inpatients reported more symptoms of somatization, depression (both dysthymia and major depression), thought disorder, and paranoid delusions.

Effects of educational level, income, marital status, and medical status on MCMI-III scales.

A series of MANOVAs were used to evaluate the effects of a number of demographic variables on the MCMI-III scales. Variables found to have a significant association with the MCMI-III scales were used as covariates in the analyses reported below. First, the effects of educational level, income, marital status, and medical status (i.e., was the participant seeing a non-psychiatric, medical doctor for a medical condition?) on the validity scales were assessed. No significant effects were found. Second, these variables were assessed with respect to the personality scales. Only medical status and educational level were found to have significant effects, [Wilks Lambda F (70, 270) =}
Table 3

Descriptives: Patient (Px) Status and MCMI-III Personality Scales

<table>
<thead>
<tr>
<th>Px Status</th>
<th>Mean</th>
<th>Std.</th>
<th>F</th>
</tr>
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<tbody>
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<td>57.21</td>
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<tr>
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<td>inpatient</td>
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<td>inpatient</td>
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</tr>
<tr>
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<tr>
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</tr>
<tr>
<td></td>
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<td>81.43</td>
<td>11.91</td>
</tr>
<tr>
<td>histrionic</td>
<td>outpatient</td>
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<td>24.85</td>
</tr>
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<tr>
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<td>inpatient</td>
<td>38.71</td>
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<td>16.81</td>
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Table 4
Descriptives: Patient (Px) Status and MCMI-III Clinical Syndrome Scales

<table>
<thead>
<tr>
<th>Px Status</th>
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<th>Std.</th>
<th>F</th>
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<td>outpatient</td>
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</tr>
<tr>
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<td>22.52</td>
</tr>
<tr>
<td></td>
<td>inpatient</td>
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<td>12.31</td>
</tr>
<tr>
<td>major dep</td>
<td>outpatient</td>
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<td>30.99</td>
</tr>
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<td></td>
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<td>91.00</td>
<td>12.88</td>
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<tr>
<td></td>
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<td>55.93</td>
<td>32.03</td>
</tr>
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</table>

* p < .05. ** p < .01. *** p < .001
1.35, \( p < .05 \); [Wilks Lambda F (14, 60) \( p < .05 \)], respectively. Finally, these variables were tested with respect to the clinical syndrome scales. Again, only medical status and educational level were found to have significant effects, [Wilks Lambda F (10, 64) = 2.2 \( p < .05 \)]; [Wilks Lambda F (50, 277) = 1.53 \( p < .05 \)].

Primary Analysis: Attachment and Psychopathology

Plan of Data Analysis

The following is a brief description of how the primary data analysis was planned. It will both clarify how each hypothesis was addressed and will provide a rationale for the statistical procedures utilized.

The distribution of attachment styles.

In order to evaluate the hypotheses about the distribution of attachment styles within this sample, a frequency distribution was generated. This provided both the frequency and percentage of each attachment style as it was represented in this sample.

Attachment style and psychopathology.

In order to evaluate the hypotheses about the association between attachment styles and psychopathology, a series of analyses was performed. First, a one-way ANOVA was used to examine the mean of Total Number of Personality Disorders and mean of the Total Number of Clinical Syndromes relative to each attachment style category. The mean was obtained from the Total Number of Personality Disorders and the Total Number of Clinical Syndrome composites discussed above.

Second, to assess the relationship between attachment styles and internalizing and externalizing forms of psychopathology, two composite scales were created.
Internalizing psychopathology copes with distress by turning it inward and against the self. Externalizing psychopathology directs distress outwardly, against the social and physical environment (Beutler & Williams, 1998). The Internalizing composite was the average of scores from the following scales: avoidant, depressive, dependent, masochistic, borderline, anxiety, dysthymia, PTSD, and major depression. The Externalizing composite was the average of the following scales: narcissistic, antisocial, sadistic, alcohol dependence, and drug dependence. These two composite scores were examined as a function of the four attachment style categories in a set of one-way ANOVAs.

Third, two “planned” Chi-Square analyses were used as an additional method for examining the connection between attachment styles and internalizing/externalizing forms of psychopathology. These analyses were considered “planned” because they limited the comparisons to Preoccupied versus Dismissing attachment styles on the dependent variables of borderline personality disorder and antisocial personality disorder (prototypical axis II versions of internalizing/externalizing forms of psychopathology). The primary reason for this more limited, planned analysis was that to make multiple comparisons across all MCMI-III variables would amount to data snooping and, thus, would require significant bonferroni adjustments, which take a heartfelt toll on the power to detect actual differences between groups (Tabachnick & Fidell, 1996).

Fourth, there was an examination of the correlation matrix between the MCMI-III scales and the continuous dimensions of Attachment Anxiety and Attachment Avoidance from the adult attachment instrument, the ECR. Because of the multiple t-tests involved, a
bonferroni type adjustment was made for 27 tests with an overall familywise alpha set at .05.

Fifth, a series of 2 (patient status, inpatient versus outpatient) x 4 (attachment style categories) multivariate analysis of covariance (MANCOVA) was performed on the previously described clusters of the MCMI-III scales (Validity Scales, Personality Scales, and Clinical Syndrome Scales). Because age was significantly correlated with the MCMI-III variables, it was used as a covariate. In the case that age did not make a significant contribution to the model, it would be dropped from the follow-up analyses. Moreover, in the case that patient status failed to contribute to the model, either as a significant main effect or as a significant interaction term, it too would be dropped from the follow-up analyses.

Follow-up procedures began with bonferroni corrected univariate F's. The familywise alpha was set at .15, based on Tabachnick and Fidell’s (1996) recommendation for MANOVA’s involving multiple, follow-up univariate Fs. This resulted in a cut-off alpha of .01 for the follow-up univariate Fs. The follow-up analyses were reported, along with the multiple univariate F’s and Eta Squareds, however, these results were not interpreted because of their significant intercorrelations (see Table 5 & 6).

As a solution to this problem of multicolinearity, Tabachnick and Fidell (1996) recommend that researchers use a stepdown analysis to assist in the interpretation of the results. Tabachnick and Fidell (1996) described this procedure as such:

Stepdown analysis of DVs [dependent variables] is analogous to testing the importance of IVs [independent variables] in multiple regression by sequential analysis. Priorities are assigned to DVs according to theoretical
or practical considerations. The highest-priority DV is tested in a univariate ANOVA, with appropriate adjustment of alpha. The rest of the DVs are tested in a series of ANCOVAs; each successive DV is tested with higher-priority DVs as covariates to see what, if anything, it adds to the combination of DVs already tested. Because successive ANCOVAs are independent, adjustment for inflated Type I error due to multiple testing is [...required....] (p. 403).

The priority of the personality scales was assigned in accordance to theoretical and practical reasons. Because previous research has established a reasonably consistent link between internalizing types of personality dysfunction and attachment, these disorders were entered first, with borderline personality being assigned the highest-priority. If in the case that borderline personality was significant, it would be used as a covariate in the remaining analyses. Then, each of the internalizing personality disorder scales that have significant univariate Fs would be entered into a series of ANCOVAs. Those that yield a significant univariate F in the ANCOVA will be retained as covariates for the remaining analyses. Those that are not significant will be eliminated from the model.

The follow-up analyses for the clinical syndrome scales paralleled that of the personality scales. However, because there were no strong theoretical considerations for assigning priority-levels to these scales, priority was assigned on the basis of the magnitude and significance of the univariate Fs, with the highest being analyzed first.

1. The authors also indicate that priority can be assigned on the basis of statistical criteria such as a univariate F.
Table 5

**Intercorrelations: MCMI-III Personality Scales**

<table>
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<tr>
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<th>avoidant</th>
<th>depressive</th>
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<th>histrionic</th>
<th>narcissistic</th>
<th>antisocial</th>
<th>sadistic</th>
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<td>.47***</td>
<td>.55***</td>
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<td>.66***</td>
<td>.68***</td>
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<td>-.534</td>
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<td>.35*</td>
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<td>.60***</td>
<td>.51***</td>
<td>-.52***</td>
<td>-.426</td>
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<td>-.32</td>
<td>.56***</td>
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<td>.60***</td>
<td>.67***</td>
<td>.63***</td>
<td>-.53***</td>
<td>-.487</td>
<td>.58***</td>
<td>.47**</td>
<td>-.60***</td>
<td>.71***</td>
<td>.62***</td>
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<td>.43***</td>
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<td>.34*</td>
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<td>-.44***</td>
<td>.67***</td>
<td>.56***</td>
<td>.65***</td>
<td>.57***</td>
</tr>
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</table>

Significance levels are bonferroni corrected

***.001; **.01; *.05
Table 6

Intercorrelations: MCMI-III Clinical Scales

<table>
<thead>
<tr>
<th></th>
<th>anxiety-dis.</th>
<th>somatoform</th>
<th>bipolar</th>
<th>dysthymia</th>
<th>alcohol</th>
<th>drug</th>
<th>ptsd</th>
<th>thought dis.</th>
<th>major dep</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<td>somatoform</td>
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<td>.03</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bipolar</td>
<td>.54***</td>
<td>.68**</td>
<td>.18</td>
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<td></td>
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<td></td>
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<tr>
<td>dysthymia</td>
<td>.19</td>
<td>.15</td>
<td>.46***</td>
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<td></td>
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</tr>
<tr>
<td>alcohol</td>
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<td>.10</td>
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<td>.03</td>
<td>.53***</td>
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<tr>
<td>drug</td>
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<td>.42***</td>
<td>.28</td>
<td>.59***</td>
<td>.32</td>
<td>.03</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>ptsd</td>
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<td>.62***</td>
<td>.40***</td>
<td>.75***</td>
<td>.31</td>
<td>.24</td>
<td>.53***</td>
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<td>thought dis.</td>
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<td>.87***</td>
<td>.12</td>
<td>.74***</td>
<td>.12</td>
<td>-.01</td>
<td>.52***</td>
<td>.71***</td>
<td></td>
</tr>
<tr>
<td>major dep</td>
<td>.13</td>
<td>.13</td>
<td>.58***</td>
<td>.29</td>
<td>.40***</td>
<td>.26</td>
<td>.18</td>
<td>.366**</td>
<td>.170</td>
</tr>
</tbody>
</table>

Significance levels are bonferroni corrected

***.001; **.01; *.05
Again, only those dependent variables with significant, bonferroni corrected, univariate F tests were entered into the step-down ANCOVAs.

Finally, for those variables that rendered a significant stepdown F, follow-up bonferroni corrected pairwise comparisons were employed in order to evaluate differences between attachment style categories on each dependent variable.

**Hypotheses Testing:**

**Distribution of attachment style categories.**

Two hypotheses were made about the distribution of attachment styles. The first was that the insecure attachment would represent a higher proportion of the sample than secure attachment. Second, it was hypothesized that avoidant would be less represented within this sample than the other insecure attachment styles. Table 7 and Figure 3 display the distribution of attachment styles. Clearly both secure and dismissing attachment styles are less common (10.7% and 12%, respectively) relative to both the preoccupied (40%) and fearful (37%) categories. These results are consistent with the above predictions.

**Total number of personality disorders and total number of clinical syndromes as a function of attachment style categories.**

Two one-way ANOVAs were conducted to assess whether differences existed between attachment style categories and the Total Number of Personality Disorders and the Total Number of Clinical Syndromes² (see Table 8). Univariate analyses of variance

---

2. Note, these dependent variables were each created by summing the scales that achieved BR scores of 75 or higher. This cut-off was determined by Millon to represent the presence of a disorder.
Table 7

**Distribution of Attachment Style Categories**

<table>
<thead>
<tr>
<th></th>
<th>Secure</th>
<th>Fearful</th>
<th>Preoccupied</th>
<th>Dismissing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>8</td>
<td>28</td>
<td>30</td>
<td>9</td>
</tr>
<tr>
<td>Percent</td>
<td>10.7</td>
<td>37.3</td>
<td>40.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Cumulative %</td>
<td>10.7</td>
<td>48.0</td>
<td>88.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Figure 3: Distribution of Attachment Style Categories
Table 8

Mean, Standard Deviation, Univariate Fs and Bonferroni Comparisons on Total Number of Personality Disorders and Total Number of Clinical Syndromes on the MCMI-III

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Descriptives</th>
<th>Secure</th>
<th>Fearful</th>
<th>Preoccup</th>
<th>Dismissing</th>
<th>Univariate F</th>
<th>Bonferroni comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>total number of clinical syndromes</td>
<td>Mean</td>
<td>1.25</td>
<td>2.39</td>
<td>2.70</td>
<td>1.33</td>
<td>2.27*</td>
<td>ns</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td></td>
<td>1.49</td>
<td>1.66</td>
<td>1.73</td>
<td>1.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total number of personality disorders</td>
<td>Mean</td>
<td>1.63</td>
<td>4.43</td>
<td>4.63</td>
<td>2.67</td>
<td>3.84**</td>
<td>A &lt; B**, C**</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td></td>
<td>1.06</td>
<td>2.30</td>
<td>1.79</td>
<td>1.94</td>
<td></td>
<td></td>
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</tbody>
</table>

* p < .05, ** p < .01
(ANOVAs) showed attachment style categories had a significant effect on both Total Number of Personality Disorders and Total Number of Clinical Syndromes, \( F (3, 71) = 3.84, \ p < .01, \ F (3, 71) = 2.27, \ p < .05 \), respectively. Bonferroni adjusted post hoc comparisons revealed that for Total Number of Personality Disorders, the secure attachment group experienced fewer disorders than both the fearful and the preoccupied attachment groups. However, after bonferroni corrections were made on the post hoc comparisons, no significant differences were detected on the Total Number of Clinical Syndromes.

Connections between attachment dimensions and the MCMI-III scales.

It was predicted that the attachment dimensions (i.e., Attachment Anxiety and Attachment Avoidance) would be significantly associated with psychopathology. In particular, it was predicted that Attachment Anxiety would be associated with internalizing types of symptoms and Attachment Avoidance would be associated with externalizing types of symptoms and social withdrawal. Separate correlation matrixes (see Tables 9 & 10) were generated for examining these relationships. The significance levels for each of the tables were based on bonferroni corrections. As displayed, Attachment Anxiety (high scores reflecting negative view of self) was positively associated with avoidant, depressive, dependent, negativistic, masochistic and borderline personality disorders, and it was negatively associated with both histrionic and narcissistic personality disorders. In regards to the clinical syndrome scales, Attachment Anxiety was positively correlated with anxiety disorder, dysthymia, PTSD, and major depression. These correlations were consistent with those that were hypothesized.
Table 9

Correlations: Attachment Dimensions and MCMI Personality Scales

<table>
<thead>
<tr>
<th>ATTACHMENT</th>
<th>Avoidance</th>
<th>Anxiety</th>
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</thead>
<tbody>
<tr>
<td>schizoid</td>
<td>.519**</td>
<td>.321</td>
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<tr>
<td>avoidant</td>
<td>.428**</td>
<td>.490**</td>
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<td>.481**</td>
</tr>
<tr>
<td>dependent</td>
<td>.206</td>
<td>.500**</td>
</tr>
<tr>
<td>histrionic</td>
<td>-.458**</td>
<td>-.397***</td>
</tr>
<tr>
<td>narcissistic</td>
<td>-.347*</td>
<td>-.377*</td>
</tr>
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<td>antisocial</td>
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<td>.026</td>
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<td>sadistic</td>
<td>.137</td>
<td>.223</td>
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<td>compulsive</td>
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<td>-.096</td>
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<td>negativistic</td>
<td>.257</td>
<td>.398**</td>
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<td>masochistic</td>
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<td>.443**</td>
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<td>.262</td>
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<tr>
<td>borderline</td>
<td>.284</td>
<td>.443**</td>
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<tr>
<td>paranoid</td>
<td>.216</td>
<td>.283</td>
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</table>

Significance levels are based on bonferroni corrections
* p < .05
** p < .01
### Table 10

**Correlations: Attachment Dimensions and MCMI-III Clinical Syndromes**

<table>
<thead>
<tr>
<th>ATTACHMENT</th>
<th>Avoidance</th>
<th>Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>anxiety-dis.</td>
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<tr>
<td>somatoform</td>
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<td>.225</td>
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<tr>
<td>bipolar</td>
<td>-.050</td>
<td>.214</td>
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<tr>
<td>dysthymia</td>
<td>.233</td>
<td>.391**</td>
</tr>
<tr>
<td>alcohol</td>
<td>.299</td>
<td>.193</td>
</tr>
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<td>.018</td>
</tr>
<tr>
<td>ptsd</td>
<td>.111</td>
<td>.457**</td>
</tr>
<tr>
<td>thought dis.</td>
<td>.115</td>
<td>.297</td>
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<tr>
<td>major dep</td>
<td>.175</td>
<td>.396**</td>
</tr>
<tr>
<td>delusional</td>
<td>-.035</td>
<td>.031</td>
</tr>
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</table>

Significance levels are based on bonferroni corrections

* p < .05
** p < .01
Attachment Avoidance (high scores reflecting a negative view others) was positively associated with both schizoid and avoidant personality disorders and negatively correlated with both histrionic and narcissistic personality disorders. These correlations were partially consistent with those that were hypothesized.

Internalizing and externalizing forms of psychopathology as a function of attachment style categories.

Two one-way ANOVAs were conducted to assess the effect of attachment style on both internalizing and externalizing forms of psychopathology (see Table 1, & Figures 4 & 5); each yielded a significant effect, \( F(3, 71) = 5.54, p < .01, F(3, 71) = 4.01, p < .01 \), respectively. Bonferroni post hoc comparisons found that the secure attachment group experienced lower levels of internalizing types of psychopathology relative to both the fearful and preoccupied attachment groups. Secure persons also experienced fewer externalizing symptoms than the preoccupied and dismissing groups. There were no differences between the three insecure attachment styles on either dependent variable.

In order to further examine the relationship between attachment styles and internalizing and externalizing forms of psychopathology, two Chi Square analyzes were performed on only two categories of attachment (preoccupied versus dismissing) and two prototypic types of internalizing and externalizing disorders: borderline personality disorder and antisocial personality disorder, respectively. As previously noted, individuals were classified for each personality scale on the basis of scores that reach a clinical level (base rate > 74). Results showed that preoccupied participants were more likely to experience borderline personality disorder (53%) compared to those classified as
Table 11

**Mean, Standard Deviation, Univariate Fs and Bonferroni Comparisons on Internalizing and Externalizing Score Composites on the MCMI-III**

<table>
<thead>
<tr>
<th>Dependent</th>
<th>Attachment Classification</th>
<th>Secure</th>
<th>Fearful</th>
<th>Preoccupie</th>
<th>Dismissing</th>
<th>Univariate</th>
<th>Bonferroni</th>
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<td>Internalizing Mean</td>
<td>42.69</td>
<td>70.88</td>
<td>70.58</td>
<td>55.81</td>
<td>5.54**</td>
<td>A&lt;B**,C**</td>
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<td>Std. Deviation</td>
<td>24.87</td>
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<td>18.57</td>
<td>17.88</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Externalizing Mean</td>
<td>38.19</td>
<td>51.35</td>
<td>55.54</td>
<td>60.20</td>
<td>4.01**</td>
<td>A &lt; B*,C*</td>
<td></td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>18.26</td>
<td>14.30</td>
<td>14.12</td>
<td>11.17</td>
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</table>

*p < .05, **p < .01
Figure 4: Mean: Internalizing disorders composite
Figure 5: Mean: Externalizing disorders composite
dismissing (11%), $\chi^2 [1, N=39] = 5.09, p=.025$. Moreover, those with dismissing attachment were significantly more likely to have antisocial personality disorder (80%) than those with preoccupied attachment (20%), $\chi^2 [1, 39] = 10.46, p = .001$.

**MCMI-III validity scales as a function of attachment style categories**

A 2 (patient status) x 4 (attachment categories) multivariate analysis of variance (MANOVA), yielded a significant main effect of attachment on the validity scales of the MCMI-III, $\text{Wilks Lambda } F (9, 160) = 2.62, p < .01$. There was neither a significant main effect for patient status nor was there a significant interaction effect (see Table 12 & Figures 6 & 7). Therefore, the data were collapsed and analyzed only with respect to attachment styles. Follow-up one-way ANOVAs revealed significant effects for both the desirability and debasement scales of the MCMI-III, $F = 6.9, p < .01; F = 3.9, p < .05$, respectively. In regards to the desirability scale, Bonferroni post hoc comparison indicated that those in the secure attachment group were more likely to portray themselves in a positive light than both the fearful and preoccupied attachment groups. On the debasement scale, bonferroni post hoc comparisons indicated that relative to the secure attachment group, both the preoccupied and fearful attachment groups were more likely to present themselves as experiencing heightened levels of distress. There were no significant differences between the three insecure attachment styles on the validity scales.

**MCMI-III personality scales as a function of attachment style categories.**

A 2 (patient status) x 4 (attachment categories) multivariate analysis of variance (MANOVA) yielded a significant main effect of attachment on the MCMI-III personality
Table 12

**Mean MCMI-II Validity Scale Ratings as a Function of Attachment Style Categories**

<table>
<thead>
<tr>
<th>Validity Scales</th>
<th>Descriptives</th>
<th>Attachment Classification</th>
<th>Univariate Eta Squared</th>
<th>Bonferroni Contrasts++</th>
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</thead>
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<tr>
<td></td>
<td></td>
<td>Secure (A)</td>
<td>Fearful (B)</td>
<td>Preoccupied (C)</td>
</tr>
<tr>
<td>disclosure</td>
<td>Mean</td>
<td>45.63</td>
<td>68.07</td>
<td>70.43</td>
</tr>
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<td></td>
<td>Std.</td>
<td>13.93</td>
<td>23.58</td>
<td>15.25</td>
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<td>desirability</td>
<td>Mean</td>
<td>75.75</td>
<td>37.39</td>
<td>46.20</td>
</tr>
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<td></td>
<td>Std.</td>
<td>9.85</td>
<td>19.56</td>
<td>16.01</td>
</tr>
<tr>
<td>debasement</td>
<td>Mean</td>
<td>48.88</td>
<td>72.64</td>
<td>73.37</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td>24.45</td>
<td>15.16</td>
<td>14.50</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01

Note: Bonferroni post hoc pairwise comparisons were made only on variables with significant univariate Fs.
Figure 6: Mean MCMI-III Desirability Scale
Figure 7: Mean: MCMI-III Debasement Scale
scales, [Wilks Lambda F (42, 160) = 1.68, p < .01]. The main effect for patient status approached significance [Wilks Lambda (14, 55) = 1.86, p = .052], therefore it was not dropped from the model. There was no significant interaction effect detected. Follow-up univariate F tests indicated that attachment style effected nine personality scales (see Table 13 & Figures 8 & 9). Because of the intercorrelation between these scales, a stepdown analysis was conducted. Borderline personality was given the highest priority and was, therefore, analyzed first in a one-way ANOVA. Attachment styles had a significant effect on borderline personality [F (3, 71) = 6.14, p < .001]. A bonferroni post hoc pairwise comparisons revealed that relative to the secure attachment group, both the preoccupied and fearful attachment groups reported significantly more symptoms of borderline personality disorder. There were no differences between the three insecure groups.

The next step in the stepdown procedure was to employ an analysis of covariance (ANCOVA) to examine the effects of attachment styles on avoidant personality, with borderline personality as a covariate. This rendered a significant effect for attachment styles, stepdown [F (3, 70) = 4.51, p < .01]. Bonferroni post hoc pairwise comparisons revealed that relative to the secure attachment group, both preoccupied and fearful attachment groups experienced significantly more symptoms of social anxiety and fear of rejection. There were no significant differences between the three categories of insecure attachment. Because avoidant personality was significant in the stepdown analysis, it was retained as a covariate in successive ANCOVAs. Of the remaining seven personality scales

---

3. The theoretical choice for this next step would have been dependent personality, but it did not make the cut-off of .01, based on the bonferroni correction for multiple F tests.
<table>
<thead>
<tr>
<th>Personality Scales</th>
<th>Descriptives</th>
<th>Attachment Classification</th>
<th>Univariate F+</th>
<th>Eta Squared</th>
<th>Step-Down F</th>
<th>Bonferroni Contrasts++</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Secure</td>
<td>Fearful</td>
<td>Preoccupied</td>
<td>Dismissing</td>
<td></td>
</tr>
<tr>
<td>schizoid Mean</td>
<td>28.13</td>
<td>70.43</td>
<td>56.77</td>
<td>60.67</td>
<td></td>
<td>6.5**</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>16.78</td>
<td>16.19</td>
<td>23.68</td>
<td>28.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>avoidant Mean</td>
<td>24.00</td>
<td>74.71</td>
<td>60.43</td>
<td>48.11</td>
<td></td>
<td>5.05*</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>19.71</td>
<td>22.07</td>
<td>29.97</td>
<td>30.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>depressive Mean</td>
<td>37.63</td>
<td>75.18</td>
<td>78.57</td>
<td>59.56</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>23.38</td>
<td>25.16</td>
<td>24.78</td>
<td>31.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dependent Mean</td>
<td>38.88</td>
<td>72.89</td>
<td>70.57</td>
<td>54.56</td>
<td></td>
<td>1.79</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>34.89</td>
<td>24.91</td>
<td>26.52</td>
<td>32.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>histrionic Mean</td>
<td>70.25</td>
<td>30.25</td>
<td>45.07</td>
<td>51.33</td>
<td></td>
<td>6.47**</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>13.46</td>
<td>22.20</td>
<td>23.30</td>
<td>20.56</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Based on a familywise alpha level of .15, univariate F tests required an alpha of at least .01 to be considered significant. Only those with significant univariate F's were analyzed with post hoc bonferroni contrasts. ++ note: Bonferroni corrected pairwise comparisons were made only on scales with significant stepdown F's

* p < .01; ** p < .001
### Table 13 (continued)

**Mean MCMI-III Personality Disorder Scales Ratings as a Function of Attachment Style Categories**

<table>
<thead>
<tr>
<th>Personality Scales</th>
<th>Descriptives</th>
<th>Attachment Classification</th>
<th>Univariate F+</th>
<th>Eta Squared</th>
<th>Step-Down F</th>
<th>Bonferroni Contrasts++</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Secure</td>
<td>Fearful</td>
<td>Preoccupied</td>
<td>Dismissing</td>
<td></td>
</tr>
<tr>
<td>narcissistic</td>
<td>Mean</td>
<td>69.75</td>
<td>38.93</td>
<td>50.63</td>
<td>.56.78</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>16.43</td>
<td>23.31</td>
<td>23.45</td>
<td>20.49</td>
<td>1.78</td>
</tr>
<tr>
<td>antisocial</td>
<td>Mean</td>
<td>32.63</td>
<td>54.39</td>
<td>53.53</td>
<td>65.56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>25.33</td>
<td>17.49</td>
<td>21.37</td>
<td>22.69</td>
<td>4.65*</td>
</tr>
<tr>
<td>sadistic</td>
<td>Mean</td>
<td>34.63</td>
<td>57.86</td>
<td>59.63</td>
<td>60.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>21.23</td>
<td>20.20</td>
<td>14.26</td>
<td>16.93</td>
<td>5.08*</td>
</tr>
<tr>
<td>compulsive</td>
<td>Mean</td>
<td>62.38</td>
<td>42.93</td>
<td>46.60</td>
<td>38.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>13.26</td>
<td>25.65</td>
<td>19.65</td>
<td>20.88</td>
<td>2.13</td>
</tr>
<tr>
<td>negativistic</td>
<td>Mean</td>
<td>22.25</td>
<td>61.64</td>
<td>66.37</td>
<td>65.11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>24.13</td>
<td>20.96</td>
<td>22.81</td>
<td>17.32</td>
<td>8.43**</td>
</tr>
<tr>
<td>masochistic</td>
<td>Mean</td>
<td>23.38</td>
<td>69.04</td>
<td>63.23</td>
<td>61.11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>31.85</td>
<td>25.23</td>
<td>24.31</td>
<td>25.52</td>
<td>5.70*</td>
</tr>
</tbody>
</table>

Based on a familywise alpha level of .15, univariate F tests required an alpha of at least .01 to be considered significant. Only those with significant univariate F's were analyzed with post hoc bonferroni contrasts. **p<.01; *p<.001**
Table 13 (continued)

**Mean MCMI-III Personality Disorder Scales Ratings as a Function of Attachment Style Categories**

<table>
<thead>
<tr>
<th>Personality Scales</th>
<th>Descriptives</th>
<th>Attachment Classification</th>
<th>Univariate F+</th>
<th>Eta Squared</th>
<th>Step-Down F</th>
<th>Bonferroni Contrasts++</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Secure</td>
<td>Fearful</td>
<td>Preoccupied</td>
<td>Dismissing</td>
<td></td>
</tr>
<tr>
<td>borderline</td>
<td>Mean</td>
<td>29.88</td>
<td>65.93</td>
<td>67.27</td>
<td>59.11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>23.02</td>
<td>24.77</td>
<td>21.14</td>
<td>21.47</td>
<td>4.60*</td>
</tr>
<tr>
<td>paranoid</td>
<td>Mean</td>
<td>29.25</td>
<td>58.25</td>
<td>57.90</td>
<td>58.33</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>24.96</td>
<td>23.93</td>
<td>24.25</td>
<td>22.57</td>
<td>3.31</td>
</tr>
<tr>
<td>schizotypal</td>
<td>Mean</td>
<td>43.25</td>
<td>61.89</td>
<td>67.13</td>
<td>53.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>26.25</td>
<td>20.86</td>
<td>20.54</td>
<td>23.57</td>
<td>1.42</td>
</tr>
</tbody>
</table>

* Based on a familywise alpha level of .15, univariate F tests required an alpha of at least .01 to be considered significant. Only those with significant univariate F’s were analyzed with post hoc bonferroni contrasts. ** note: Bonferroni corrected pairwise comparisons were made only on scales with significant stepdown Fs. * p < .01; ** p < .001
Figure 8: Mean: MCMI-III Avoidant Scale
Figure 9: Mean: MCMI-III Borderline Scale
eligible for analysis in the stepdown ANCOVAs, none were able to meet the cut-off alpha of .01. Thus, the model resulted in only two personality scales reaching significance, borderline and avoidant.

**MCMI-III clinical syndrome scales as a function of attachment style categories.**

A 2 (patient status) x 4 (attachment style categories) MANOVA was conducted on the ten clinical scales, yielding a significant main effect of attachment on the MCMI-III clinical syndrome scales, [Wilks Lambda F (30, 183) = 1.91, p < .01]. There was no main effect for patient status, nor was there an interaction effect. Therefore, the data were collapsed and the dependent variables were analyzed only as a function of attachment. After bonferroni corrections for multiple F tests, only three of the ten variables (alcohol dependence, PTSD, and dysthymia) reached significance, (see Table 14). Because these three variables reflect distinct clinical syndromes and are more easily interpreted than the more highly correlated personality scales, it was decided not to employ a stepdown analysis. Bonferroni post hoc pairwise comparisons revealed that those in the secure attachment group experienced fewer symptoms of dysthymia and PTSD than both the preoccupied and fearful attachment groups. The secure group also experienced fewer symptoms of alcohol dependence than all three insecure groups. As on the validity scales and the personality scales, there were no differences detected between the three groups on the clinical syndrome scales.

**Discussion**

The primary purpose of this study was to investigate the patterns of relationships between adult attachment styles and psychopathology. The frequency distribution of
Table 14

Mean MCMI-III Clinical Syndrome Scales Ratings as a Function of Attachment Style

<table>
<thead>
<tr>
<th>Categories</th>
<th>Clinical Descriptives</th>
<th>Attachment Classification</th>
<th>Bonferroni Comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Secure</td>
<td>Fearful</td>
</tr>
<tr>
<td>anxiety-dis.</td>
<td>Mean</td>
<td>69.88</td>
<td>79.32</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td>30.04</td>
<td>23.83</td>
</tr>
<tr>
<td>somatoform</td>
<td>Mean</td>
<td>42.88</td>
<td>54.82</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td>31.65</td>
<td>27.73</td>
</tr>
<tr>
<td>bipolar</td>
<td>Mean</td>
<td>35.50</td>
<td>54.96</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td>24.14</td>
<td>24.56</td>
</tr>
<tr>
<td>dysthymia</td>
<td>Mean</td>
<td>32.88</td>
<td>66.89</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td>35.83</td>
<td>25.37</td>
</tr>
<tr>
<td>alcohol</td>
<td>Mean</td>
<td>24.75</td>
<td>55.75</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td>24.67</td>
<td>17.38</td>
</tr>
<tr>
<td>drug</td>
<td>Mean</td>
<td>31.88</td>
<td>46.21</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td>28.36</td>
<td>23.74</td>
</tr>
<tr>
<td>ptsd</td>
<td>Mean</td>
<td>40.13</td>
<td>61.21</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td>32.01</td>
<td>17.00</td>
</tr>
<tr>
<td>thought dis.</td>
<td>Mean</td>
<td>48.00</td>
<td>58.14</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td>25.86</td>
<td>24.62</td>
</tr>
<tr>
<td>major dep</td>
<td>Mean</td>
<td>41.75</td>
<td>68.11</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td>36.19</td>
<td>31.27</td>
</tr>
<tr>
<td>delusional</td>
<td>Mean</td>
<td>32.00</td>
<td>39.07</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td>29.77</td>
<td>32.84</td>
</tr>
</tbody>
</table>

*p < .01; **p < .001
attachment styles in this clinical sample suggested that secure attachment may be a buffer to psychological distress; insecure attachment, on the other hand, may represent a general risk factor for psychopathology, especially given that nearly 90% of the sample was classified as insecure and only around 10% was secure. Large scale studies of mostly non-clinical samples have found distributions of attachment to range from 30% to 59% for the secure category and 36% to about 70% for insecurities (see, Brennan et al., 1998; Brennan & Shaver, 1998; Mickelson et al., 1997). Moreover, normative data derived from the AAI have found the distribution of attachment to be about 58% for the secure pattern and 42% for the insecure (Marinus, van IJzendoorn, & Bakermans-Kraenburg 1996).

This study also found that both fearful and preoccupied attachment styles were more likely to experience multiple forms of personality dysfunction (with an average of about 4.5 significant elevations on the MCMI-III personality scales) than either of the secure or dismissing groups (M=1.63 and M=2.67, respectively). Interestingly, there were no differences between attachment styles on the number of clinical syndromes experienced. This suggested that insecure attachment may more strongly influence the expression of DSM-IV axis II psychopathology than axis I, especially when such psychopathology reaches clinical levels of severity. These data also support a confluence of two streams of literature linking insecure attachment with personality disorders. Both theories of attachment and theories of personality disorders connect early childhood experiences with the development of maladaptive interpersonal functioning. Brennan and Shaver (1998) found that the same two underlying dimensions of attachment (anxiety and avoidance) also constituted the factorial structure of most personality disorders. Moreover, they found that both personality disorders and attachment insecurity shared
similar family-of-origin experiences. While taking into account the possible moderating role of inborn temperaments, Shaver and Brennan (1998) claimed that their data suggests that negative, early childhood relationship experiences are likely to influence the development of insecure attachment styles and dysfunctional modes of personality functioning:

It seems likely that both kinds of variables [i.e., personality disorders and insecure attachment] may moderate the impact of environmental stresses, such as major losses, separations, or maltreatment by significant attachment figures. Like insecure attachment styles, personality disorders may foster increasingly maladaptive or inflexible patterns of coping (p. 841).

Another point of congruence between attachment and personality disorders is that both are characterized by patterns of social information processing and behavioral strategies that are likely to confirm their underlying assumptions about themselves and others (Watchel, 1994). This pattern of self-perpetuation is often the focus of many forms of psychotherapy, especially short-term, dynamically oriented psychotherapy (e.g., Luborsky, 1984).

The present data support findings of other investigators in reporting an overall relation between attachment insecurity, psychopathology, and patterns of symptom reporting as a function of attachment style. More specifically this research indicates that participants with preoccupied and fearful attachment styles reported significantly more symptoms of psychopathology than the secure group. Thus, as previous researchers have reported, using the both the Adult Attachment Interview (e.g., Dozier, Stevenson, Lee, & Velligan, 1991; Dozier et al., 1999; Pianta et al., 1996) and self-report measures (see
Crowell, Fraley, & Shaver, 1999; Mikulincer & Florian, 1998; Mikulincer & Orbac, 1995; Shaver & Clark, 1994), preoccupied individuals are more likely to present themselves as extremely powerless, overwhelmed, and emotionally dysregulated. This pattern is also consistent with children classified with ambivalent attachment who manifest elevated levels of helplessness and anxiety and who project an image of vulnerability (see Weinfield et al., 1999; Greenberg, 1999). It is also echoes Main’s theoretical descriptions of this group (Slade, 1999).

It should be noted that when compared to the secure group, preoccupied individuals exhibited elevated levels of externalizing symptoms, so much so that they were not statistically dissimilar to their dismissing cohorts. Although this finding was not anticipated in this study, it is not inconsistent with attachment theory. As Allen and Land (1999) have noted, externalizing behaviors can serve a preoccupied attachment function. For examples, the acting-out, angry behavior produced by an oppositionally-defiant teenager may serve the preoccupied attachment function of keeping parents in extreme proximity and stalling the family’s progression to a developmental stage characterized by less cohesion and more individual autonomy for the adolescent. Also, Dutton and associates (Dutton, 1994; Dutton, Saunders, Starzomski, Bartholomew, 1994; Dutton 1995) have found that men convicted of spouse abuse are more likely to be classified as either fearful or preoccupied. Like Allen and Land(1999), Dutton believes that such angry, controlling, suspicious, jealous behavior (externalizing forms of behavior) is motivated by a fear of abandonment and thus serves the preoccupied attachment function of maintaining extreme proximity to the attachment figure (in this case the spouse or mate).
Those in the dismissing (or avoidant) group were generally not found to differ from the secure group on most MCMI-III scales, with the notable exception of the alcohol dependence scale. This is consistent with previous studies that have found dismissing individuals to minimize anxiety and other negative emotions, and emphasize their sense of self-reliance, and avoid support seeking during times of distress (see Kobak, Cole, Ferenz, & Fleming, 1993; Fraley & Shaver, 1997; Mickulincer & Orbach, 1995; Pianta et al., 1996). On the validity scales, the dismissing individuals were more defensive than the preoccupied and fearful groups (but not statistically) and they were less defensive than the secure group (but not statistically). This finding is not consistent with the predictions of this study, but future research may consider using more finely tuned measures (probably using third party ratings) for identifying defensiveness.

The finding that dismissing attachment was associated with increased alcohol dependence is congruous with other data that link this attachment category with increased alcohol use. Interestingly, this data suggest that dismissing individuals may also use alcohol not only to help regulate negative affect, but to also increase the experience of positive affect (for a review, see Magai, 1999).

In terms of broad band forms of psychopathology (e.g., internalizing versus externalizing forms of symptom expression) preoccupied and fearful groups were more likely to experienced elevated forms of internalizing symptoms relative to either the secure group or the dismissing group. Moreover, when compared head-to-head with preoccupied attachment, dismissing attachment was more strongly associated with antisocial personality disorder, characterized by extreme competitiveness, a lack of empathy, interpersonal aggression, and a tendency to break social rules. Preoccupied attachment,
however, was more strongly associated with borderline personality disorder, which is characterized by extreme emotional dysregulation, identity diffusion, relationship instability, and intense fear of abandonment. These findings parallel previous research supporting linkages between preoccupied attachment and emotional/behavioral dysregulation and borderline personality disorder in particular (Fonagy et al., 1995; Fonagy et al., 1996; Rosenstein & Horowitz, 1996). Moreover, these findings support the notion that dismissing individuals are more likely to act-out their distress, lack empathy, and to downplay negative emotional states (Allen et al., 1996; Rosenstein & Horowitz, 1996).

The pattern of correlations was also consistent with the prediction that internalizing forms of psychopathology are positively associated with Attachment Anxiety (negative view self). Moreover, anxiety was not correlated with externalizing forms of psychopathology. Attachment avoidance (negative view of others) was positively associated with disorders that tend to view others negatively (e.g., avoidant personality fears that others will be rejecting and schizoid personality views others as uninteresting and unsatisfying).

Interestingly, the dimension of Attachment Avoidance was negatively associated with both the histrionic and narcissistic personality scales. In their extreme forms, these two scales can represent dysfunctional modes of social interaction. The former being characterized by exaggerated emotional displays, extreme attention seeking and manipulation, and impulsivity; the latter being distinguished by an over-inflated sense of self-importance, a lack of empathy, interpersonal exploitation, and an intense desire for social attention and praise. However, as Choca and Van Denburg (1997) note, an
elevation on either of these scales is not necessarily pathognomonic. The narcissistic style is self-confident and views him or herself as competent and successful. The histrionic style is outgoing, enjoys social attention, and is confident in social settings. Neither scale correlates positively with the MMPI-2 scales most commonly associated with each personality disorder. For example, the MMPI-2 profile (see Meyer & Deitsch, 1996) that is often characteristic of narcissistic personality disorder is 4-9 (Psychopathic Deviant-Hypomanic); however, the narcissistic personality scale of the MCMI-III correlates negatively with the psychopathic deviant scale of the MMPI-2 (-.27) and insignificantly with hypomania (.17). Moreover, the characteristic MMPI-2 profile (see Meyer & Deitsch, 1996) for histrionic personality disorder is 3-2 (Hysteria-Depression). The MCMI-III histrionic scale correlates negatively with both of these scales (-.27, -.52, respectively). Both MCMI-III scales correlate very robustly and negatively (-.77 histrionic, -.70 narcissistic) with the MMPI-2 scale 0 (Social Introversion, see Millon, 1994), as would be expected given their high degree of extroversion.

Based on data from this present sample, it is difficult to interpret the meaning of the Attachment Avoidance dimension being negatively associated with these two MCMI-III scales. On the one hand, it may suggest that such individuals have a truly positive view of others, denoted by trust, and a strong belief in the reliability and accessibility of their significant others (specifically, their romantic partners). However, it might also reflect social superficiality, a lack of empathy, manipulation potential, and an insatiable desire to be at the center of attention. The current structure of the attachment scales cannot distinguish between these two possibilities.
Clinical Utility of Attachment Theory and Self-Report Measures of Attachment

The therapeutic relationship should create a process through which impaired or distorted interpersonal schemas are relinquished, reworked, and transformed into more adaptive cognitive-affective representations of self and other. Toward the end of treatment, representations should be more differentiated and integrated, with indications of a greater capacity for mutual interpersonal relatedness (Blatt, Auerbach, & Levy, 1997, p. 363.)

From the perspective of many psychodynamically informed theoreticians and clinicians, the therapeutic relationship is the cauldron in which maladaptive cognitive-affective representations are metabolized and transformed into more adaptive schemas of the self and others. The usefulness of attachment styles within the context of psychotherapy is that they provide “... metaphors or guides in clinical listening” (Slade, 1999, p. 585). They help the clinician predict and understand the underlying beliefs about how the client views him or herself in relation to significant others, how they process and organize information about relationships and how they are likely to react to and engage the therapeutic process. Though self-report measures arguably do not provide a comprehensive picture of a client’s attachment dynamics, especially as they relate to early childhood experiences, they nonetheless provide a template for clinical listening and understanding, especially in regards to romantic relationships. As Bartholomew and Shaver (1998) contend, the AAI and the ECR may be measuring different domains of attachment, which is tantamount to measuring different sides of the same coin. The AAI taps into attachment as it relates to early relationship experiences with the caregiver, while
the ECR draws upon beliefs and expectations of the self and other in more contemporary romantic relationships. Both of these themes represent important clinical information. However, it would be difficult to say that one theme is more valuable than the other. Clinicians are urged to discover ways in which to integrate information from both sources and use them to inform the therapeutic process. One example comes from the work of Lester Luborsky and his associates (Luborsky, 1984, 1997), who have combined these two themes (relationships with early caregivers and contemporary relationship conflicts) with transference themes to formulate what is known as the Core Conflictual Relationship Theme (CCRT). This theme becomes the central focus of psychodynamically informed psychotherapy.

A second domain of usefulness for adult attachment styles is that they can help clinicians predict how clients will engage the therapeutic relationship. Using the AAI, various researchers have identified differences in how clients engage therapy and respond to therapy as a function of their attachment styles (Dozier & Tyrrell, 1998). More recently, investigators have found a dynamic interaction between client and therapist attachment styles where the combination of the two can predict the nature of the therapeutic relationship and the clients response to treatment (Tyrrell, Dozier, Teague, & Fallot, 1999). Future research should consider whether self-report attachment measures can perform in a similar fashion. More specifically, they should address whether pretreatment attachment styles can predict how clients engage the therapeutic process and how well they respond to treatment. Moreover, is there an interaction effect between a therapist’s attachment style and his or her client’s attachment style in terms of predicting the nature of the therapeutic alliance?
Third, researchers are called to demonstrate the efficacy of psychotherapy not only via symptom reduction, but also in terms of theoretically relevant outcome measures (e.g., Imber et al., 1990). Attachment theory postulates that attachment beliefs are not merely a reflection of psychopathology, but a central, causal agent. Thus, effective psychotherapy will result in demonstrable differences in how clients process attachment related information and in the types of beliefs and expectations clients hold about self and others. In the past decade, psychodynamically informed researchers have demonstrated changes in descriptions of self and others in samples of adolescents and young adults exposed to comprehensive, multifaceted psychodynamically oriented psychotherapy and psychiatric treatment (Blatt, et al., 1997; Blatt, Stayner, Auerbach, & Behrends, 1996; Blatt, Wiseman, Prince-Gibson, & Gatt, 1991; Diamond, Kaslow, Coonerty, & Blatt, 1990; Gruen & Blatt, 1990). These studies primarily used interview based measures to detect these differences. Future researchers are encouraged to examine whether self-report attachment scales, such as the ECR, are sensitive to therapeutic change. A more formidable challenge would be to demonstrate that change in attachment beliefs was a function of specific psychotherapy strategies aimed at modifying attachment beliefs per se. An alternative explanation, which is also consistent with attachment theory, would be that change in attachment beliefs is a function of common therapeutic factors, such as the strength of the therapeutic alliance (for a review, see Lambert & Bergin, 1994).

Finally, compared to the AAI, self-report measures lack two important features. First, they lack subscales that can detect defensive responding. This would be an enormously beneficial scale because it may help differentiate between individuals who are truly secure and those who report being secure but who are most likely dismissing and are
denying difficulties with developing intimacy. This type of scale could easily be embedded within existing self-report measures such as the ECR and may help add to their validity. Second, self-report instruments like the ECR lack subscales that measure unresolved loss. Unresolved loss is a central feature of attachment theory and has played a critical role in connecting attachment organization to psychopathology (see Dozier et al., 1998), especially for disorders with dissociative features. However, the unresolved loss measured by the AAI pertains mostly to childhood experiences with the caregiver. Future researchers and psychometricians using self-report measures of attachment are encouraged to pursue the development of scales measuring unresolved loss, especially as it relates to romantic relationships. Like the defensiveness scale, this scale may be integrated with existing measures of attachment and may help create a more finely tuned, and clinically sensitive instrument.

**Practical Clinical Implications of Present Study**

As noted above, the data from this study suggest that attachment related themes are of central importance to individuals within a clinical population. To use a Bowlbian metaphor, attachment security is to mental health as the immune system is to physical health (Holmes, 1993). Just as a weakened immune system makes one more vulnerable to a host of physical maladies, so insecure attachment (especially *Preoccupied* and *Fearful* strategies) renders one more vulnerable to a wide array of psychopathology. Once enacted, insecure attachment dynamics tend to create a self-perpetuating cycle of abandonment and rejection within the context of intimate interpersonal relationships. Consequently, psychologists should consider using attachment theory to inform the
process of psychotherapy and to help illuminate attachment related dynamics within the therapeutic relationship. The following are some basic suggestions:

**Therapeutic rhythms.**

Therapeutic rhythms refer to the predictable patterns of behavior that occur within the therapeutic relationship (R. Pianta, Fall, 1992). There are two types of rhythms, macro-rhythms and micro-rhythms. The former refers to phenomena like the times in which appointments are set, the manner in which the therapist starts and ends a session (e.g., “So how are things going this week?”; “I’ll see you next week, remember...”). Micro-rhythms refer to the smoothness of interaction between the therapist and the client, the manner in which the therapist attends to a client’s moods, and the types of gestural communications used by the therapist to convey empathy. Insecurely attached individuals are exquisitely sensitive to signs of rejection and they are likely to read subtle changes in the therapeutic rhythms as harbingers of abandonment. Therapists who use attachment theory to inform therapy will attend to these rhythms and attune to their clients’ dysphoria should these rhythms be altered.

**Re-frame negative emotions in attachment terms.**

When dealing with negative emotions like anger, anxiety, and sadness, help the client to better understand his or her emotional reactions in terms of relevant attachment dynamics. In many instances attachment themes are central to such emotional episodes. For example, a therapist recently had a client discuss her anger toward her husband for not accompanying her to a mutual friend’s birthday party. He declined to go because he did not like the proposed menu and was not “in the mood to be around a lot of people.” She discussed her anger in terms of his selfishness and his lack of flexibility (“He is so self-
absorbed and narrow-minded about things.”) By attending to attachment related themes, the client was able to re-frame her anger as a reaction to abandonment. It was not just that he was “self-absorbed and narrow-minded”, but he was ignoring her desire for companionship and he failed to take her needs into consideration. She felt “abandoned, ignored, and put-off”. These feelings were easily linked to her experience of her parents and how she often felt ignored by them as a child.

**Attending to attachment themes in the transference.**

Attachment themes are abundantly expressed in the therapeutic transference. As previously noted, insecurely attached clients are prone to interpret abandonment and rejection from subtle changes in the rhythms of therapy. For example, one therapist noted that cleaning off is “chronically messy desk” triggered some alarm in several patients, who believed that such a behavior was a sign that the therapist was planning to move out of town. In a more general fashion, insecure attachment histories shape the expectational sets of clients. These “transferential expectations” (Slade, 1999, p. 587) often set the tone of therapy. For clients with preoccupied or fearful attachment, the tone is often characterized by a belief that the therapist will fail to understand and to respond appropriately to the client’s needs (Slade, 1999).

**Attending to attachment themes in countertransference.**

Based on their transference beliefs, many anxiously attached clients are likely to behave in ways that trigger certain countertransferential responses in their therapists. Such countertransference reactions can, if not appropriate contained by the therapist, result in destructive processes. For example, preoccupied clients can make a great number of demands on the therapist, often presenting themselves as needy, dependent, and
demanding. They often request that appointments extend beyond the clinical hour, demand additional appointment times, and leave “urgent” phone messages. It is not uncommon for therapists to experience feelings of frustration and anger in response to such clients. Moreover, they may struggle with feeling emotionally unavailable to the client. If such feelings are enacted within the therapeutic rhythms (e.g., starting appointments late, feeling bored, not attending to the client’s feelings, etc.) the client is likely to feel abandoned and rejected. In this way, the client’s expectational set will be confirmed and the cycle of abandonment perpetuated. Therapist should attend to their countertransferential reactions and work diligently to prevent them from contaminating the therapeutic relationship.

Summary

In summary, this research has investigated the connection between a self-report measure of adult attachment and a self-report measure of psychopathology within a clinical population. There was evidence that insecure individuals are more likely to report elevated levels of psychopathology, especially personality dysfunction, relative to secure individuals. The findings also offered partial support for the prediction that preoccupied attachment would be more strongly associated with internalizing forms of psychopathology, and dismissing avoidance would be more strongly related to externalizing symptoms. There was no evidence, however, that the dismissing group was more defensive than the other categories of attachment. Interestingly, there was little evidence that the fearful group was symptomatically different from either the preoccupied or dismissing groups. An examination of means, however, suggests that participants in the fearful group were more similar to individuals in the preoccupied group than the
Adult Attachment and Psychopathology

Overall, these findings offer additional validity to the ECR and underscore the potential usefulness of extended self-report measures of attachment in clinical populations.

Limitations and additional suggestions for future research

This study contained a number of limitations. The following section will attempt to identify and discuss some of the more obvious ones, and also delineate some which were more subtle. Moreover, recommendations about how to remediate these limitations will be offered.

The first limitation of this study was that no “normal” or non-clinical control group was utilized. Thus, comparisons between clinical and non-clinical populations were inferred from previous studies. This weakens the conclusions that can be drawn about the differences between attachment styles in those with identified psychiatric disorders and those with no history of psychological maladjustment. In particular, it is difficult to examine differences in the distribution of attachment styles between groups. Future research should consider using a non-clinical control group so such comparisons can be made. More specifically, a matched comparison group rather than a mere convenience sample should be utilized in order to strengthen the internal validity of the findings.

Secondly, this was a cross-sectional research design. Thus no causal or temporal relationships between attachment styles and psychopathology could be inferred. Future studies should consider using prospective, longitudinal designs in order to better assess these relationships.

One of the strengths of this study—namely that it consisted of a heterogeneous clinical population—turned out to be, in part, one of its weaknesses. Such heterogeneity
can add to the external validity of a study, but can simultaneously attenuate its statistical validity. Specifically, the vast degree of differences within the sample itself (patients with anxiety disorders, depression, somatization, various personality disorders, etc, etc.) lead to a very high degree of variability within the dependent variables (i.e., the MCMI-III scales). This variability severely diminishes the power of statistical tests to detect differences between groups (e.g., see Kazdin, 1998). For example, Table II shows that the average score on the anxiety scale for the dismissing group was over 20 points lower than that of the fearful group! However, the high standard deviation depleted the F test’s statistical power necessary to render this difference as significant.

Finally, this study was conducted in a private, non-profit hospital, not a university training hospital. Consequently, the therapists and psychiatrists were not especially invested in research activity, as it distracted them from their busy caseloads. Though they were instructed to ask every non-actively psychotic patient, many only chose patients whom they believed were most likely to comply. One psychologist, who sees roughly 30 patients weekly, only administered four tests over a four-month period. Another therapist, who sees about 35 patients weekly, only administered one test. In an informal post research interview of participating therapists and psychiatrist, several points were made about why so few tests were administered. One of the main themes was that if the patient was believed to be defensive or if the therapeutic relationship was considered fragile, the client was not asked to participate. This is believed to have resulted in a systematic bias in the sampling process. It included only those patients who were believed willing to comply, who did not portray a defensive style of relating, and who were actively engaged in the therapeutic relationship. Such a bias was likely to systematically exclude dismissing
individuals. This may explain why so few dismissing individuals were represented in this study. This bias weakens the ability to generalize results, especially those about the distribution of attachment within clinical samples, especially in regards to the percentage of dismissing participants. Future researchers are encouraged to find ways of eliminating sampling biases within clinical settings.
Reference


Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention* (pp. 95-124). Chicago: University of Chicago Press.


Cicchetti, & E.M. Cummings (Eds), Attachment in the preschool years: Theory, research, and interventions (pp. 121-160). Chicago: University of Chicago Press.


Appendix A

Consent Form

We would like you to participate in a research project that is studying the relationship between your attitudes and beliefs about close relationships and your personality style. You will be asked to complete several questionnaires that ask you to indicate how you feel about a wide variety of issues. You will also be asked to complete a short personal history questionnaire and your therapist will use numerical code numbers to indicate the types of symptoms you are experiencing (e.g., depression, anxiety, chronic pain, etc.). There are no risks involved with your participation in this project and all information will be kept completely confidential. Your name will not be on any of the questionnaires you complete; not even the researcher will know your name. The results will be given to your physician or therapist and will be made available to you through a feedback session with your therapist or physician (This will take about five to ten minutes and will occur within the context of a regularly scheduled session with your therapist or physician). If you request, the results may be reviewed by the researcher and discussed in a feedback session with him. There is no cost involved in your participation. Finally, a brief summary of the results of this study will be available to you upon request.

*** Note, you are not obligated to participate in this project and if for any reason you decide to withdraw, you may do so. No questions will be asked and your decision will not impact your treatment in any way.

If you have any questions or concerns about this research project, please feel free to contact:

Gary A. Sibcy, LPC, LMFT (Doctoral candidate, Union Institute School of Professional and Clinical Psychology)
804-947-5999

Please read the following paragraph, and, if you agree to participate, please sign below.

I understand that any information about me obtained from this research will be kept strictly confidential in accordance with the state code of Virginia.

Participant’s Signature ________________________________
Date __________

Witness: ________________________________ Date __________

Please place your initials here acknowledging receipt of a copy of this consent form.
APPENDIX B

Demographic Questionnaire

1. Sex
   a. Male
   b. Female

2. Which Race do you belong to:
   a. American Indian or Alaskan Native
   b. Black or African American
   c. Mexican, Mexican American, or Chicano
   d. Asian, Asian American, or Pacific Islander
   e. Puerto Rican
   f. Other Hispanic or Latin American
   g. White (non-Hispanic)
   h. Other

3. Which of the following best describes your religion?
   a. Protestant
   b. Catholic
   c. Eastern Orthodox
   d. Other Christian
   e. Jewish
   f. Muslim
   g. Religion other than Christian, Jewish, or Muslim
   h. No religious preference

4. Where you raised by your natural, biological parents?
   a. Yes
   b. No

5. Who lived in your home while growing up?
   (Circle all that apply):
   a. Mother
   b. Father
   c. Step-mother
   d. Step-father
   e. Sister(s)
   f. Brother(s)
   g. Foster parents
   h. Aunt
   i. Uncle
   j. Cousin(s)
   k. Grandmother
   l. Grandfather
   m. Others: Specify:

7. Who was most responsible for taking care of you when you were growing up (e.g., mother, father, grandmother, etc). Please fill in the blank:

8. Did your parents divorce while you were a child (under 18 years of age)? (circle one).
   a. Yes
   b. No

9. If yes, at what age were you when they divorced? (Circle one)
   a. Between ages 0-5
   b. Between ages 6-10
   c. Between ages 11-15
   d. Between ages 16-20
   e. After age 21

10. Is your mother still living?
    a. Yes
    b. No Year of death: ___

11. Is your father still living?
    a. Yes
    b. No Year of death: ___

12. If your mother has died, what was your age when she died?
    a. Between ages 0-5
    b. Between ages 6-10
    c. Between ages 11-15
    d. Between ages 16-20
    e. After age 21

13. If you father has died, what was your age when he died?
    a. Between ages 0-5
    b. Between ages 6-10
    c. Between ages 11-15
    d. Between ages 16-20
    e. After age 21

14. Is the person responsible for raising you (as indicated in question 7) still living?
15. If the person responsible for raising you has died, what was your age?
   a. Between ages 0-5
   b. Between ages 6-10
   c. Between ages 11-15
   d. Between ages 16-20
   e. After age 21

16. How far did you go in school?
   Did not complete high school
   a. GED
   b. High school diploma
   c. Associates degree
   d. Bachelor’s degree
   e. Graduate degree

17. Are you currently employed?
   a. Yes
   b. No

18. What is your marital status?
   a. Single
   b. Married
   c. Separated
   d. Divorced
   e. Divorced, remarried
   f. Widowed
   g. Widowed, remarried
   h. Not married, living together

19. Do you have children?
   a. Yes
   b. No

20. What is your yearly household income:
   a. Less than 10,000
   b. 11,000 to 20,000
   c. 21,000 to 30,000
   d. 31,000 to 40,000
   e. 41,000 to 50,000
   f. 51,000 to 60,000
   g. 61,000 to 70,000
   h. More than 70,000

21. Are you currently being treated by a physician for a medical (non-psychiatric) illness?
   a. Yes
   b. No

22. If yes, please list reasons for treatment:
   
   
   
   

23. Please list all your medications (including psychiatric meds):
Appendix C

Instructions: 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:

<table>
<thead>
<tr>
<th>Disagree Strongly</th>
<th>Neutral/Mixed</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
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</tbody>
</table>

1. I prefer not to show a partner how I feel deep down.
2. I worry about being abandoned.
3. I am very comfortable being close to romantic partners.
4. I worry a lot about my relationships.
5. Just when my partner starts to get close to me I find myself pulling away.
6. I worry that romantic partners won’t care about me as much as I care about them.
7. I get uncomfortable when a romantic partner wants to be very close.
8. I worry a fair amount about losing my partner.
9. I don’t feel comfortable opening up to romantic partners.
10. I often wish that my partner’s feelings for me were as strong as my feeling for him/her.
11. I want to get close to my partner, but I keep pulling back.
12. I often want to merge completely with romantic partners, and this sometimes scares them away.
13. I am nervous when partners get too close to me.
15. I feel comfortable sharing my private thoughts and feelings with my partner.
16. My desire to be very close sometimes scares people away.
17. I try to avoid getting too close to my partner.
18. I need a lot of reassurance that I am loved by my partner.
<table>
<thead>
<tr>
<th></th>
<th>Disagree Strongly</th>
<th>Neurtral/Mixed</th>
<th>Agree</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
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<td>7</td>
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<tr>
<td>19. I find it relatively easy to get close to my partner.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Sometimes I feel that I force my partners to show more feeling, more commitment.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. I find it difficult to allow myself to depend on romantic partners.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. I do not often worry about being abandoned.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>23. I prefer not to be too close to romantic partners.</td>
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<td></td>
<td></td>
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<tr>
<td>24. If I can’t get my partner to show interest in me, I get upset or angry.</td>
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<td></td>
<td></td>
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<tr>
<td>25. I tell my partner just about everything.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. I find that my partner(s) don’t want to get as close as I would like.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. I usually discuss my problems and concerns with my partner.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>28. When I’m not involved in a relationship, I feel somewhat anxious and insecure.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. I feel comfortable depending on romantic partners.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>30. I get frustrated when my partner is not around as much as I would like.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. I don’t mind asking romantic partners for comfort, advice, or help.</td>
<td>4</td>
<td></td>
<td></td>
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<tr>
<td>32. I get frustrated if romantic partners are not available when I need them.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. It helps to turn to my romantic partner in times of need.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. When romantic partners disapprove of me, I feel really bad about myself.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. I turn to my partner for many things, including comfort and reassurance.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. I resent it when my partner spends time away from me.</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Endnotes

1. Mary Main uses this language of attachment at the behavioral level and attachment at the representational level throughout her work (see Main, 1996).

2. This group has also been labeled anxious ambivalent and/or anxious-preoccupied.

3. The following section was drawn heavily from Wienfield et al, 1999.

4. The coherence of an individual’s state of mind is evaluated in terms of Grice’s “maxims” (1975). These principles are succinctly described by Main (1996):

   Grice identified coherent, collaborative discourse as requiring adherence to four maxims: quality ("be truthful, and have evidence for what you say"), quantity ("be succinct, yet complete"), relation ("be relevant or perspicacious"), and manner ("be clear and orderly").

   Interview analysis is understood principally in terms of adherence to, versus violation of, these maxims, and several scoring systems (e.g., vague discourse, insistence on lack of memory, unsupported positive adjectives) assist in determining overall state of mind. (p. 239).

5. Hazan and Shaver’s categorical approach to identifying adult attachment styles has had numerous criticisms, one of which is that it fails to detect potential blendings among the different types of attachment. Consequently, several investigators have devised dimensional measure of adult attachment (Bartholomew & Horowitz, 1991; Collins & Read, 1990; Feeney, Noller, & Hanrahan, 1994; West & Sheldon-Keller, 1994). These measure exhibit generally good psychometric properties and are more powerfully statistically than categorical instruments.

6. It is interesting to note that when SPSS was forced to derive only three clusters, the two avoidant clusters were collapsed into one, which paralleled that of Hazan and Shaver’s (1987).

7. Prior to the administration of the questionnaires, a formal research proposal was approved
not only by the doctoral committee during the certification meeting, but was approved by two
institutional review boards at Central Health and Virginia Baptist Hospital.

8. It should be noted that at the time of the clinician ratings, each clinician had conducted no
formal diagnostic interviewing of each subject. Millon suggests that the correlations between
clinician ratings and the MCMI-III would have been higher later in the course of therapy after the
clinician had become more familiar with the subjects full symptom presentation.

9. Although the results of this document are limited to analyzing preoccupied and dismissing
attachment relative to borderline personality disorder and antisocial personality disorder, for the
sake of interest I “snooped” the data and found that preoccupied attachment was more likely than
dismissing attachment to have significant elevations on depressive personality disorder (76%
preoccupied to 33% dismissing), anxiety disorder (87% preoccupied to 4% dismissing), and a
trend toward negativistic personality (47%).

10. If the clinical syndromes would have been a different combination of variables, e.g., anxiety
disorder, PTSD, dysthymia, major depression, then a stepdown F would have been employed to
help tease out the covariance.

11. Brennan and Shaver found that the one dimension of personality functioning that did not
overlap with attachment was psychopathy.

12. Note that both the histrionic and narcissistic scales correlate either negatively or insignificantly
with all of the MMPI-2 scales.

13. It might also suggest that in other studies, dismissing individuals are less likely to participate
in research about relationships and emotions. Most studies do not report a decline rate.