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ATTACHMENT, PERSONALITY AND CONFLICT BEHAVIORS IN ROMANTIC  
COUPLES: EXAMINING VULNERABILITY TO DEPRESSION

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Dissertation

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Attachment, Personality and Conflict Behaviors in Romantic Couples: Examining Vulnerability to Depression

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Major Depressive Disorder has been conceptualized from a number of theoretical perspectives. The present study aims to provide a theoretically integrated understanding of depression vulnerability. Cognitive and interpersonal theories of depressive vulnerability were considered simultaneously in a sample of undergraduate research participants. Study procedures included an attachment elicitation exercise, which was preceded by completion of a self-report measure of depressive and anxious affect. The attachment elicitation exercise was followed by self-report measures of relationship behavior, adult attachment style, cognitive vulnerability, depressive symptomatology, and additional self-report measures of affect. Results of hierarchical multiple regression analyses indicated that the effects of insecure attachment and cognitive personal style on relational behavior are complex. Anxiously attached, sociotropic individuals appear to utilize more passive-aggressive behaviors (i.e., negativity) to negotiate conflict and avoidantly attached, autonomous individuals reported engagement in more overt, distancing behaviors (i.e., negative escalation and withdrawal). Moreover, significant interactions between avoidant attachment and autonomy suggested that the greatest impact on behavior occurred when autonomy was high and avoidant attachment was low. It appears that avoidant attachment may suppress some of the negative emotional expressions or behaviors of highly autonomous individuals. Contrary to expectations, insecure attachment and cognitive personal style did not predict pre- to post-changes in depressive affect, although these relationships were significant for both pre-stress induction affect and post-stress induction affect. Limitations and directions for future research are discussed.

For Pete and Cole

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## Chapter One

### Introduction

Major Depressive Disorder is becoming an increasingly common diagnosis with a 15 to 17% lifetime prevalence rate and a 6 to 7% 12-month prevalence rate in the community (Ebmeier, Donaghey, & Steele, 2006). Over 50% of depressed individuals are incapacitated by their illness, leading to impairment in their work- and/or home-related roles, especially when their depression is left untreated (Ebmeier et al., 2006; Pincus & Pettit, 2001). According to the Global Burden of Disease Study, unipolar major depression is the second leading source of disease burden in established market economies, above both alcohol use and cardiovascular disease (Pincus & Pettit, 2001). The financial burden associated with depression in the United States has been estimated at \$43.7 billion to \$52.9 billion (Pincus & Pettit, 2001). \$12.4 billion is spent in direct medical, psychiatric and pharmaceutical costs (Pincus & Pettit, 2001). Depressed outpatients also carry a 4-fold risk of suicide, which has been linked with substantial financial burden and tremendous social costs as well (Ebmeier et al., 2006). However, only a quarter to a half of individuals with depression receive health care services and a diagnosis of depression is missed in one third to one half of patients presenting in primary care settings (Ebmeier et al., 2006; Pincus & Pettit, 2001).

The importance of understanding and treating depression is readily apparent from these statistics. In response to this, researchers in the field have examined a variety of ways to conceptualize depression, which has led to an abundance of empirical literature. Due to the nature of research, much of this literature consists of studies that focus on one particular theory or conceptualization of depression. While this has been necessary to decide what is and is not important in understanding depression, clinicians are more

likely to consider a wide range of factors when treating their clients in practice (Goldfried & Newman, 1992). Additionally, depression, like most mental disorders, is complex and not completely explained by one theory alone. As a result, research has recently attempted to integrate different conceptualizations of depression that have been found to be significant contributors in past literature. This study follows this recent trend by using previous empirical literature and the integrative perspective taken by clinicians in practice to examine vulnerability factors for depression.

Cognitive theory of depression (Beck, 1987) is one of the most studied theories for understanding the development and maintenance of depressive symptoms (Ingram, Miranda, & Segal, 1998). Cognitive theory (Beck, 1987) proposes that it is not the stressful event, but the individual's thoughts related to the event that cause negative emotions. Persons that develop depressogenic thought patterns in which they consistently see the self, the world, and the future in a negative, dysfunctional manner are considered vulnerable to depression (Beck, 1987). Cognitive therapy, largely based on Beck's (1987) theory, has been identified as an empirically supported treatment for depression (Hollon, Thase, & Markowitz, 2002). However, like other conceptualizations of depression, cognitive theory does not completely explain the development and maintenance of symptoms and not every depressed individual recovers with cognitive therapy.

Researchers have argued that one of the weaknesses of cognitive theory is that it does not include a person-environment perspective (Coyne, 1976; Hammen, 1999). Cognitive theory essentially focuses on the reality of the depressed individual's thoughts and the impact this has on feelings and behaviors. While this involves considering the depressed individual's social environment when his/her thoughts are related to others, cognitive theory does not specifically focus on how the environment interacts with the

depressed individual to maintain, exacerbate or lessen symptomatology. Rather than examining the depressed individual in relative isolation, interpersonal models of depression propose that interactions with the social environment contribute significantly to the maintenance of symptoms (Coyne, 1976; Coyne, Aldwin & Lazarus, 1991).

Depressed individuals are thought to act in such a way that they elicit negative feedback and rejection from their social environment, which leads to a loss of social support and a subsequent exacerbation of symptoms (Coyne, 1976). In support of interpersonal models of depression, research has demonstrated that depressed individuals engage in excessive reassurance seeking and other dysfunctional behaviors that negatively impact the stability of their social support network (Bieling & Alden, 2001; Joiner, Alfano, & Metalsky, 1992; Joiner & Metalsky, 1995; Lynch, Robins, & Morse, 2003; Nelson, Hammen, Daley, Burge, & Davila, 2001; Shih, 2006; Vettese & Mongrain, 2000). Thus, both cognitive theory and interpersonal models of depression seem to play an important role in understanding depression.

Attachment theory (Bowlby, 1958) has been another fruitful area in understanding depression that has focused more on the interpersonal realm. Attachment theory proposes that early childhood experiences with the primary caregiver play a key role in determining internal working models of self and others, which, in turn, affect interpersonal and emotional relationships in adulthood. When a person is insecurely attached and has a negative view of self and/or others, he/she is more vulnerable to developing depressive symptoms and to having problematic relationships later in life. Both parental and romantic insecure attachment have been significantly associated with depressive symptoms in several studies (e.g., Carnelley, Pietromonaco, & Jaffe, 1994; Hankin, Kassel & Abela, 2005). Attachment theory provides a possible explanation as to how the

negative cognitions proposed by Beck's (1983) cognitive theory and the dysfunctional behaviors in relationships proposed by Coyne's (1976) interpersonal theory develop and are maintained.

The primary aim of this study was to better understand what makes individuals vulnerable to depression, which subsequently informs future prevention and treatment efforts. In the spirit of clinical practice and recent integrative efforts by researchers (Goldfried & Newman, 1992), cognitive theory, interpersonal theory, and attachment theory were considered simultaneously. To accomplish this, cognitive-personality style, romantic attachment, communication and conflict resolution skills, and changes in depressive affect pre- and post-induction were assessed in a non-clinical, undergraduate sample of individuals in committed, romantic relationships. The primary hypothesis of this study was that insecure attachment and negative cognitive style each accounted for unique sources of variance in predicting dysfunctional interpersonal behaviors in conflict situations, which in turn, predicted changes in depressive affect. Since the comorbidity between depression and anxiety is usually the rule, rather than the exception, and since it is often difficult to distinguish between their symptoms and vulnerability factors, a secondary aim of this paper was to test the specificity of its significant findings for depression.

The sections that follow first review Beck's (1983) cognitive theory of depression and recent literature on cognitive-personality risk factors, which includes studies that have examined the influence of these risk factors on interpersonal behaviors. This is followed by a review of Coyne's (1976) interpersonal model of depression. Then, attachment theory and empirical evidence supporting the link between insecure attachment and depression and between insecure attachment and interpersonal behaviors

are discussed. Finally, research that has attempted to integrate attachment theory with cognitive theory is explored and the present study's hypotheses are introduced more fully.

### Cognitive Theory and Cognitive-Personality Risk Factors for Depression

Theorists from a variety of perspectives have proposed distinct cognitive-personality traits that predispose persons to depression. Two perspectives in general have received much empirical interest; sociotropy and autonomy from a cognitive perspective and dependency and self-criticism from a psychodynamic perspective. While important differences exist between the two, both perspectives have identified an interpersonal and an achievement component, that when combined with a congruent stressor, triggers depressive symptoms (Beck, 1983; Blatt & Zuroff, 1992). The type of depressive symptoms experienced depends on the cognitive-personality risk factor exhibited (Beck, 1983; Blatt & Zuroff, 1992). Consequently, both perspectives are considered diathesis-stress models. First, Beck's (1987) cognitive theory of depression is discussed followed by a description of Blatt and Zuroff's (1992) personality risk factors.

#### *Sociotropy and Autonomy*

Beck's (1987) cognitive theory of depression is considered a diathesis-stress model in that the depressogenic schemas of sociotropy and autonomy act as diatheses that, when combined with a congruent or domain relevant stressor, lead to specific depressive symptoms. Beck's (1987) cognitive theory suggests that it is not the event, but the individual's thoughts and perceptions regarding the event that cause emotions. Depression results from selective focus on negative stimuli and making unrealistic interpretations. Beck (1964) identifies negative, maladaptive schemas in which the individual sees the self, the world and the future in a negative, dysfunctional manner (termed the negative cognitive triad) as cognitive risk factors for depression.

A schema is a cognitive pattern informed by previous experiences that guides the individual on what to focus on, how to interpret it, and what to do as a result (Beck, 1964; Beck, Rush, Shaw & Emery, 1979). A schema is inactive until an event related to the schema activates it. Beck (1963) proposes that depressed individuals tend to have schemas that maximize negative attributes, minimize positive attributes, and misattribute negative consequences to personal incompetence. Additionally, these schemas are more likely to be activated in depressed individuals than non-depressed individuals in reaction to negative and neutral events (Beck, 1963).

Beck (1983; 1987) proposes two types of schema as vulnerability factors for depression: sociotropy and autonomy. Sociotropic individuals value interpersonal relationships to the extent that their sense of self-worth depends on how much others accept and support them. Focused on receiving, sociotropic individuals depend on relationships and need reassurance that care and nurturance are available. An intense fear of rejection often keeps these individuals from asserting themselves with significant others (Beck, 1983). When sociotropic individuals experience or perceive interpersonal loss, rejection or disapproval, depressogenic schemas are activated. As a consequence, these individuals are vulnerable to depressive symptoms, such as sadness, loneliness, feelings of loss, crying and mood reactivity to both positive and negative events (Beck, 1983; 1987).

Autonomous individuals, on the other hand, value independence to the extent that their self-worth is based on self-control and achievement (Beck, 1983). Focused on action, autonomous individuals tend to set very high standards for themselves and are apt to be more self-critical when they do not meet them (Beck, 1983). Additionally, highly autonomous persons value freedom and independence. Problems in relationships often

occur when autonomous individuals feel like their partners are trying to control them (Beck, 1983). When these persons experience or perceive failure or loss of personal control, depressogenic schema are activated and they are likely to evidence depressive symptoms such as worthlessness, anhedonia, and withdrawal (Beck, 1983; 1987). Further, depression in these cases tends to be unremitting and unaffected by either positive or negative events (Beck, 1983). Thus, Beck (1983) proposes that sociotropic individuals seek closeness to attain their goals whereas autonomous individuals seek distance. While individuals likely show one orientation more than another even before the onset of depression, their orientations may shift depending on the context (Beck, 1983).

#### *Dependency and Self-Criticism*

Psychodynamic theorists (Blatt & Zuroff, 1992) propose dependency and self-criticism as two similar personality dimensions that blend psychoanalytic and cognitive aspects. Dependency is similar to sociotropy; highly dependent individuals rely on others for their sense of wellbeing, and interpersonal rejection, loss, and abandonment activate “anaclitic” depression that is characterized by experiences of loneliness and helplessness (Blatt & Zuroff, 1992). Research indicates that in non-clinical samples, dependent individuals value close interpersonal relationships and work hard towards maintaining them, whereas in clinical samples, dependent individuals demonstrate fear and resentment regarding neglect or abandonment and are preoccupied with past, present and future problems in relationships (Blatt & Zuroff, 1992). Furthermore, evidence suggests that dependent individuals are vulnerable to experiencing negative life events (Blatt & Zuroff, 1992).

The second personality dimension identified by Blatt and Zuroff (1992) is self-criticism. Self-critical individuals focus on achieving excessively high standards set by

themselves and others. Their focus on perfection and achievement may be an effort to compensate for feelings of low self-worth. When self-critical individuals fail to meet their own or others' expectations, they are vulnerable to experiencing "introjective" depressive symptoms such as worthlessness and guilt (Blatt & Zuroff, 1992). In a manner similar to autonomy, self-critical individuals focus on achievement. In contrast to autonomous individuals, however, self-critical individuals are not reliant on independence for self-worth. Instead, these individuals appear to be more ambivalent about relationships, often feel self-doubt, and intensely fear rejection or criticism by others. Research suggests that in non-clinical samples, self-critical individuals demonstrate maladaptive conflict resolution strategies in relationships, while in clinical samples, self-critical individuals are isolated, consider themselves failures and are primarily focused on work (Blatt & Zuroff, 1992). Additionally, research indicates that self-critical individuals, contrary to the congruency hypothesis, may be more vulnerable to a wider range of negative life events than originally thought (Blatt & Zuroff, 1992). Unlike cognitive theory, psychodynamic theorists suggest that dependency and self-criticism are stable personality traits that are fixed in childhood and are unlikely to occur in the same person (Coyne & Whiffen, 1995).

#### Empirical Evidence for Sociotropy/ Autonomy

Research on Beck's (1983) sociotropy/autonomy and Blatt and Zuroff's (1992) dependency/self-criticism is vast and ever expanding. Review of both sets of personality risk factors is beyond the scope of this study. Because the present study examines the relationship between *cognitive* risk factors and attachment styles in predicting behavior and depressive symptoms, the remaining literature review focuses on Beck's (1983)

cognitive-personality risk factors and their relationship to both interpersonal behaviors and depression.

To examine the evidence for sociotropy and autonomy, researchers have tested Beck's (1983) congruency and specificity hypotheses. The congruency hypothesis states that in order to experience depressive symptoms, the individual must experience stressors that are congruent with his/her area of vulnerability. For example, sociotropic individuals should experience depression only in response to interpersonal stressors, and autonomous persons should experience depression only in response to achievement-related stressors (Beck, 1983). The specificity hypothesis suggests that the type of symptoms experienced is specific to the person's vulnerability factor. For instance, sociotropic individuals should experience depressive symptoms such as loneliness, feelings of loss, crying and mood reactivity, and autonomous persons should exhibit depressive symptoms such as worthlessness, anhedonia, and withdrawal (Beck, 1983; 1987).

While sociotropy and autonomy have been linked with depression in general, Beck's (1983) congruency and specificity hypotheses have received mixed support. To review this vast literature, a summary of Robins' (1995) meta-analysis and Coyne and Whiffen's (1995) critique on previous research is provided first. This is followed by a discussion of more recent research (2000 to present) on sociotropy and autonomy, organized by methodology.

#### *Robins, 1995*

Robins' (1995) meta-analysis on sociotropy and autonomy included cross-sectional, prospective and experimental studies. Results were categorized into specific vulnerability (sociotropy increased vulnerability to interpersonal loss and autonomy increased vulnerability to achievement failure), general vulnerability (sociotropy and

autonomy increased vulnerability to negative events in general) and general congruence (participants reported more congruent than noncongruent events). Overall, cross-sectional studies found more evidence supporting specific vulnerability for sociotropy than for autonomy. Three studies observed specific vulnerability for sociotropy, two studies observed a general vulnerability and one study observed a general congruence for sociotropy and autonomy simultaneously (Robins, 1995). There were no cross-sectional studies that supported the specific vulnerability hypothesis for autonomy (Robins, 1995). Prospective studies, on the other hand, provided support for vulnerability and some support for the congruency hypothesis. One non-clinical prospective study found specific vulnerability effects for interpersonal and achievement concerns and another observed general vulnerability for sociotropy and autonomy. Clinical, high-risk participant studies either observed a general congruency effect or specific vulnerability effects for autonomy and for *Approval* and *Performance Concerns* from the Dysfunctional Attitudes Scale (DAS), which was used as a measure of sociotropy and autonomy in these studies (Robins, 1995). In one experimental study, sociotropy had a general vulnerability effect, while autonomy did not.

In summary, sociotropy received a moderate amount of empirical evidence supporting it as a vulnerability factor for depression in response to interpersonal events and occasionally in response to achievement events. Autonomy received more mixed results (Robins, 1995). Robins (1995) argued that while many studies supported the congruency hypothesis, each had at least one or more methodological or analytic problem. These problems have been discussed more specifically in Coyne and Whiffen's (1995) review.

*Coyne and Whiffen, 1995*

Coyne and Whiffen (1995) delineated several methodological and analytic problems in recent research. First was the inconsistent categorical classification of participants as autonomous or sociotropic, which generally lacked theoretical or statistical grounding. This often resulted in different classifications across samples, and suggested that a large proportion of the sample had a pathological trait. Additionally, many of these studies excluded participants that scored high on both sociotropy and autonomy, even though recent research suggests that these individuals may be more vulnerable to developing depression. As a result, Coyne and Whiffen (1995) suggested that future research should treat sociotropy and autonomy as continuous rather than categorical variables. The second issue was whether or not cognitive-personality risk factors are distinct from symptoms of depression. Instead of indicating support for a diathesis-stress model, Coyne and Whiffen (1995) argued that a strong correlation between personality and symptoms made it more difficult to conclude that the two variables are distinct from one another. On this basis, they suggested that sociotropy may be a better vulnerability marker for depression, since it generally has smaller associations with concurrent distress. A third problem was distinguishing cognitive-personality risk factors from current social context, since many of the items used to assess cognitive personality risk factors may be vulnerable to the effects of social context. Consequently, Coyne and Whiffen (1995) suggested that the effects of interpersonal relationships should be explored as well.

In addition to outlining problems in current research, Coyne and Whiffen (1995) reviewed research on the congruency hypothesis. Results that supported the congruency hypothesis for sociotropy were found in several cross-sectional studies and one longitudinal study utilizing college samples, whereas only one study supported the congruency hypothesis for autonomy (Coyne & Whiffen, 1995). In the seven longitudinal

studies examined, most of them had methodological problems that made their results difficult to interpret or they demonstrated conflicting results for the congruency hypothesis (Coyne & Whiffen, 1995). Thus, the authors suggested that while these cognitive-personality risk factors have received considerable empirical support in general, it is still difficult to make substantive conclusions about the congruency hypothesis (Coyne & Whiffen, 1995).

#### *Cross-Sectional Studies Since 2000*

Several researchers have continued to conduct cross-sectional, correlational studies examining Beck's (1983) cognitive-personality risk factors. In general, most cross-sectional studies have supported both sociotropy and autonomy as risk factors for depression (Beck, Robins, Taylor, & Baker, 2001; Beck, Taylor, & Robbins, 2003; Bruch, 2002; Gorski & Young, 2002; Mazure & Maciejewski, 2003; Mazure, Raghavan, Maciejewski, Jacobs, & Bruce, 2001; Mendelson, Robins, & Johnson, 2002; Morrison, Peyton, & Nothard, 2003; Sato, 2003). For example, in a sample of undergraduate students, Beck and colleagues (2001) observed that sociotropy, autonomy, and excessive reassurance seeking all had significant, unique effects on depressive symptoms using path analyses. Further, the relationship between sociotropy and depression was mediated by reassurance seeking, which supports the hypothesis of a "double diathesis" for sociotropy (Beck et al., 2001). Other research using undergraduate samples has also demonstrated that sociotropy and autonomy make significant contributions to depressive symptoms, even when other variables are included (Beck et al., 2003; Bruch, 2002; Morrison et al., 2003; Sato, 2003).

Research utilizing clinical samples has provided support for sociotropy and autonomy as well (Mazure et al., 2001; Mazure & Maciejewski, 2003). For instance,

Mazure and colleagues (2001) observed that depressed individuals scored significantly higher than controls on sociotropy and autonomy and were significantly more likely to have experienced negative life events. Additionally, specific scales of the sociotropy (i.e., *concern about disapproval*) and autonomy measure (i.e., *need for control*) had stronger relationships with depressive symptoms (Mazure et al., 2001). A clinical sample of adults and elderly participants revealed that the impact of cognitive-personality risk factors and negative life events on depression vary by age (Mazure & Maciejewski, 2003). For instance, negative life events and *need for control* (autonomy) had a greater impact on depressive symptoms in the non-elderly than the elderly. Nevertheless, while the effect of negative life events on depressive symptoms reached its peak at 40-50 years of age and then declined, the interaction between congruent cognitive-personality risk factors and negative life events had a significant relationship with depressive symptoms across ages (Mazure & Maciejewski, 2003).

However, not all studies have supported the connection between autonomy and depressive symptoms (Abela, McIntyre-Smith, & Dechef, 2003; Raghavan, Le, & Berenbaum, 2002; Sato, 2003). In a sample of women recently moved to the United States, only sociotropy was significantly correlated with depressive symptoms, while autonomy was significantly associated with hostility (Raghavan et al., 2002). Highly sociotropic participants in this sample who had experienced negative interpersonal events were 11 times more likely to experience dysphoria than those who had not (Raghavan et al., 2002). Differences in measurement and sample characteristics could be a possible explanation for these discrepant findings. Nevertheless, Sato (2003) also found that a subscale of autonomy, *individualism*, was not associated with depressive symptoms,

which suggests that autonomy may be a multi-faceted factor in which certain facets, such as *individualism*, may not influence or may even act as a buffer against depression.

Additionally, the congruency hypothesis of Beck (1983) has generally received more support for sociotropy than for autonomy in cross-sectional studies (Abela et al., 2003; Mazure & Maciejewski, 2003). While Abela and colleagues (2003) found that both sociotropy and autonomy were associated with depressive symptoms, support for the congruency hypothesis was only found for sociotropy. These authors suggested these discrepant results exist, because what constitutes as an interpersonal versus an achievement related stressor differs from individual to individual (Blatt & Zuroff, 1992; Robins, Hayes, Block, Kramer, & Villena, 1995). For example, an achievement related stressor (e.g., failing a class) may be interpreted by some individuals as an interpersonal stressor (e.g., my family will be disappointed in me). To examine this possibility, Abela and colleagues (2003) used participants' classifications of whether an event was interpersonal or achievement related. Their results indicated that the specific congruency and symptom specificity hypotheses of Blatt and Zuroff's (1992) self-criticism and dependency were supported whereas only Beck's (1983) sociotropy was supported (Abela et al., 2003). For instance, dependent and sociotropic individuals were more likely to remember negative interpersonal events and experience subsequent depressive symptoms congruent with the theorists' symptom specificity hypothesis. Self-critical individuals, on the other hand, were more likely to remember negative achievement related events and report depressive symptoms congruent with self-criticism. Contrary to Beck's (1983) hypothesis, however, autonomous individuals were more likely to remember negative interpersonal events (Abela et al., 2003). Thus, Abela and colleagues (2003) alternate explanation for the inconsistent results with regard to autonomy was not supported.

A reconsideration of Beck's (1983) original work provides another possible explanation. When compared to the case of sociotropy, he suggests that the relationship between autonomy and a congruent stressor in predicting depressive symptoms may not be as readily apparent. Rather than a "dramatic" stressor such as the death of a spouse, autonomous individuals may experience more insidious and additive stressors that contribute to a negative view of self, others and the future (Beck, 1983).

In summary, cross-sectional studies have generally supported both sociotropy and autonomy as risk factors for depression, although more evidence exists for sociotropy. Additionally, more support has been found for the congruency hypothesis for sociotropy than for autonomy. Instead, autonomy appears to be linked with non-congruent interpersonal stressors, which could be an accurate reflection of autonomous individuals lacking requisite social skills.

#### *Longitudinal Studies*

Recent research has also included longitudinal designs to test the congruency and symptom specificity hypotheses of Beck's (1983) cognitive-personality traits, which provides a better argument for the directionality of variables than cross-sectional studies (Alford & Gerrity, 2003; Fresco, Sampson, Craighead, & Koons, 2001; Mazure, Bruce, Maciejewski, & Jacobs, 2000; Morse & Robins, 2005; Nelson et al., 2001; Shih, 2006; Voyer & Cappeliez, 2002). Overall, there is some support for the congruency hypothesis. Morse and Robins' (2005) results from a formerly depressed, late life sample, for instance, supported Beck's (1983) personality-life event congruency hypothesis for both sociotropy and autonomy. Interestingly, in a similar sample of formerly depressed older participants, Voyer and Cappeliez (2002) did not find support for Beck's (1983) congruency hypothesis for either personality predisposition when the researchers labeled

the event as interpersonal or achievement related. However, when the participants' conceptualization of an event as impacting an interpersonal or achievement domain was used, the congruency hypothesis for sociotropy was fully supported for predicting depression relapse within a six-month period. The results for autonomy approached statistical significance (Voyer & Cappeliez, 2002).

Mixed results with regards to the congruency hypothesis also exist. In one undergraduate sample, the congruency hypothesis was only partially supported; sociotropy interacted with both interpersonal and achievement related events to predict depressive symptoms, suggesting that it is a non-specific vulnerability factor for depression, while autonomy interacted with interpersonal related events to predict depression (Fresco et al., 2001). Additionally, both congruent interactions for sociotropy and autonomy predicted anxiety, while non-congruent interactions did not (Fresco et al., 2001). In another undergraduate sample, sociotropy was significantly correlated with both depression and anxiety (Alford & Gerrity, 2003). In contrast, this study did not find a significant relationship between autonomy and depressive symptoms (Alford & Gerrity, 2003). Mazure and colleagues (2000) also did not fully support Beck's (1983) congruency hypothesis in a clinical sample, although both stressful life events and cognitive-personality risk factors predicted depression. Nevertheless, when there was congruency, it predicted better treatment response to anti-depressants (Mazure et al., 2000).

In summary, while longitudinal studies have found some support for the congruency hypothesis for both sociotropy and autonomy, these studies have also observed sociotropy as a non-specific vulnerability factor and autonomy as linked with non-congruent interpersonal stressors in predicting depression.

### *Experimental Studies*

Experimental studies have supported aspects of Beck's (1983) conceptualization of sociotropy and autonomy (Bieling & Alden, 2001; Bieling, Beck & Brown, 2004). While sociotropy and autonomy have been linked to depression, support for the congruency hypothesis has again been less clear (Bieling & Alden, 2001; Bieling et al., 2004). In one experimental study, Bieling and colleagues (2004) measured the stability and change of sociotropy and autonomy before and after 12 sessions of cognitive therapy (CT). Both subscales of the sociotropy measure, *fear of criticism and rejection* and *preference for affiliation*, were associated with depression and decreased in both full and partial responders to CT, while these scores remained stable in the non-responder group (Bieling et al., 2004). The autonomy subscale, *sensitivity to others' control*, did not change over the course of treatment even though it was associated with depression scores. However, the autonomy subscale, *independent goal attainment*, increased (Bieling et al., 2004). Several implications can be determined from these results. First, sociotropy overall appears to be a vulnerability factor for depression that is amenable to CT. Second, *sensitivity to others' control* may continue to be an issue for depressed individuals due to its stability over time and over the course of treatment. However, another possible explanation is that *sensitivity to others' control* is confounded with depression. And finally, *independent goal achievement*, which includes aspects of pursuing one's own goals and valuing one's own opinion more than others in determining self-worth, is negatively associated with depressive symptoms and increases over the course of treatment, suggesting that it is a protective factor (Bieling et al., 2004).

In another experimental study attempting to integrate Beck's cognitive-personality traits with interpersonal models of depression, Bieling and Alden (2001) had depressed and control subjects participate in a treatment analogue task in which confederates helped

subjects plan life changes. Consistent with interpersonal models of depression (Coyne, 1976), depression negatively predicted positive behaviors in the task and positively predicted subsequent rejection by the confederate (Bieling & Alden, 2001). When depressed participants also scored high on autonomy, this relationship strengthened, suggesting that this personality trait exacerbated maladaptive behaviors in interpersonal interactions. However, autonomy did not have an impact on behaviors or rejection by others when the participants were not depressed, which might suggest that a certain threshold for autonomy needs to be met before maladaptive behaviors are exhibited, or that depression activates these behaviors (Bieling & Alden, 2001). Sociotropy on the other hand, was not associated with a decrease in positive social behaviors, which is consistent with Beck's (1983) conceptualization that these individual's desire and work towards maintaining closeness (Bieling & Alden, 2001).

In summary, these two experimental studies have demonstrated a connection between both cognitive-personality risk factors and depression, but have not supported all aspects of Beck's (1983) conceptualization of autonomy. Instead, in one study, a facet of autonomy was not related to depressive symptoms and in another, autonomy was related to maladaptive interpersonal behaviors.

#### *Cognitive-Personality and Stress-Generation Studies*

In further support of Beck's (1983) cognitive-personality factors acting as vulnerability markers for depression, recent research has suggested that sociotropy and autonomy play a role in generating the stressful life events that accompany an onset of depressive symptoms (Bieling & Alden, 2001; Lynch et al., 2003; Nelson et al., 2001; Robins, 1995; Shih, 2006; Vettese & Mongrain, 2000; Whisman & Freidman, 1998). Hammen (1991) first articulated the stress-generation hypothesis, which suggests that

depressed individuals contribute to and/or generate some of the stress that makes them vulnerable to depression. Results from Hammen's (1991) 1-year longitudinal study supported this hypothesis. Depressed women had more stress in their lives than non-depressed women because they had a greater number of dependent events (events to which they contributed) rather than a greater number of independent or fateful events. Additionally, depressed women demonstrated significantly more dependent stressful events than either bipolar or medically ill women. Hammen (1991) proposed that these results suggest that depressed women's symptoms and characteristics contribute to the number of stressful life events they experience and/or that depressed women find themselves in unstable situations that contribute to their stress. Further, Hammen (1991) suggested that negative cognitions about self, others and the situation may influence depressed women's behaviors in such a way that they ultimately contribute to their stress level. Thus, cognitive-personality risk factors may be one avenue through which depressed individuals generate much of their stress.

In support of this view, Shih (2006), in a sample of undergraduates, found that sociotropy in women predicted future interpersonal stress. This, in turn, predicted higher levels of depressive symptoms, which is consistent with Beck's (1983) congruency hypothesis. There were no findings for achievement stress, which may have been due to a lack of variability over a six-week period. Nelson and colleagues (2001), examining high school women over an 18-month period, observed conflicting results that are not consistent with Beck's (1983) congruency hypothesis; *autonomy-need for control* significantly predicted chronic interpersonal stress, while sociotropy significantly predicted chronic achievement stress. *Autonomy-achievement*, however, seemed to act as a buffer against future stress (Nelson et al., 2001). Nelson and colleagues (2001)

hypothesized that cognitive-personality risk factors generate stress in areas least important to the individual's self-esteem either because he/she ignores or lacks skills in these areas of life.

One way cognitive-personality risk factors may generate stress is through negatively impacting relationship patterns (Bieling & Alden, 2001; Gudleski & Shean, 2000; Lynch et al., 2003; Santor, Pringle, & Israeli, 2000; Santor & Yazbek, 2006; Vettese & Mongrain, 2000; Whisman & Friedman, 1998). For instance, in an undergraduate sample, both the DAS *Performance Evaluation* and DAS *Approval of Others*, which are measures of autonomy and sociotropy respectively, were associated with self-reported interpersonal problems. More specifically, the *Performance Evaluation* scale was related to overassertive behavior, suspiciousness, anger, difficulty experiencing and expressing affect and social withdrawal, while the *Approval of Others* was related to nonassertive behavior and intrusiveness (Whisman & Friedman, 1998). However, the results for *Approval of Others* were no longer significant when controlling for negative affect. Researchers have suggested that this scale included items that are not necessarily maladaptive, which might account for the less robust results (Whisman & Friedman, 1998). In a clinical sample (Lynch et al., 2003), sociotropy was significantly related to participants being in the demand role and their partner being in the withdraw role in interactions. Autonomy demonstrated the opposite effects and was negatively correlated with relationship satisfaction. Recent studies have suggested that depression is associated with a pattern of negative social behavior and subsequent rejection as well (Bieling & Aldern, 2001; Gudleski & Shean, 2000). Scoring high on autonomy increased these effects, while sociotropy was associated with behaviors that maintained closeness with the individual (Bieling & Alden, 2001).

In summary, research has indicated that both sociotropy and autonomy may play a role in generating stressful life events that lead to depression. Mixed results exist as to whether or not they generate congruent or non-congruent events.

*Summary of Research on Beck's (1983) Sociotropy and Autonomy*

Several general points can be made regarding the empirical literature on sociotropy and autonomy. First, results from cross-sectional, longitudinal, experimental and non-experimental research suggest that sociotropy and autonomy are risk factors for depression, although sociotropy has received more support overall. Second, more support has been generated for the congruency hypothesis for sociotropy than for autonomy. Instead, autonomy is often linked with interpersonal stressors, although some evidence exists indicating that sociotropy may be linked with both interpersonal and achievement stress. Third, depending on the measurement used, certain facets of autonomy and sociotropy may not act as vulnerability factors. Fourth, research has suggested that both autonomy and sociotropy generate stressful life events, although the life events generated are not necessarily congruent with the cognitive-personality risk factor. And fifth, less research has been conducted on the symptom specificity hypothesis.

Several potential explanations exist as to the inconsistent findings regarding autonomy. First, Beck (1983) suggests that the relationship between autonomy and a congruent stressor may not be as readily apparent as for sociotropy. Second, other research has suggested that autonomy may be linked with interpersonal rather than achievement related stress, which could reflect the autonomous individual's lack of social skills and his/her interpretation of interpersonal events as more achievement related. And third, conflicting results may be due to differences in measurement, samples and methods. While cognitive-personality factors appear to play some role in the development and

maintenance of depressive symptoms, the lack of consistent findings and less than perfect predictions suggest that other variables are important to consider. As mentioned previously, one criticism of cognitive vulnerability theory is that it does not take into account a person-environment perspective (Coyne, 1976; Hammen, 1991). Coyne's (1976) interpersonal model of depression, which focuses on depressed individuals' interactions with their social environments, is discussed next.

### Coyne's (1976) Interpersonal Model of Depression

Interpersonal models of depression purport that social interactions play an important role in the development and maintenance of depression (Coyne, 1976; Coyne, Aldwin & Lazarus, 1991). Instead of depression occurring solely as a result of factors within the individual, these models suggest that person and environment interact in such a way that rejection and negative feedback are elicited from others. This subsequent loss of social support exacerbates depressive symptoms, which, in turn, strengthen the depressed person's self-defeating behaviors (Coyne, 1976). Thus, having an understanding of the depressed individual's social environment is important to understanding the development and maintenance of his/her symptoms (Coyne, 1976).

While Coyne's (1976) model does not specify what initiates depressive episodes, it hypothesizes that depressed individuals' initial symptoms such as helplessness, withdrawal and complaining are attempts at gaining reassurance from others that they care and will help them. Although what is said to the depressed person may be clear (e.g., "I care for you"), nonverbal communication and tone of voice may be ambiguous or even contradictory (e.g., said sarcastically). Rather than accepting what is said or waiting to see if it holds true with time, depressed persons doubt the other person, continue to seek feedback, and test the relationship over and over again (Coyne, 1976). The depressed

person's persistent symptoms and reassurance seeking arouse both guilt and annoyance in others because even with constant reassurance, the depressed person's behaviors do not change. As these feelings become more apparent, the depressed individual's symptoms and reassurance seeking behaviors increase, creating a downward "depressive spiral" (Coyne, 1976). As a result, the other person may limit interactions with or withdraw completely from the depressed person and the depressed person's self-concept and ability to cope weakens, while his/her symptoms increase.

Interpersonal models of depression go beyond the depressed individual's inner thoughts when explaining the development and maintenance of symptoms. The inclusion of a person-environment focus sets them apart from traditional cognitive theories. Rather than cognitive schemas being necessary for the maintenance of depression, the depressed individual's coping styles negatively affects his/her environment and relationships, leading to a loss of support and validation (Coyne et al., 1981). Thus, while the specific content of the depressed person's cognitions may be distorted, Coyne (1976) argues that these distorted cognitions might accurately reflect a deteriorating social system, which needs to be taken into account when treating depression. However, Coyne (1976) does not specify what causes the initial depressive symptoms to emerge. While research suggests that Beck's (1983) cognitive-personality risk factors play some role in the development of depressive symptoms, attachment theory has also been linked with depression and includes an interpersonal perspective.

### Attachment Theory

#### *Bowlby*

Attachment theory focused initially on the relationship between infant and caretaker (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1958; Bowlby, 1977;

Bowlby, 1980; Bowlby, 1982). Attachment has been defined as any behavior that keeps an infant close to and elicits responses from the caretaker (Bowlby, 1977; Bowlby, 1980; Bowlby, 1982). Infant behaviors, such as sucking, clinging, following, crying and smiling, are considered innate, instinctual responses that have developed through the process of natural selection to elicit care-taking responses from adults and thus ensure the survival of the infant and his/her future reproductive abilities (Bowlby, 1958; Bowlby, 1980; Bowlby, 1982).

The emotional bond formed between caretaker and infant fulfills the infant's physiological, emotional and social needs (Bowlby, 1958). The infant's attachment behaviors satisfy several purposes. For example, sucking, clinging, calling, and following serve two important functions for the infant. First, these behaviors keep the infant in close proximity with the caretaker, who is perceived as more capable than the infant. Second, these behaviors elicit food and shelter from the caretaker. Additionally, crying and smiling act as social cues, which activate and strengthen the caretaker's attachment to the infant (Bowlby, 1958; Bowlby, 1982). The activation and termination of attachment related behaviors occur in response to either internal or external events. For instance, when the infant is hungry, crying and sucking behaviors are activated. When the infant's appetite is satisfied (internal event), these behaviors naturally desist. However, if the mother stops feeding before the infant is satiated, the infant is likely to experience anxiety and/or frustration (Bowlby, 1958). Separation from the caretaker during infancy is thought to evoke especially intense anxiety and lead to clinging and following behaviors upon the caretaker's return. These behaviors ease the infant's anxiety (Bowlby, 1958; Bowlby, 1982). Allowing the infant to cling and follow during these periods is thought especially important for normal development (Bowlby, 1958; Bowlby, 1982).

Bowlby (1977) suggests that attachment quality influences the infant's development and adjustment. Healthy attachment between infant and caregiver provides the infant with the security to both explore the environment and return to the caretaker when needed (Bowlby, 1982). The caregiver is available to the infant and intervenes when the infant is headed for or is in trouble. The caregiver's level of involvement and reactions to the infant are thought to affect the infant's current and future psychological wellbeing (Bowlby, 1977). Consistent nurturing and intervention when the infant is in danger allow the infant to effectively explore the environment and as a result, have a mental representation of self that is competent and worthy of care. The well-attached infant also develops a perception of others as available and supportive. Bowlby (1977) labels this style secure attachment. It purportedly increases the infant's odds of having healthy relationships throughout life and acts as a buffer against the development of psychopathology during stressful times.

In contrast, inconsistent nurturing, rejecting, controlling or unresponsive behavior from parental figures creates anxiety in infants. This affects their abilities to effectively explore the environment and encourages development of a model of self that is incompetent and unworthy of care. Bowlby (1977; 1980) labels this anxious-ambivalent attachment, which is thought to make the child vulnerable to developing neurotic symptoms, depression and phobias later in life. A third form of attachment behavior, identified as avoidant attachment, results from caregivers not valuing and suppressing attachment-related behavior (Bowlby, 1980). In avoidant attachment, the infant becomes increasingly self-reliant and inhibits attachment related behaviors and feelings (Bowlby, 1980). This is thought to make the infant vulnerable to developing somatic and depressive symptoms later in life. If the infant has a completely unresponsive caretaker and feels

that no matter what he/she does the caretaker does not respond, the infant may develop learned helplessness (Kestenbaum, 1984). Bowlby (1977; 1980) proposes that insecure attachment offers a partial explanation for psychological problems, such as depression, anxiety, anger and emotional detachment. Further, attachment and its related behaviors and feelings are thought to influence relationships with significant others (e.g., romantic partners, children, therapists and employers) later in life (Bowlby, 1977; Bowlby, 1980; Bowlby, 1982).

#### *Ainsworth's Strange Situation Task*

Ainsworth and colleagues' (1978) strange situation task provided empirical evidence for the different types of attachment proposed by Bowlby. This task consisted of eight episodes that elicit attachment related behaviors by having periods of separation and reunion with the primary caretaker. These episodes included the child with the mother, as a stranger enters the room, as the mother leaves the room, as the mother returns, as the stranger leaves, alone and as both the stranger and mother return (Ainsworth et al., 1978).

Using Bowlby's theory as a framework, Ainsworth and colleagues (1978) identified three types of attachment based on infants' behaviors in the strange situation task. First, securely attached infants showed distress when separated from the mother and clinging behavior when reunited. These infants were also able to explore the environment comfortably in their mothers' presence and were more sociable with strangers (Ainsworth et al., 1978). Second, avoidantly attached infants were less responsive overall in situations expected to activate attachment behavior. For instance, they tended to ignore the mother when she returned and continued to explore the environment, although not as effectively as securely attached infants. In return, mothers of avoidantly attached infants demonstrated more rejecting behaviors and seemed uncomfortable in the presence of their

infants (Ainsworth et al., 1978). Third, anxiously attached infants, as the name suggests, were anxious around their mothers and often acted with either angry or clinging behaviors. In return, mothers of anxiously attached infants were less responsive to their children. Ainsworth and colleagues (1978) concluded that anxiously attached individuals were the slowest to develop cognitively because of their low frustration tolerance.

Recent research has identified another form of insecure attachment, called disorganized attachment (Green & Goldwyn, 2002). These infants do not accurately fit into any of Ainsworth and colleagues' (1978) categories. Infants with disorganized attachment demonstrate contradictory and sometimes bizarre behaviors toward caregivers that lack any observable goal. Additionally, these infants may act fearful around the primary caretaker or they may have failed to attach altogether. Disorganized attachment has been associated with loss of the parent or trauma in the parental relationship (Green & Goldwyn, 2002).

### Adult, Romantic Attachment

Bowlby (1958; 1977) proposed that attachment continues throughout the life span, "from the cradle to the grave," and that individuals continue to form attachments with significant others, such as spouses and children (Bowlby, 1982, p.208). Hazan and Shaver (1987) utilized Bowlby's (1958; 1977; 1980, 1982) and Ainsworth and colleagues' (1978) work on childhood attachment to better conceptualize romantic love. Their work created the basis for understanding romantic adult attachment.

Hazan and Shaver's (1987) seminal work revealed several important results. First, it demonstrated that the prevalence of secure (56%), anxious-ambivalent (19%) and avoidant (25%) attachment styles in adult romantic relationships were approximately the same as the prevalence of similar attachment styles found in children with their primary

caregivers. The continuity of parental and adult attachment has been confirmed in subsequent studies (e.g., Carnelly et al., 1994; Collins & Read, 1992). Second, attachment style predicted differences in romantic relationship experiences. For instance, securely attached individuals tended to experience their most important relationship as trusting, loving and friendly and had longer-lasting relationships on average than insecurely attached individuals. Avoidantly attached individuals, on the other hand, demonstrated a fear of closeness with their partners and experienced extreme emotions within the relationship. Finally, individuals with anxious-ambivalent attachment styles tended to experience love as an obsession. Extreme sexual attraction and jealousy and a desire for a high level of emotional closeness characterized their relationships (Hazan & Shaver, 1987).

Third, Hazan and Shaver (1987) observed that attachment predicted the individual's conceptualization or internal working model of romantic relationships. While secure individuals reported love as fluctuating in intensity over time with the possibility of obtaining lasting love, avoidant individuals were more likely to report falling in love as a rarity. And while anxious-ambivalent individuals felt like falling in love was easy, they appeared to perceive the possibility of finding 'true love' as unlikely (Hazan & Shaver, 1987). In fact, anxious-ambivalent individuals rated themselves as lonelier than secure and avoidant individuals, even though they desired intense emotional closeness (Hazan & Shaver, 1987). Finally, Hazan and Shaver (1987) found that attachment was related to mental models of self. Secure individuals perceived themselves as likable, anxious-ambivalent individuals reported a lot of self-doubt and felt under-appreciated, and avoidant individuals scored somewhere in between.

Bowlby (1980) identified two features of working models in attachment: (1) a view of the self as worthy of care and (2) a view of the attachment figure as available and supportive. The concept of working models in attachment theory is similar to the concept of schemas in cognitive theory. In an extension of Hazan and Shaver's (1987) work, Bartholomew and Horowitz (1991) clarified and expanded Bowlby's theory of working models and identified two dimensions of adult attachment. Bartholomew and Horowitz's (1991) first dimension was the model of self, which included the individual's feelings and thoughts regarding his/her own self-worth and lovability. This dimension was also termed dependency and reflected the individual's level of reliance on others for validation (Bartholomew & Horowitz, 1991). The second dimension was the model of others, which included the individual's feelings and thoughts regarding the trustworthiness and supportiveness of attachment figures. This dimension reflected the individual's level of avoidance regarding intimacy and his/her expectation of rejection. Bartholomew and Horowitz (1991) proposed a negative and positive pole for each attachment dimension, which resulted in four attachment categories: secure (positive self, positive other), preoccupied (negative self, positive other), dismissing (positive self, negative other) and fearful (negative self, negative other) (Bartholomew & Horowitz, 1991). The preoccupied category was conceptually congruent with Hazan and Shaver's (1987) anxious-ambivalent attachment, and both the fearful and dismissing categories were conceptually congruent with Hazan and Shaver's (1987) avoidant attachment (Bartholomew & Horowitz, 1991).

Bartholomew and Horowitz (1991) observed support for their four categories in a study that examined attachment in romantic relationships and friendships. The authors employed an attachment interview, a friendship questionnaire, and measures of self-

concept, sociability and interpersonal problems. First, both secure and dismissing individuals demonstrated a positive self-concept, while preoccupied and fearful individuals demonstrated a negative self-concept. This finding has been replicated in other studies (see Pietromonaco & Barrett, 2000). Second, secure and preoccupied individuals scored high on levels of sociability, while dismissing and fearful individuals scored low. Finally, secure individuals were warmer and more nurturing in interpersonal interactions, while dismissing individuals were more hostile. Preoccupied individuals on the other hand, demonstrated an inappropriate amount of expressiveness, were less warm, and were more controlling in relationships, while fearful individuals tended to be less assertive and socially inhibited (Bartholomew & Horowitz, 1991). Additionally, the preoccupied and fearful groups had higher levels of overall relationship distress than the other groups. Interestingly, instead of fitting neatly into attachment categories, Bartholomew and Horowitz (1991) observed that participants demonstrated a mix of attachment styles across time and across relationships. Further research has suggested that change in attachment style is possible (Davila & Cobb, 2004). While adult attachment was modestly stable in one study, many people (around 30%) reported different attachment styles and demonstrated fluctuations in security over time (Davila & Cobb, 2004).

Other research has lent additional support to the putative connection between adult attachment and models of self and others (Brennan & Bosson, 1998; Carnelley et al., 1994; Collins & Read, 1992; Griffin & Bartholomew, 1994). Griffin and Bartholomew (1994), for instance, examined Bartholomew and Horowitz's (1991) two-dimensional model and found that it was reliable and valid. These authors demonstrated that the 'model of self' dimension was related to a latent self-concept variable and that

the 'model of other' dimension was related to a latent interpersonal orientation variable. Results of other investigations also suggested that secure and dismissing individuals have greater self-esteem than preoccupied and fearful individuals (Brennan & Bosson, 1998; Collins & Read, 1992; Pietromonaco & Barrett, 2000). While secure individuals seemed to acquire their self-esteem from social sources, dismissing individuals seemed to acquire their self-esteem from sources based on competence. Furthermore, women derived more of their self-esteem from socially based sources than men (Brennan & Bosson, 1998). In addition, secure and preoccupied individuals preferred more feedback from their partners than those with avoidant attachment styles, whereas fearful and preoccupied individuals tended to be more distressed by their partner's feedback (Brennan & Bosson, 1998).

#### Adult Attachment and Responses to Relationship Distress

As documented above, research has supported adult attachment and internal working models of self and others as valid concepts. Further, adult attachment appears to be associated with self-esteem, interpersonal behavior (e.g., seeking intimacy versus seeking distance) and relationship quality (Carnelley et al., 1994; Collins & Read, 1992). In particular, evidence exists suggesting that attachment style impacts a person's response to relationship distress (Bartholomew & Horowitz, 1991; Bowlby, 1980; Carnelley et al., 1994; Hazan & Shaver, 1987). Due to the function of attachment (i.e., to keep the individual close to another during perceived distress), characteristic features of an individual's attachment style are thought to be elicited only in certain situations that are fear-provoking, involve conflict, or are challenging (Bowlby, 1980; Kobak & Duemmler, 1994). Overall, securely attached individuals are expected to cope more effectively with relationship distress than insecurely attached individuals (Bartholomew & Horowitz, 1991; Bowlby, 1980; Carnelley et al., 1994; Hazan & Shaver, 1987).

*Conflict –Resolution Studies based on Self-Report*

Recent research has supported this hypothesis and has found an association between attachment orientation and conflict resolution behaviors in romantic partners (Feeney, 2004; Kobak & Hazan, 1991; Pietromonaco, Greenwood, & Barrett, 2004; Senchak & Leonard, 2002; Simpson et al., 1996). Overall, studies assessing attachment and conflict resolution strategies by self-report instruments have observed that individuals reporting greater attachment security used more constructive strategies than individuals reporting less attachment security (Feeney, 2004; Pietromonaco et al., 2004; Senchak & Leonard, 2002). Less securely attached individuals tended to have greater difficulty understanding their partners, demonstrated behaviors that increase conflict, withdrew and used less validation (see Pietromonaco et al., 2004 for a review). While anxious and avoidant individuals used similar conflict resolution tactics, anxious individuals were generally more willing to appease their partners than avoidant individuals (see Feeney, 2004 and Pietromonaco et al., 2004 for a review). Additionally, anxious individuals reported more negative emotions than secure or avoidant individuals. However, this could be due to anxious individuals' willingness to admit to emotional experiences (see Pietromonaco et al., 2004 for a review).

*Conflict - Resolution Studies based on Observational Techniques*

Self-report studies are limited for several reasons. Participants may not be aware of some of their actual behaviors, they may demonstrate a memory bias, or they may try to paint a more positive picture than reality warrants. To address some of these limitations, research has incorporated observational techniques to study the relationship between attachment and conflict-resolution behaviors. For example, in a study of married couples, Kobak and Hazan (1991) found that insecurely attached wives demonstrated

more rejecting behaviors towards their husbands in a conflict resolution task.

Additionally, when wives were more rejecting, their husbands tended to be less securely attached. Wives, on the other hand, tended to be less securely attached when their husbands listened less in a confiding task (Kobak & Hazan, 1991). Unfortunately, due to the correlational nature of the study, directionality of the relationship between these variables cannot be determined.

In a study of couples who had been dating for six months or longer, insecure attachment was also related to ineffective conflict resolution behaviors (Simpson et al., 1996). Ambivalent individuals responded less positively to their partners, expressed greater anger, and demonstrated more stress and anxiety in a conflict resolution task than individuals who scored low on ambivalent attachment. Highly ambivalent women also had poorer quality interactions with their partners. However, highly ambivalent individuals' negative behaviors and perceptions were not related to an increase in negative interactions. This result suggested that behavior and perception reflected internal working models more than actual circumstances (Simpson et al., 1996). Further, compared to persons scoring low on ambivalent attachment, both highly ambivalent men and women perceived their romantic partners and their relationships less positively after the task (Simpson et al., 1996). Research has demonstrated that highly ambivalent individuals report less relationship satisfaction and more turbulent relationships (Hazan & Shaver, 1987) and it appears that ambivalent individuals' changes in perceptions of their partners and relationships after conflict may be one reason (Simpson et al., 1996).

Highly avoidant individuals, however, did not report or demonstrate greater distress or anger during conflict resolution, and their views of the relationship did not appear to be impacted afterwards (Simpson et al., 1996). Nevertheless, avoidant men

showed less warmth toward their partners during a distressing task and had poorer quality interactions (Simpson et al., 1996). Bowlby (1973) proposed that in response to unmet needs for support, avoidant individuals become more self-reliant and suppress attachment-related thoughts and feelings in situations where these might typically be evoked. In a manner consistent with this idea, Simpson and colleagues (1996) suggested that relationship conflict impacts relationship satisfaction more for ambivalent individuals than for avoidant individuals.

Research has further suggested that the attachment styles of both partners play an important role in conflict resolution (Feeley, 2004; Pietromonaco et al., 2004). Generally, couples with two secure partners are thought to handle conflict better than couples with one secure partner, and couples with one secure partner are thought to handle conflict better than couples with two insecure partners. Overall, this has been supported by empirical research, although two studies have suggested that husbands' attachment has a greater impact on wives' conflict resolution behaviors than vice versa (see Pietromonaco et al., 2004 for a review).

#### *Fear – Provoking Studies based on Observational Techniques*

In addition to conflict situations, attachment orientation appears to impact romantic partners' behaviors in fear-provoking situations (Campbell et al., 2001; Rholes, Simpson & Orina, 1999; Simpson, Rholes, & Nelligan, 1992). For instance, research has found that secure women tend to seek out more emotional and physical support as their anxiety increases, and secure men are apt to offer it when they see their partners under distress. Avoidant women and men show the opposite pattern (Campbell et al., 2001; Simpson et al., 1992).

More specifically, Campbell and colleagues' (2001) study demonstrated that despite whether they were giving or receiving support, avoidant individuals showed more negative emotions and criticism. Rholes and colleagues (1999) also found that women scoring higher on avoidance displayed more anger towards their partners, especially when they were highly distressed and their partners were less supportive. Moreover, avoidant men demonstrated greater anger, especially when their partners were distressed (Rholes et al., 1999). As reported by Rholes and colleagues (1999), anger appeared to allow avoidant individuals to regain emotional control of the situation and defend against attachment-related feelings and behaviors (Rholes et al., 1999). Furthermore, individuals with avoidantly attached partners were more likely to display negative emotions and criticism, raising the possibility that avoidant individuals may act in ways that elicit the rejection they fear (Campbell et al., 2001; Rholes et al., 1999). This association was weaker for partners scoring low on avoidant attachment (Rholes et al., 1999).

The findings from Simpson and colleagues' (1992) study were only true for fear-provoking situations. When avoidant women experienced less anxiety (and thus were in a less attachment-provoking situation), they were more likely to seek out support than secure women, and avoidant men were more likely to provide support (Simpson et al., 1992). Bowlby's theory of attachment suggests that avoidant individuals simultaneously desire and fear intimacy, which may explain the contradictory results in Simpson and colleagues' (1992) study. In low stress situations, avoidant individuals may feel safer reaching out for others and giving support in an attempt to satisfy intimacy needs. In contrast, in highly stressful situations, attachment cognitions might be evoked and avoidant individuals might fear rejection (Simpson et al., 1992).

Contrary to avoidant attachment, the impact of anxious-ambivalent attachment on romantic partners' behaviors in fear-provoking situations has been equivocal. Whereas Campbell and colleagues (2001) found no significant impact for anxious-ambivalent attachment on romantic partners' behavior, results of Simpson and colleagues (1996) suggested that individuals with anxious-ambivalent partners were more likely to distance themselves psychologically from their partners in the fear-provoking situation. Additionally, Rholes and colleagues (1999) demonstrated that women scoring high on anxious attachment were more likely to interact with their romantic partners negatively in a recovery period when they were under stress, and received less support from their partners during the fear-provoking situations. Similar to avoidantly attached individuals, these results suggested that anxious-ambivalent individuals act in ways that elicit the specific behaviors they fear in romantic relationships (Simpson et al., 1996; Hazan & Shaver, 1991). Nevertheless, it appeared that conflict resolution tasks evoke more problematic behaviors in anxious-ambivalent individuals, while fear-provoking situations evoke more problematic behaviors in avoidant individuals (Campbell et al., 2001; Kobak & Hazan, 1991; Simpson et al., 1992; Simpson et al., 1996).

#### *Depression and Responses to Relationship Distress*

Depressive symptoms appear to impact responses to relationship distress as well (Coyne, 1976; Coyne, Thompson, & Palmer, 2002; Marchand, 2004; Marchand & Hock, 2000; Marchand-Reilly & Reese-Weber, 2005). Research suggests that depressed individuals tend to use negative behaviors with partners, such as excessive reassurance seeking, nagging, pleading and attempting to control partner's behaviors (Coyne, 1976; Joiner & Metalsky, 1995). Additionally, depressive symptoms and marital dissatisfaction predict ineffective conflict resolution strategies in married couples (Coyne et al., 2002;

Marchand, 2004; Marchand-Reilly & Reese-Weber, 2005). In Coyne and colleagues' (2002) study, couples with a depressed wife reported fewer expressions of affection and more pervasive marital problems and destructive tactics for conflict resolution. Results from Marchand's (2004) study suggested that depressive symptoms and insecure attachment impact conflict behaviors and consequently marital satisfaction. Husbands' compromising behaviors acted as a partial mediator between depressive symptoms and marital satisfaction, while wives' attacking behaviors acted as a partial mediator between insecure attachment and marital satisfaction (Marchand, 2004).

Carnelley and colleagues (1994), on the other hand, found that adult attachment was the strongest predictor of relationship functioning even when depressive symptoms were taken into account. However, since these studies were cross-sectional, the directionality of the relationship between variables studied was not clear. Nevertheless, previous research has at least demonstrated strong relationships between insecure attachment, ineffective conflict resolution behaviors and depression. These findings offer support for Coyne's (1976) interpersonal model of depression in that interpersonal interactions appear to play a significant role in the development and maintenance of depressive symptoms. Considering this issue of depressive development more globally, it appears that exclusive examination of cognitive-personality risk factors ignores interpersonal issues that are an important piece of the puzzle.

#### Insecure Attachment as a Risk Factor for Depression

In further support of examining a person's significant relationships in order to understand depression, recent research has demonstrated a connection between insecure attachment and depressive symptoms. Bowlby (1977; 1980) proposed that insecure attachment partially explains the development of several types of psychopathology, such

as anxiety, anger and depression. He stated that “many of the most intense emotions arise during the formation, the maintenance, the disruption and the renewal of attachment relationships. The formation of a bond is described as falling in love, maintaining a bond as loving someone, and losing a partner as grieving over someone” (Bowlby, 1977, p. 203). Thus, a person’s wellbeing is intricately tied to the security of his/her attachment bonds (Bowlby, 1977; Bowlby, 1980).

Several studies have observed an association between insecure *parental* attachment and adult depression (Armsden, McCauley, Greenberg, Burke & Mitchell, 1990; Kenny, Moilanen, Lomax, & Brabeck, 1993; Papini & Roggman, 1992; Sund & Wichstrom, 2002). More relevant to the current study, *adult* attachment has also been strongly associated with adult depression (Bifulco, Moran, Ball, & Bernazzani, 2002; Carnelly et al., 1994; Murphy, & Bates, 1997; Simpson & Rholes, 2004; Strodl & Noller, 2003; West & George, 2002; Whiffen, Kallos-Lilly, & MacDonald, 2001). For instance, Carnelly and colleagues (1994) found that mildly depressed college women were more likely to report fearful avoidant and preoccupied attachment styles (both of which include a negative view of self) than non-depressed women. Married women recovering from depression, on the other hand, were more likely to report only a fearful avoidant attachment style. Other research has observed significant results for both fearful and preoccupied attachment styles (Murphy & Bates, 1997; West & George, 2002). Additionally, Hankin and colleagues (2005) found that anxious (negative view of self) and avoidant (negative view of others) attachment dimensions were predictive of depressive symptoms.

Research has also included marital discord in examining the relationship between insecure attachment and depressive symptoms (Scott & Cordova, 2002). Scott and

Cordova (2002) found that insecure adult attachment (i.e., anxious-ambivalent attachment) moderated the relationship between marital discord and depressive symptoms. The strength of this relationship was statistically significant for women and approached significance for men. Scott and Cordova (2002) suggested that secure attachment may act as a buffer for individuals experiencing marital distress. For example, the secure individual's positive view of self and others and his/her tendency to be more exploratory, might lead to more sources of social support. Social support may then serve as a buffer against depressive symptoms during times of marital distress (Scott & Cordova, 2002; Bartholomew & Horowitz, 1991). Individuals who scored high on anxious-ambivalent attachment, on the other hand, evidenced a strong association between relationship dissatisfaction and depressive symptoms. This association may have been a result of these individuals' negative views of self in which they questioned their self-worth when experiencing marital distress and demonstrated low exploratory behaviors (Bartholomew & Horowitz, 1991). In the face of marital conflict, individuals with anxious-ambivalent attachment may be more vulnerable to becoming self-critical and hopeless and may have less social support outside of the marriage (Scott & Cordova, 2002).

Individuals with an avoidant attachment style, on the other hand, had no interaction effect between marital satisfaction and depressive symptoms, although avoidantly attached individuals endorsed more depressive symptoms regardless of marital satisfaction (Scott & Cordova, 2002). Scott and Cordova (2002) suggested that the negative view of others and general avoidance in relationships demonstrated by these individuals may keep them from responding to changes in marital functioning, although they tended to be more depressed. Overall, the relationship between anxious attachment

and depressive symptoms has been stronger than the relationship between avoidant attachment and depressive symptoms (see Simpson & Rholes, 2004 for a review).

#### Insecure Attachment and Stress-Generation

While research has suggested that compared to securely attached individuals, insecurely attached individuals have less effective problem solving strategies in conflict-resolution and fear-provoking situations, another explanation for its relationship to depressive symptoms has been posited by Hankin and colleagues (2005) and other researchers (Kobak & Hazan, 1991; Marchand-Reilly & Reese-Weber, 2005). Hankin and colleagues (2005) proposed that individuals with insecure attachment tend to generate stress over time, which consequently makes them more vulnerable to experiencing depressive symptoms. In other words, insecurely attached individuals act in ways that isolate or alienate themselves from social support and weaken important relationships. In support of this hypothesis, Hankin and colleagues (2005) found that insecure attachment significantly predicted future interpersonal stressors, but not achievement-related stressors, which in turn, predicted increases in depressive and anxious symptoms. This is similar to Hammen's (1991) stress-generation hypothesis and the research literature on cognitive-personality factors and the generation of stress. Thus, both attachment and cognitive-personality factors have been implicated in the development and maintenance of depression as well as in generating stress and negative interpersonal interactions. The next section examines research that has attempted to integrate these two perspectives.

#### Insecure Attachment and Cognitive-Personality Risk Factors for Depression

Very little research has examined the connection between insecure attachment and Beck's (1983) cognitive-personality variables, despite the fact that they are all implicated in the development and maintenance of depressive symptoms. Research has instead

focused on the connection between dysfunctional attitudes and insecure attachment.

Nevertheless, sociotropy and autonomy share many conceptual similarities with attachment. For example, both anxiously attached and sociotropic individuals want to be loved and to receive care. They determine their senses of self-worth on this happening and are intensely afraid of being abandoned (Bartholomew & Horowitz, 1992; Beck, 1983; Zuroff & Fitzpatrick, 1995). Both avoidantly attached and autonomous individuals place high value on maintaining independence and shy away from emotional intimacy in relationships. Instead, autonomous individuals focus on maintaining personal achievements (Zuroff & Fitzpatrick, 1995).

In support of the connection between cognitive-personality risk factors and insecure attachment, Zuroff and Fitzpatrick (1995) observed that sociotropy was positively associated with anxious attachment ( $r = 0.52$ ) and negatively associated with avoidant attachment ( $r = -0.17$ ), while autonomy related strongly to both avoidant ( $r = 0.47$ ) and anxious attachment ( $r = 0.31$ ). As a result, the attachment style associated with sociotropy was preoccupied and the attachment style associated with autonomy was fearful-avoidant. Zuroff and Fitzpatrick (1995) suggested that autonomous individuals avoid intimacy in relationships to prevent the possibility of exposing weakness and being rejected for it, which consequently leads to dissatisfying relationships and a lack of social support. They indicated that sociotropic individuals, on the other hand, were preoccupied with thoughts of losing emotional support and of ways to maintain their current support network, perhaps through self-defeating methods (Zuroff & Fitzpatrick, 1995).

Murphy and Bates (1997) extended Zuroff and Fitzpatrick's (1995) research by examining the subscales of sociotropy and autonomy and their relationships to attachment in the prediction of depression. First, their results suggested that the preoccupied and

fearful attachment styles (both of which include a negative view of self) had the greatest associations with depressive symptoms. Second, Murphy and Bates (1997) observed that sociotropy was related to preoccupied attachment ( $r=0.41$ ), while an element of autonomy, *defensive-separation*, was related to fearful attachment ( $r=0.67$ ) and to a lesser extent dismissive attachment ( $r=0.47$ ). These findings replicate Zuroff and Fitzpatrick's (1995) results. Finally, Murphy and Bates (1997) found that the autonomy subscale, *self-criticism/perfectionism*, correlated strongly with the sociotropy scale ( $r=0.56$ ), which suggested that this subscale is related to both achievement and interpersonal concerns and may not be a specific vulnerability factor for depression (Murphy & Bates, 1997). Thus, previous research has indicated that both cognitive-personality risk factors and insecure attachment are associated with and impact symptoms of depression (Murphy & Bates, 1997; Zuroff & Fitzpatrick, 1995).

Due to the similarities between insecure attachment styles and cognitive-personality risk factors and their connections to interpersonal behaviors and depression, a reasonable next step in research is to consider these theories simultaneously, using the interpersonal model of depression as a framework. Additionally, since depression is often comorbid with anxiety and it can be difficult to differentiate their vulnerability factors and etiology (Mineka, Watson, & Clark, 1998), testing for depressive specificity is another important aspect of depression research.

The present study accomplished these two goals through several steps. First, participants were assessed for affect (both depressive and anxious) through a self-report measure. Then, participants recalled and wrote a detailed description of one of their "biggest disagreements" with their current romantic partner. This procedure was designed to elicit attachment-related cognitions and feelings. Afterwards, participants completed

self-report measures of affect, attachment style, cognitive-personality style and communication and conflict management skills. There were four main hypotheses for this study.

Hypotheses: (See Figure 1)

*Hypothesis 1:* The main effects of insecure attachment (anxious, avoidant) and cognitive-personal style (sociotropy, autonomy) will emerge as significant, simultaneous predictors of negative behavior between romantic couples in conflict. It is also possible that cognitive personal style and attachment will interact to predict behavior. Thus, a secondary aim of this hypothesis is to explore the effects of the interaction term on behavior. Two separate regression models will be examined to test hypothesis 1. Negative behavior will be the criterion in both models.

*Part A:* The first model includes anxious attachment and sociotropy in step one and the interaction term (anxious attachment x sociotropy) in step two. Both anxious attachment and sociotropy are expected to emerge as a significant, main effect predictor of negative behavior. More specifically, relative to those scoring low on anxious attachment, individuals scoring high on anxious attachment are expected to express more negative emotion towards their partners and engage in more negative escalation (Bartholomew & Horowitz, 1991; Hazan & Shaver, 1991; Kobak & Hazan, 1991; Simpson et al., 1996). Sociotropy is expected to be correlated moderately with anxious attachment and to predict similar behaviors (Murphy & Bates, 1997; Zuroff & Fitzpatrick, 1995). If supported, this hypothesis would suggest that when an individual is experiencing stress in his/her

relationship, both interpersonal (anxious attachment) and cognitive (sociotropy) factors influence maladaptive behaviors. If the individual has a negative view of self (anxious attachment) and relies on others for validation and acceptance (sociotropy), he/she may engage in behaviors that have the potential to push his/her partner away and ultimately reinforce his/her low self-esteem.

*Part B:* The second model includes avoidant attachment and autonomy in step one and their interaction term (avoidant attachment x autonomy) in step two. Both avoidant attachment and autonomy are expected to emerge as a significant main effect predictor of negative behavior. Avoidant adult attachment will predict a different quality of behavior in a stressful situation than anxious attachment. Individuals scoring high on avoidant attachment are expected to withdraw more from their partners than individuals scoring low on avoidant attachment (Bartholomew & Horowitz, 1991; Simpson et al., 1996). Additionally, individuals scoring high on avoidant attachment are expected to demonstrate more negativity and negative escalation than individuals scoring low on avoidant attachment, but this relationship will not be as strong as the relationship between anxious attachment and these behaviors. Autonomy is expected to moderately correlate with avoidant attachment and to predict similar behaviors (Murphy & Bates, 1997; Zuroff & Fitzpatrick). If supported, this hypothesis would suggest that a negative model of others (avoidance attachment) and a reliance on independence and achievement for self-worth (autonomy) predict a different quality of maladaptive, interpersonal behaviors that distance the individual from his/her partner.

*Hypothesis 2:* The behaviors predicted by insecure attachment and cognitive-personal style in hypothesis 1 will predict changes in depressive affect from pre- to post-stress induction. One multiple regression model will be tested with negative behavior (negative escalation, negativity, and withdrawal) as the predictor variables and change scores in depressive affect as the criterion. Support for this hypothesis would suggest that negative, interpersonal behaviors in significant relationships lead to a negative change in depressive affect. This expected finding would be consistent with Coyne's (1976) interpersonal model of depression, which maintains that an individual's interactions with his/her social environment influence depressive symptoms.

*Hypothesis 3:* The behaviors predicted by insecure attachment and cognitive personal style in hypothesis 1 will mediate the relationship between insecure attachment, cognitive personal style and changes in depressive affect from pre- to post stress induction. Two separate mediation models will be tested; the first will employ anxious attachment and sociotropy as the independent variables and the second will include avoidant attachment and autonomy as the independent variables. The three negative behaviors (negativity, negative escalation, and withdrawal) will be the mediator variables and change scores in depressive affect from pre- to post stress induction will be the dependent variable. Support for this hypothesis would suggest that maladaptive interpersonal behavior mediates the relationship between interpersonal and cognitive vulnerability and depressive affect. In other words, interpersonal and cognitive factors increase the occurrence of maladaptive interpersonal behaviors during conflict, which in turn increase depressive affect.

*Hypothesis 4:* Significant results from hypothesis 3 will be specific to depressive affect. To test for specificity, the same two mediation models will be tested as in hypothesis 3, except the dependent variable will be changes in anxious affect from pre- to post stress induction instead of changes in depressive affect. If supported, this hypothesis would suggest that the hypothesized relationships between attachment, cognitive personal style and maladaptive interpersonal behaviors are specific to depressive affect.

## Chapter Two

### Method

#### Participants

Eighty-nine individuals currently involved in a romantic relationship that had lasted at least six months participated in this study. Their romantic partners were not involved in the study. Participants were recruited from psychology classes at The University of Montana and they received course credit as compensation for participation. Twenty seven (30.3%) of the participants were male, 61 (68.5%) were female, and 1 (1.1%) was transgender. Ages of the participants ranged from 18 to 45 years, with a mean age of 21.0 (SD=4.6) years. Eighty four (94.4%) of the participants were Caucasian, 2 (2.2%) were Native American, 1 (1.1%) was Asian, and 2 (2.2%) endorsed Other. All participants were required to be in a current relationship; 68 (76.4%) of the participants reported that they were Single but Dating, 17 (19.1%) were Married/ Living as Married/Partnered, 3 (3.4%) were Other, and 1 (1.1%) endorsed more than one category, which includes the previously mentioned categories and Separated, Widowed and Divorced. Months dated for the current relationship ranged from 6 to 168 with a mean of 26.9 (SD=28.3) months. The mean rating for relationship seriousness was 5.97 (SD=1.1) on a Likert scale of 1 to 7, with 1 being “not at all serious” and 7 being “very serious.”

#### Measures

##### *Demographic Questionnaire*

The Demographic Questionnaire consists of items regarding the participant’s age, race/ethnicity, gender, and relationship status. Participants were asked how long they had dated their current partner (in months) and how serious they considered their current

relationship to be, using a 7-point Likert scale (1= *not at all serious*, 7= *extremely serious*).

### *Relationship Questionnaire*

The Relationship Questionnaire consists of three questions: 1) Are you currently in a romantic relationship? 2) If so, how long have you been dating your current partner (in months)? and, 3) Would you be like to be contacted about a study about relationships?

### *Domestic Violence*

The Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) is a measure of the extent to which romantic couples engage in psychological and physical attacks on each other and a measure of their use of negotiating skills to resolve conflicts. It is a 78-item self-report questionnaire with items rated on an 8-point Likert scale (1=*once in the past year*, 7=*not in the past year, but it did happen before*, 0=*this has never happened*). Thirty nine items assess the behavior of the respondent and 39 items assess the behavior of the respondent's partner. There are five subscales: physical assault (e.g., "Threw something at my partner that could hurt"), psychological aggression (e.g., "Insulted or swore at my partner"), negotiation (e.g., "I showed my partner that I cared even though we disagreed"), injury (e.g., "Had a sprain, bruise, or small cut because of a fight with my partner") and sexual coercion (e.g., "Made my partner have sex without a condom"). Alpha reliability coefficients demonstrate that the CTS2 scales have good internal consistency (negotiation = .86, psychological aggression = .79, physical assault = .86, sexual coercion = .87, and injury = .95) (Straus et al., 1996). Evidence for construct and discriminant validity has also been reported (Straus et al., 1996). Since the CTS-2 was used as a measure of domestic violence, only the subscales physical assault and injury were administered.

*Adult Romantic Attachment*

The Experiences in Close Relationships Questionnaire (ECRQ; Brennan, Clark & Shaver, 1998) is a measure of adult romantic attachment that assesses two dimensions: avoidance and anxiety. It is a 36-item self-report questionnaire with items rated on a 7-point Likert scale (1 = *disagree strongly*, 7 = *agree strongly*). Example items from the avoidance scale include: “I get uncomfortable when a romantic partner wants to be close” and “I find it difficult to allow myself to depend on romantic partners.” Example items from the anxiety scale include: “I worry about being abandoned” and “I worry that romantic partners won’t care about me as much as I care about them.”

The ECRQ was developed in response to the problem of having a vast number of adult attachment measures available, but no “gold standard.” Brennan and colleagues (1998) factor analyzed 323 statements derived from 60 existing attachment measures (e.g., Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987) to form the ECRQ. For internal consistency reliability, Brennan and colleagues (1998) reported coefficient alphas of .94 for the Avoidance scale and .91 for the Anxiety scale, and the two scales were fairly orthogonal ( $r = .11$ ). In addition, using hierarchical cluster analysis, Brennan and colleagues (1998) found four groups that were conceptually similar to Bartholomew and Horowitz’s (1991) descriptions of attachment styles (i.e., secure, fearful, preoccupied, dismissing). Because research has demonstrated that the two dimensions of anxiety and avoidance can adequately explain the concept of attachment (Bartholomew & Horowitz, 1991; Brennan et al., 1998), the present study used the two dimensional approach. For this study, the coefficient alpha for the Avoidance scale was .93 and for the Anxiety scale was .91.

*Cognitive Personal Style*

The Personal Style Inventory-2 (PSI-2; Robins et al., 1994) assesses sociotropy and autonomy. The PSI-2 includes two 24-item scales, one for sociotropy and one for autonomy. Each item uses a 6-point Likert scale format (1= *strongly agree*, 6 = *strongly disagree*). The sociotropy scale has three subscales: *Concern Over What Others Think* (e.g., “I am very sensitive to criticism by others”), *Dependency* (e.g., “I find it difficult to be separated from the people I love”), and *Pleasing Others* (e.g., “I often put other people’s needs before my own”). The Autonomy scale also has three subscales: *Perfectionism/Self-Criticism* (e.g., “It bothers me when I feel that I am only average or ordinary”), *Need for Control* (e.g., “I am easily bothered by other people making demands of me”) and *Defensive Separation* (e.g., “I tend to keep other people at a distance”).

Originally designed to address some of the limitations of the Sociotropy and Autonomy Scale (SAS; Beck, Epstein, Harrison, & Emery, 1983), the PSI-2 has demonstrated good internal consistency and test-retest reliability (Bagby et al., 2001; Robins et al., 1994). For example, the sociotropy and autonomy scales have evidenced reasonable internal consistency reliability with alpha coefficients ranging from .83 to .90 and from .79 to .86, respectively (Beck et al., 2001; Beck et al., 2003; Bruch, 2002; Lynch et al., 2003; Robins et al., 1994). Additionally, it has shown good convergent and discriminant validity (Bagby et al., 2001; Robin et al., 1994). The correlation between the two scales has also been low ( $r=.18$ ) (Robins et al., 1994). Finally, coefficient alphas for each of the six subscales have ranged from .70 to .83 (Robins et al., 1994). In line with Coyne and Whiffen’s (1995) recommendations, sociotropy and autonomy were treated as continuous variables in the present analysis. For this study, the coefficient alpha for the Sociotropy scale was .91 and for the Autonomy scale, the coefficient alpha was .91.

### *Depressive Symptomatology*

The Center for Epidemiological Studies – Depression Scale (CES-D; Radloff, 1977) is a 20-item self-report scale that assesses depressive symptomatology over a one-week period. It is intended for use with the general population. Example items include: “I felt that I could not shake off the blues even with help from my family and friends” and “I was bothered by things that usually don’t bother me.” The CES-D uses a 4-point Likert scale (0=*rarely or none of the time*, 4=*most or all of the time*) and scores range from 0 to 60; higher scores indicate greater depressive symptomatology. Radloff (1977), setting a cutoff point of 16 or higher, found that 21% of the participants from community samples and 70% of psychiatric inpatients score above this cutoff point. In light of these data, one may consider a score of 16 to be indicative of significant depressive symptomatology (Radloff, 1977). Alpha coefficients for the CES-D have been reported from .88 to .92, suggesting good internal consistency reliability (Beck et al., 2001; Beck et al., 2003; Marchand, 2004; Marchand-Reilly & Reese-Weber, 2005). For this study, the coefficient alpha was .88.

### *Depressive and Anxious Affect*

The Multiple Affect Adjective Check List- Revised (MAACL-R; Zuckerman & Lubin, 1985) is a measure of anxious and depressed affect that consists of a list of 132 adjectives. Both trait (“*How I generally feel*”) and state (“*How I feel now-today*”) instructions exist. The MAACL-R has two unipolar scales that assess positive affect, *Positive Affect* (PA) and *Sensation Seeking* (SS), and three unipolar scales that assess negative affect, *Anxiety* (A), *Depression* (D), and *Hostility* (H) that were derived from factor analysis (Zuckerman & Lubin, 1985). Coefficient alphas for the state form of the MAACL-R in college samples have ranged from .80 to .96 for four of the unipolar scales.

SS has been the exception with coefficient alphas ranging from .61 to .63 (Lubin, Zuckerman, Hanson, Armstrong, Rinck, & Seever, 1986). Due to the problems of an acquiescence response set, separate T scores have been developed for males and females for three different levels of numbers of items checked, which reduces the intercorrelations between the A, D, and H scales (Zuckerman & Lubin, 1985). Adequate discriminant validity (Lubin, Whitlock, & Zuckerman, 1998; Nagata & Trierweiler, 1988), convergent validity and reliability (Lubin et al., 1986) have been demonstrated. A short form of the MAACL-R includes 66 adjectives used to score the five unipolar scales. The short form has demonstrated similar reliability and validity to the long form (Lubin, Whitlock, Reddy & Petren, 2001). For the sake of brevity, the state version of the MAACL-R short form was used as a measure of pre- and post-stress induction affect. Analyses employed the Anxiety and Depression scales. For this study, the coefficient alpha for the Depression scale pre-stress induction was .84 and the coefficient alpha for the Depression scale post-stress induction was .92. The coefficient alpha for the Anxiety scale pre-stress induction was .84 and the coefficient alpha for the Anxiety scale post-stress induction was .89.

#### *Post Attachment Elicitation Exercise*

The Post Attachment Elicitation Questionnaire (PAEE) measures how stressful the attachment elicitation was with the following three questions that the participant rates on a 7-point Likert scale (1=*not at all stressful*, 7=*extremely stressful*): 1) How stressful was it to write about a recent major disagreement with your romantic partner?, 2) How upset did you feel while writing about this disagreement?, and 3) To what extent was the topic discussed a major problem in your relationship? In addition, the PAEE asks several open-ended, follow-up questions to the AEE: 1) How much were you to blame for this argument and why?, 2) How much was your partner to blame for this argument and why?,

3) What bothered you about your romantic partner's attitudes, habits, and/or behaviors during this particular argument?, and 4) How did you feel during this argument?

*The Managing Affect and Differences Scale (MADS-Revised)*

The Managing Affect and Differences Scale (MADS; Arellano & Markman, 1995) is a 109-item self-report scale that assesses specific communication and conflict management skills used in dyadic interactions. There are 12 subscales that are rated on a 5-point Likert scale: 1) Leveling (e.g., *"When feel hurt by partner, tells him/her"*), 2) Emotional expressivity (e.g., *"Telling partner when pleased with him/her"*), 3) Validation (e.g., *"I listen to partner"*), 4) Love and affection (e.g., *"Love each other"*), 5) Editing (e.g., *"Trying to express appreciation rather than complaints"*), 6) Negative escalation (e.g., *"Negative feelings rise quickly"*), 7) Negativity (e.g., *"We often disagree and quarrel with one another"*), 8) Feedback (e.g., *"When partner does not understand what I have said, he/she asks for elaboration"*), 9) Stop actions (e.g., *"When conflicts get out of hand, agree to stop and talk at a later time"*), 10) Focusing (e.g., *"Try to focus on one problem"*), 11) Withdrawal (e.g., *"When discussing issues, my partner remains silent"*), and 12) Communication over time (e.g., *"Communicate better in the past"*).

Internal consistency reliabilities for the subscales have ranged from .64 (Stop Actions) to .90 (Communication Over Time)(Arellano & Markman, 1995). Overall alpha coefficients have been reported at .91 and .97 (Marchand-Reilly & Reese-Weber, 2005). Discriminant and concurrent validity have also been demonstrated (Arellan & Markman, 1995).

The MADS was used to assess the participant's behavior in the disagreement that the participant described in the attachment elicitation exercise. To accomplish this, the original MADS scale was revised by the Principal Investigator. First, all questions were changed to the past tense to reflect that the argument has already occurred and "I" was

added where appropriate. Second, the Emotional Expressivity subscale was excluded because the behavior assessed was unlikely to happen in a disagreement and was irrelevant to the study's hypotheses (i.e., "*Telling partner when proud*"). Third, five other questions were excluded because the behavior assessed was also irrelevant or unlikely to occur in a disagreement. One question was from the validation subscale (i.e., "*Show interest in partner's activities*") and the other four questions were from the editing subscale (i.e., "*Expressing appreciation for partner's help despite his/her unsuccess,*" "*Even though partner has bad day, tries to be positive,*" "*Even though had a bad day, partner doesn't mind doing me a favor,*" and "*Partner tells me when had a bad day.*") This reduced the number of questions from 109 to 92. In this study, the following scales were used to measure negative behavior: negativity, negative escalation and withdrawal. In this study, the coefficient alpha for the Negativity scale was .84, the coefficient alpha for the Negative Escalation scale was .75 and the coefficient alpha for the Withdrawal scale was .45.

#### *Post Stress-Induction Questionnaire*

The Post Stress-Induction Questionnaire (PSIQ) consisted of two questions to which the participant answers either yes or no 1) Do you feel calm enough to leave the testing procedures?, 2) Do you feel safe enough to leave the testing procedures?

#### Procedure

First, participants were screened for eligibility. To be eligible for this study, the participant must have been in a committed relationship that has lasted for at least six months. Additionally, the participant must not have been involved in domestic violence with his/her partner within the past 12 months. To determine eligibility, interested individuals were invited to a group screening session and completed the relationship

questionnaire and the CTS-2. Once a participant was deemed eligible, he/she was contacted to make an appointment to attend a single research session.

Research sessions were run in small groups of 20-30 participants. The Primary Investigator (PI) or other advanced graduate student ran the testing procedures with one to two trained undergraduate researchers. After informed consent was explained and signed, the participant filled out the following self-report questionnaires: the demographics questionnaire and the MAACL-R. The participant turned in this packet and then received the attachment elicitation exercise.

The attachment elicitation exercise (AEE) asked the participant to write about one of his/her biggest disagreement with his/her romantic partner. The instructions were as follows:

For this exercise, you will need to describe one of the BIGGEST disagreements that you have had with your romantic partner. Imagine that you are writing this for a movie and you need to describe it as if you were telling two actors how to perform it. Take a moment to think about this disagreement in as much detail as possible.

Now write a general description of what the disagreement was about.

Next, write what you said and did and what your partner said and did AS CLOSELY AS YOU CAN REMEMBER. Please be *as detailed as possible* and include both what you SAID (example, "I told him he disappointed me and he said that nothing he does is good enough for me") and what you DID (example, "She sighed, put her head in her hands and started crying"). Write as much as you can, at least one page. If you have any questions about what to write, please raise your hand and a research assistant will assist you.

Once the participant finished this exercise, they received the final packet to fill out. This packet consisted of the MADS, MAACL-R, Post-AEE exercise, PSIQ, CES-D and the recovery exercise. The Recovery Exercise asks the participant to write about a positive experience with his/her romantic partner. The instructions are as follows:

For this exercise, you will need to describe a positive experience that you have had with your romantic partner. Imagine that you are writing this for a movie and you need to describe it as if you were telling two actors how to perform it. Take a moment to think about this positive experience in as much detail as possible.

Now, write a general description of the positive experience.

Next, write what you said and did and what your partner said and did AS CLOSELY AS YOU CAN REMEMBER. Please be *as detailed as possible* and include both what you SAID (example, "I told her that I loved her") and what you DID (example "He hugged me"). Write as much as you can, at least one page. If you have any questions about what to write, please raise your hand and a research assistant will assist you.

Once the participant turned in the final packet, he/she was debriefed. Debriefing included measures to counteract any lingering negative effects from the induction of stress. Participants were reassured that all relationships have disagreements from time to time and that arguments can be a healthy part of strong relationships. They were also given information on counseling resources. Additionally, researchers also checked the following questions on the PSIQ: (1) do you feel calm enough to leave the testing procedures and (2) do you feel safe enough to leave the testing procedures. If the participant answered "No" to either of these questions, then the graduate student assessed the need for further intervention and if necessary walked the participant to a crisis hour at the university's counseling center. The PI's supervisor provided additional backup.

## Chapter Three

Results

Table 1 presents the means and standard deviations among all study variables, excluding demographic variables. Scores for depressive symptomatology on the CES-D ranged from 0 to 33 with a mean score of 11.6 (SD=8.1). Using a cutoff score of 16 (Radloff, 1977), 22 (25.3 %) of the participants endorsed clinically significant depressive symptomatology.

Several participants had less than three missing data points for the sociotropy and autonomy scales of the PSI. To prevent these individuals' data from being excluded in the analyses and subsequently lowering the power, we inputted values for the missing data for these vulnerability factors. These data were created by calculating the participant's mean for the sociotropy scale and inputting this value for the missing data on the sociotropy scale and then following the same procedure for the autonomy scale. This increased the number of participants from 80 to 86 for analyses using the sociotropy scale and from 77 to 86 for analyses using the autonomy scale.

Since gender differences have been reported for depression and attachment style in previous research (Beck et al., 1996; Bartholomew & Horowitz, 1991; Collins & Read, 1990), independent samples *t* tests were conducted for all predictor and criterion variables with gender as the grouping variable. Two significant gender differences were observed. When compared to men, women reported significantly higher depressive symptomatology on the CES-D ( $t(84) = -2.38, p < .05$ ) and higher scores on the PSI Sociotropy scale ( $t(77) = -3.07, p < .01$ ).

Table 2 presents the correlation coefficients among all study variables. Correlational analyses indicated that both anxious attachment and autonomy were

positively correlated with all three measures of negative behavior (i.e., negativity, negative escalation and withdrawal). Sociotropy was positively correlated with only negativity and withdrawal, while avoidant attachment had a significant relationship with withdrawal alone. Negative escalation was the only measure of negative behavior that had a significant correlation with change scores in depressive affect. Additionally, attachment style and cognitive vulnerability had significant correlations with depressive affect pre-attachment elicitation exercise. And, all of these measures except sociotropy had significant correlations with depressive affect post-attachment exercise. However, only autonomy showed a significant correlation with change scores in depressive affect. Neither attachment style nor cognitive vulnerability was significantly associated with change scores in anxious affect.

#### *Attachment and Cognitive Personal Style Predicting Negative Behavior*

Our primary hypotheses stated that attachment style and cognitive vulnerability would emerge as significant simultaneous main effects predicting negative behavior between romantic couples during a stressful situation. In partial fulfillment of the study's secondary aims, we tested whether multiplicative interactions between attachment and cognitive vulnerabilities would significantly augment behavioral prediction.

Hypothesis 1A implicated anxious attachment and sociotropy as simultaneous significant predictors of self-reported negative interpersonal behavior. Three separate multiple regression analyses tested this hypothesis. Anxious attachment and sociotropy were entered simultaneously as the predictor variables in all three analyses. Following Aiken and West (1991), predictor variables were centered to guard against introduction of multicollinearity with multiplicative interaction terms. The multiplicative interaction term (anxious attachment  $\times$  sociotropy) was entered on the second step of these regression

models to facilitate test of our secondary aims. Criterion variables for the three regression models included the following negative behaviors from the MADS: 1) negativity, 2) negative escalation, and 3) withdrawal.

Table 3 presents results of the three models that regressed negative behavior on anxious attachment and sociotropy. In all models, Step 1 included the main effects and Step 2 included the 2-way multiplicative interaction term. Multiple regression analyses indicated that anxious attachment and sociotropy together accounted for 8% ( $F(2,83)=3.41, p<.05$ ) of the variance in negativity (Analysis #1). Although neither anxious attachment nor sociotropy emerged as significant main effects, inspection of semi-partial correlations indicate that the pattern of findings was consistent with expectations in that levels of negativity increased in concert with increasing levels of anxiety and sociotropy. The model's second step, which contained the multiplicative 2-way anxious attachment x sociotropy interaction term, accounted for a nonsignificant ( $F(1,82)=1.68, ns$ ) additional 2% of the variance in negativity.

To better understand the curious finding of a significant model for anxious attachment and sociotropy predicting negativity without a significant main effect, we solved the regression equation for the interaction term, plotting high and low values ( $\pm 1$  sd from the mean) of the predictor variables (Aiken & West, 1991; Cohen & Cohen, 1983). Figure 2 presents the graphical representation of this solution. Examination of the figure clearly suggests that the effects of sociotropy on negativity are *not* conditional on the effects of anxious attachment. Rather, increasing levels of negativity occur with increasing levels of sociotropy, irrespective of the level of anxious attachment. Additionally, negativity appears to increase minimally with increasing levels of anxious

attachment. Thus, this graphical solution suggests that sociotropy has the most impact on negativity.

Analyses #2 and #3 (See Table 3) regressed anxious attachment and sociotropy on negative escalation and withdrawal, respectively. In each of these models, main effects for anxious attachment and sociotropy combined to account for approximately 6% of the variance in the respective criteria variables (Negative Escalation:  $F(2,83)=2.40, p=.10$ ; Withdrawal:  $F(2,83)=2.55, p=.08$ ). Contrary to expectations, however, neither sociotropy nor anxious attachment emerged as significant main effect predictors of the criterion variables in either model ( $ps>.05$ ). Moreover, the multiplicative interaction terms entered on the models' second steps failed to augment prediction.

Gender effects. Since gender differences emerged for sociotropy, the same three regression analyses were run separately for men and women. Appendices 1 and 2 present these results. For men, the main effects sociotropy and anxious attachment accounted for a nonsignificant 18% of the variance in Negativity ( $F(2,21)=2.29, ns$ ). The multiplicative sociotropy x anxious attachment interaction term on the model's second step failed to augment prediction. Presented as analysis # 2, sociotropy and anxious attachment combined to account for 25% of the variance in negative escalation ( $F(2,21)=3.57, p<.05$ ). Although neither main effect emerged as significant on its own, inspection of the semi-partial correlations suggested a pattern of results consistent with hypotheses. More specifically, negative escalation increased in concert with increasing levels of sociotropy and anxious attachment. The 2-way interaction term entered on Step 2 failed to augment the model's prediction of negative escalation.

Finally, presented as Analysis #3, sociotropy and anxious attachment combined to account for 25% of the variance in withdrawal ( $F(2,21)=3.40, p=.053$ ) among men.

Neither main effect predictor emerged as significant on its own, and the 2-way multiplicative interaction term entered on the model's second step failed to augment prediction. None of the models was significant for predicting any of the three indicators of negative behavior in women.

The analyses for hypothesis 1B mirrored those of hypothesis 1A, except that the predictor variables were avoidant attachment and autonomy entered on Step 1 and their multiplicative interaction term entered on Step 2. Analyses #1, #2 and #3 in Table 4 present the results of multiple regression models that regressed negativity, negative escalation and withdrawal, respectively, on avoidant attachment and autonomy.

As presented in analysis #1, avoidant attachment and autonomy accounted for 7% of the variance ( $F(2,83)=3.13, p<.05$ ) in negativity. A significant main effect was observed for autonomy but not for avoidant attachment. This effect suggested that levels of negativity increased in concert with higher degrees of autonomy. Moreover, the model's second step containing the 2-way autonomy x avoidant attachment interaction term accounted for a significant additional 6% of the variance in negativity ( $F(1,82)=5.30, p<.05$ ). To examine the nature of the multiplicative interaction term, we solved the regression equation, plotting high and low values ( $\pm 1$  sd from the mean) of the predictor variables (Aiken & West, 1991; Cohen & Cohen, 1983). Figure 3 presents the graphical representation of this solution. Examination of the figure clearly suggests that the effects of autonomy are conditional on the effects of avoidant attachment. As would be expected, the lowest levels of negativity are evident among persons with low autonomy and low avoidant attachment. For those high in avoidant attachment, level of autonomy does not appear to have a dramatic effect on negativity during relational conflict. In other words, regardless of whether autonomy scores are high or low,

individuals with high levels of avoidant attachment are more likely to engage in negativity. In contrast, autonomy's effects on negativity are more extreme in persons with low levels of avoidant attachment. In other words, as levels of avoidant attachment decrease, autonomy's concurrent effect on negativity increases.

Contrary to hypotheses, on Step 1 in Analysis #2, avoidant attachment and autonomy accounted for a nonsignificant 5% of the variance in negative escalation ( $F(2,83)=2.29, ns$ ). In the model's second step, however, the multiplicative 2-way autonomy x avoidant attachment interaction accounted for a marginally significant additional 3% of the variance ( $F(1,82)=3.03, p=.09$ ). As before, we solved the regression equation to facilitate understanding of this interaction. The solution is depicted in Figure 4, which presents a pattern of results similar to negativity. Again, as expected, the lowest levels of negative escalation occur when avoidant attachment and autonomy are low. Also, the detrimental effect of autonomy on negative escalation is greater when avoidant attachment is low.

Finally, Analysis #3 examined autonomy and avoidant attachment as predictors of withdrawal. The model's first step accounted for 14% of the variance in withdrawal ( $F(2,83)=6.88, p<.01$ ), with both autonomy and avoidant attachment emerging as marginally significant simultaneous main effect predictors ( $p=.06$  &  $p=.07$ , respectively). These findings suggested that withdrawal increased in concert with increasing levels of autonomy and avoidant attachment. The model's second step, including the 2-way autonomy x avoidant attachment interaction term, accounted for an additional 4% of the variance in withdrawal ( $F(1,82)=3.88, p=.05$ ). The solution for this interaction term is presented in Figure 5. As in the previous two analyses, the lowest levels of withdrawal occur when both avoidant attachment and autonomy are low. High avoidance is

associated with higher withdrawal across levels of autonomy, and the effect of autonomy on withdrawal is most apparent among participants with low avoidant attachment.

#### *Behavior Predicting Negative Affect*

Hypothesis 2 stated that the negative behaviors predicted by insecure attachment and cognitive personal style in hypothesis 1 would predict changes in depressive affect from pre-attachment elicitation exercise to post-attachment elicitation exercise. Table 5 presents changes in depressive affect regressed on the three negative behaviors (negativity, negative escalation, and withdrawal), which were entered simultaneously on a single step. The three behaviors combined to account for a significant 10% of the variance in change in depressive affect ( $F(3,83)=3.10, p<.05$ ). There was a significant main effect for negative escalation. As hypothesized, this effect suggested that changes in depressive affect increased in concert with increasing levels of negative escalation. In other words, those participants who reported higher levels of negative escalation in the imagined stress induction experienced the greatest increases in depressive affect.

Due to previously reported gender differences on the measure of depressive symptomatology, separate analyses were run for males and females. Appendix 3 presents the results. There were no significant results for either men or women. A lack of findings for these analyses is likely due to low power.

#### *Mediation Model*

Hypothesis 3 stated that the behaviors predicted by insecure attachment and cognitive personal style in hypothesis 1 would mediate the relationship between insecure attachment, cognitive personal style, and changes in depressive affect. To test this hypothesis, the methods suggested by Baron and Kenny (1986) were used. Baron and Kenny (1986) indicate that to test mediation, three regression equations need to be

estimated: 1) the independent variable predicting the mediator variable, 2) the independent variable predicting the dependent variable, and 3) the independent variable and the mediator variable predicting the dependent variable simultaneously. Significant predictions should be present for all three equations, and in addition, mediation requires that the effect of the independent variable on the dependent variable needs to be less in the third equation than in the second equation (Baron & Kenny, 1986).

In this study, the independent variables are insecure attachment and cognitive-personal style, the mediator variables are the behaviors, and the dependent variable is change in depressive affect. Two separate mediation models were tested; one for anxious attachment and sociotropy and one for avoidant attachment and autonomy.

For anxious attachment and sociotropy, part one of Baron and Kenny's (1986) methods (the independent variable predicting the mediator variable) was calculated in hypothesis 1. Whereas anxious attachment and sociotropy combined to account for a significant portion of the variance in negativity, they did not predict significant proportions of negative escalation or withdrawal. Their interaction term did not add significantly to any of these models and thus was not tested for mediation. To test part two, (the independent variable predicting the dependent variable), change in depressive affect was regressed on anxious attachment and sociotropy. Table 6 (Analysis #1) presents the results of this model. Contrary to expectations, anxious attachment and sociotropy were not significant predictors of change scores in depressive affect ( $F(2, 81) = 1.21, ns$ ). Consequently, part three of the mediation model (the independent variable and the mediator variable predicting the dependent variable simultaneously) was not tested for anxious attachment and sociotropy (Baron & Kenny, 1986).

For avoidant attachment and autonomy, part one of Baron and Kenny's (1986) methods (the independent variable predicting the mediator variable) was calculated in hypothesis 1. Avoidant attachment and autonomy combined to account for significant proportions of the variance in negativity and withdrawal, but not negative escalation. The interaction term in step two of these analyses added significant predictive ability for negativity and withdrawal and was a marginally significant predictor for negative escalation. To test part two, (the independent variable predicting the dependent variable), avoidant attachment and autonomy were entered as simultaneous predictor variables in step one, the interaction term was entered in step two, and change in depressive affect was entered as the criterion variable. Table 6 (Analysis #2) presents the results of this model. Avoidant attachment and autonomy approached significance for predicting change scores in depressive affect ( $F(2, 81) = 2.87, p = .06$ ) in step one and accounted for 7% of its variance. The interaction term did not add predictive ability to this model ( $F(1, 80) = 1.76, p > .05$ ). Since the results were marginally significant, part three of the mediation model (independent variable and mediator variable simultaneously predicting criterion variable) was not tested (Baron & Kenny, 1986).

#### *Specificity of Results to Depression*

Hypothesis 4 stated that the mediation analysis from hypothesis 3 would be specific to depressive affect. To test for specificity, the same analyses from hypothesis 3 were run, except change in anxious affect were considered the dependent variable instead of change in depressive affect.

For anxious attachment and sociotropy, part one of Baron and Kenny's (1986) methods (the independent variable predicting the mediator variable) was calculated in hypothesis 1. To test part two, (the independent variable predicting the dependent

variable), change in anxious affect was regressed on anxious attachment and sociotropy. Table 7 (Analysis #1) presents these results. Anxious attachment and sociotropy were not significant predictors of change scores in anxious affect. Consequently, part three of the mediation model (the independent variable and the mediator variable predicting the dependent variable simultaneously) was not tested (Baron & Kenny, 1986).

For avoidant attachment and autonomy, part one of Baron and Kenny's (1986) methods (the independent variable predicting the mediator variable) was calculated in hypothesis 1. To test part two, (the independent variable predicting the dependent variable), change in anxious affect was regressed on avoidant attachment and autonomy. Table 8 (Analysis #2) presents these results. Avoidant attachment and autonomy were not significant predictors of change scores in anxious affect. Consequently, part three of the mediation model (the independent variable and the mediator variable predicting the dependent variable simultaneously) was not tested (Baron & Kenny, 1986).

## Chapter Four

### Discussion

The present study sought to integrate cognitive theory and interpersonal theory in conceptualizing depression vulnerability. To accomplish this, cognitive-personality style, romantic attachment, communication and conflict resolution skills, and changes in depressive affect pre- and post-stress-induction were assessed in a non-clinical sample of undergraduate students in committed, romantic relationships. The primary hypothesis of this study was that insecure attachment and negative cognitive style each accounted for unique sources of variance in predicting dysfunctional, interpersonal behaviors in conflict situations. These behaviors were then hypothesized to predict changes in depressive affect. The specificity of this study's significant findings for depression was also assessed.

With respect to the present study's sample, significant gender differences were reported for depressive symptomatology and for the cognitive-personality style of sociotropy. More specifically, females scored significantly higher than males on the measure of depressive symptomatology. This finding is consistent with epidemiological data, which has demonstrated that depression occurs twice as frequently in women as in men (American Psychiatric Association, 2000). Females also scored significantly higher than males on the sociotropy scale of the PSI. Previous research has shown either no significant gender differences (Bieling & Alden, 2001; Gorski & Young, 2002; Mendelson et al., 2002; Robins et al., 1994; Shih 2006) for the sociotropy scale or small, significant gender differences in the same direction as the present study (Bruch, 2002; Robins et al., 1994). These findings suggest that females might be more prone to

depression due to relational factors. Analyses utilizing either depressive affect or sociotropy were tested separately for males and females to determine if gender impacted the results. Specific findings are discussed within the relevant hypotheses.

### *Correlational Analyses*

As expected, sociotropy demonstrated a statistically significant, moderate positive relationship with anxious attachment. In other words, levels of sociotropy increased in concert with levels of anxious attachment. This finding is in line with previous research and provides support for the conceptual similarity between these two constructs (Murphy & Bates, 1997; Zuroff & Fitzpatrick, 1995). Both anxiously attached and sociotropic individuals base their sense of self-worth on the love and care they receive from others, intensely fear abandonment, and are more willing to appease partners when in conflict to maintain relationship harmony and closeness (Bartholomew & Horowitz, 1992; Bieling & Alden, 2001; Beck, 1983; Whisman & Friedman, 1998; Zuroff & Fitzpatrick, 1995). Nevertheless, there are differences between these constructs as well. For example, anxious attachment and sociotropy have been related to different maladaptive conflict resolution strategies in previous research. While anxiously attached individuals tend to respond less positively to partners and express more negative emotion when in conflict, sociotropic individuals tend to act more passively (Simpson et al., 1996; Whisman & Friedman, 1998).

Additionally, significant relationships were observed for anxious attachment and negative behavior (negativity, negative escalation and withdrawal) between couples in conflict. As expected from previous research findings (Feeney, 2004; Pietromonaco et al., 2004; Simpson et al., 1996), greater levels of anxious attachment corresponded with greater levels of ineffective or destructive conflict resolution tactics, such as responding

more negatively to their partners, expressing negative emotion, or withdrawing from the argument altogether. The intense fear of abandonment aroused in anxiously attached individuals when in relational conflict may lead them to engage in maladaptive behaviors as desperate (and often ineffective) attempts to get their partners to demonstrate caring.

Sociotropy, on the other hand, evidenced small, statistically significant relationships with negativity and withdrawal, but not with negative escalation. The lack of a significant finding for negative escalation makes conceptual sense in light of previous studies, which have indicated that highly sociotropic individuals are more likely to appease their partners or withdraw from conflict than put the relationship in jeopardy (Bieling & Alden, 2001; Whisman & Friedman, 1998). Thus, sociotropic individuals do not seem to act aggressively in conflict, but may demonstrate their displeasure through “nagging” and “complaining”.

As expected, autonomy demonstrated a statistically significant, moderate positive relationship with avoidant attachment. In other words, levels of autonomy increased in concert with levels of avoidant attachment, which is line with previous research that supports the conceptual similarity of these two constructs. Both avoidantly attached and autonomous individuals avoid emotional intimacy in relationships. Autonomous individuals avoid intimacy because of their focus on maintaining self-control and attaining career success (Beck, 1987; Zuroff & Fitzpatrick, 1995). Avoidantly attached individuals avoid intimacy because they view others as untrustworthy and rejecting (Hazan & Shaver, 1987).

Autonomy demonstrated statistically significant, small positive relationships with negative behavior, including negative escalation, negativity and withdrawal. Autonomy has been linked with both interpersonal and achievement related stress in previous

research and individuals scoring high on autonomy have demonstrated negative, interpersonal characteristics, such as overassertiveness, suspiciousness, anger, difficulty experiencing and expressing affect, and social withdrawal (Bieling & Alden, 2001; Nelson et al., 2001; Whisman & Friedman, 1998). Avoidant attachment, on the other hand, evidenced a significant positive relationship with withdrawal alone. This follows previous research, which has indicated that individuals scoring high in avoidant attachment are less likely to express emotion (either positive or negative) and are more likely to withdraw from or avoid others when in conflict than individuals scoring low on avoidant attachment (Bartholomew & Horowitz, 1991; Simpson et al., 1996).

Contrary to expectations, negative escalation was the only negative behavior to have a significant, positive relationship with change scores in depressive affect. Thus, individuals who retroactively remembered engaging in negative escalation with their partners during conflict demonstrated an increase in depressive affect. The positive finding for negative escalation supports Coyne's interpersonal model of depression (1976). Coyne's model proposes that depressed individuals engage in a pattern of negative behavior with significant others that ultimately pushes them away and reinforces the depressed individuals' low self-esteem. Negative escalation may represent a more maladaptive pattern of communication than negativity and withdrawal, because this behavior suggests that the argument and each individual's temper are rapidly spiraling out of control. Negativity and withdrawal may represent less severe and more passive forms of negative communication that --while still negative-- do not have as great an impact on a person's mood at one point in time. Perhaps, these behaviors are more likely to impact a person's level of depression over time and over the course of many arguments.

Insecure attachment (anxious attachment and avoidant attachment) had significant, positive correlations with depressive affect pre- and post-stress induction. As insecure attachment increased, depressive affect increased. Contrary to hypotheses, neither type of insecure attachment had a significant correlation with change scores in depressive affect. This is surprising given the amount of past research establishing a relationship between insecure attachment and depression (Bifulco, Moran, Ball, & Bernazzani, 2002; Carnelly et al., 1994; Murphy, & Bates, 1997; Simpson & Rholes, 2004; Strodl & Noller, 2003; West & George, 2002; Whiffen, Kallos-Lilly, & MacDonald, 2001). The stress-induction procedure of retroactively remembering a single conflict may not have been sensitive enough to demonstrate a relationship between these variables. Or, in other words, allowing the participant to recall a single past argument of his or her choosing might not have elicited enough attachment-related thoughts and feelings to affect mood in the laboratory. In an attempt to avoid negative experience, for example, some participants might have chosen to recall a relatively safe and non-painful argument.

Although sociotropy was only associated with depressive affect pre-stress induction, autonomy demonstrated a significant relationship with change scores in depressive affect. With increasing levels of autonomy came increasing levels of depressive affect over the course of the stress induction. This finding suggested that autonomy emerged as the most salient vulnerability factor for depression in the present study. Having a cognitive style in which one works to maintain independence and self-control appears to leave these individuals susceptible to negative changes in affect when they are in conflict with their romantic partners. As expected, neither insecure attachment nor cognitive-personality factors were associated with change in anxious affect.

*Attachment and Cognitive Style Predicting Negative Behavior*

Hypothesis 1 tested whether the main effects of insecure attachment and cognitive-personal style would emerge as significant, simultaneous predictors of negative behavior between romantic couples in conflict. Two sets of regression models were fit; the first tested anxious attachment and sociotropy simultaneously and the second tested avoidant attachment and autonomy simultaneously. As a secondary aim of this study's hypotheses, the multiplicative 2-way interactions between attachment and cognitive vulnerability were explored in the second step of these analyses. Examination of the interaction term assessed whether the effects of one vulnerability variable were moderated by the other.

Part A: Anxious Attachment and Sociotropy Predicting Negative Behavior

Results of the first model (anxious attachment and sociotropy predicting negative behavior) offered partial support for hypothesis 1. Anxious attachment and sociotropy simultaneously predicted negativity between romantic couples in conflict. While significant main effects were not observed for either of these variables, an examination of semi-partial correlation coefficients suggested that negativity increased with increasing levels of sociotropy and anxious attachment. Contrary to expectations, the interaction term did not add significantly to this model. When the graphical solution to this equation was examined, sociotropy demonstrated a larger impact on negativity than anxious attachment. No significant findings were observed for anxious attachment and sociotropy as predictors of negative escalation and withdrawal.

Several points can be taken from these findings. First, although anxious attachment and sociotropy combined to account for a significant portion of the variance in negativity, neither variable was significant on its own as a main effect. Nevertheless,

when the regression equation was graphed, sociotropy clearly demonstrated a greater impact on negativity than anxious attachment. Additionally, sociotropy's effects on negativity did not appear to be moderated by level of anxious attachment. One possible explanation for these curious findings is that sociotropy is a better predictor of negativity overall, but some level of anxious attachment is needed before sociotropy evidences a significant relation with expression of negative emotion in conflict. In other words, individuals who rely on others for validation or acceptance (i.e., high on sociotropy) might be more vulnerable to expressing negative emotion in conflict, especially when these individuals also question their self-worth (i.e., anxiously attached). Being in conflict might arouse this individual's abandonment fears and lead to the possible subsequent reduction in his or her already low sense of self-worth. This situation may then cause the person to either impulsively express negative feelings and attitudes or attempt to obtain reassurance from the partner (i.e., "if she really cares about me, she will fight back or try to appease me").

Second, some researchers have argued that aspects of sociotropy may not necessarily be maladaptive. This argument follows observations that a link between sociotropy and nonassertive behavior and intrusiveness in conflict situations is no longer significant when accounting for negative affect (Whisman & Friedman, 1998). Perhaps in the present study, sociotropy did not produce a main effect (i.e., a robust result) because aspects of the scale are not necessarily maladaptive. For example, items on the sociotropy scale of the PSI such as "I worry a lot about hurting or offending other people," "I try to please others too much," "It is very important to me to be liked and admired by others," and "I feel I have to be nice to people" reflect these individuals' attempts to maintain closeness with others, which may counteract other more conflictual behaviors. Thus,

instead of being maladaptive on their own, these sociotropic aspects might become most problematic and impact behavior when coupled with a tenuous working model of romantic relationships (i.e., anxious attachment).

These findings are also particularly interesting because they appear to contrast with previous research, which has demonstrated a significant connection between anxious attachment and maladaptive conflict resolution skills (Bartholomew & Horowitz, 1991; Hazan & Shaver, 1991; Kobak & Hazan, 1991; Simpson et al., 1996). A number of possible explanations exist for the difference between the present and extant analyses. First, previous studies utilized measures of behavior that examined patterns across the relationship, while this study examined behavior in one, distinct conflict situation that was retroactively remembered. This conflict situation may not have been sensitive enough to pick up on main effects, especially since couples that had engaged in any form of domestic violence in the past year were excluded from participation. This exclusion may have created an unintended ceiling effect, which restricted the intensity or types of conflict situations under examination. Considering the limitations of this study (i.e., no history of domestic violence and one conflict situation), the findings that anxious attachment and sociotropy simultaneously predicted negativity and that sociotropy seems to account for most of this relationship appears to be an important one and speaks to the possible impact of these variables on behavior.

Finally, the same fear of abandonment that arouses expressed negative emotion in individuals scoring high on sociotropy and anxious attachment may also provide a possible explanation for the lack of significant findings for negative escalation and withdrawal. Research has indicated that sociotropic individuals are more likely to appease their partners when in conflict, demonstrate nonassertive behavior and intrusiveness, and

attempt to maintain closeness with others (Bieling & Alden, 2001; Whisman & Friedman, 1998). It is possible that fear of abandonment prevents the anxiously attached, sociotropic individual from engaging in more assertive and overtly destructive behavior such as escalating the argument quickly, losing one's temper (i.e., negative escalation) or withdrawing completely (i.e., withdrawal). Instead, these individuals may experience the conflict internally and demonstrate it more passively by expressing their distress through negative attitudes and feelings and by "nagging" their partners.

### Gender Differences

When the previous analyses were tested separately by gender, men demonstrated a pattern of results slightly different from the ones just described. In other words, anxious attachment and sociotropy in men combined to predict negative escalation and withdrawal (marginally significant), but not negativity in a conflict situation. There are a number of potential explanations for the lack of findings for negativity in men. First, it is possible that the sample size was too small to detect an effect. Second, it is possible that men are less likely than women to engage in negativity overall. Research has demonstrated that men tend to be more inexpressive than women in relationships (Dosser, Balswick, & Halverson, 1986). Consequently, the men in this study might have been less likely to "make complaints" or "nag" their partners.

The positive findings for negative escalation and withdrawal are intriguing, especially given that men scored significantly lower on the sociotropy scale than women. Among men, higher levels of sociotropy and the subsequent desire to maintain relationships might prevent these individuals from engaging in more aggressive forms of conflict tactics, such as negative escalation and withdrawal. When lower levels of sociotropy are present alongside concerns of abandonment--as in the case of men with

high anxious attachment-- overt aggressive behavior may be more likely. Conversely, the lack of significant findings for women for negativity may be explained by a small sample size, while the lack of significant findings for women for negative escalation and withdrawal may be explained by women scoring higher than men on the sociotropy scale. In other words, because women have higher levels of sociotropy, they might be less likely to engage in aggressive behaviors such as negative escalation and withdrawal.

#### Part B: Avoidant Attachment and Autonomy Predicting Negative Behavior

The second model of hypothesis one (avoidant attachment and autonomy predicting negative behavior) was also partially supported. Avoidant attachment and autonomy were significant, simultaneous predictors of negativity. Autonomy demonstrated a main effect relationship with negativity, suggesting that levels of negativity increased in concert with increasing levels of autonomy. Additionally, the multiplicative two-way interaction between avoidant attachment and autonomy contributed significantly to the model, which suggested that the effect of autonomy on negativity was conditional on the effect of avoidant attachment. Avoidant attachment and autonomy simultaneously predicted withdrawal as well, with both variables emerging as marginally significant main effects. In other words, withdrawal increased in concert with increasing levels of avoidant attachment and autonomy. The multiplicative interaction term contributed significantly to the prediction of withdrawal, suggesting that the effect of autonomy on withdrawal was conditional on the effect of avoidant attachment. Contrary to hypotheses, the main effects of avoidant attachment and autonomy did not significantly predict negative escalation. However, their interaction term was a marginally significant predictor. A pattern of results similar to negativity and withdrawal was observed.

Let us first consider the results for negativity. Whereas simple and cursory consideration suggests that the use of negativity to resolve conflict increases in concert with increasing avoidant attachment and autonomy, closer inspection reveals the interactive complexity of the relationship among these constructs.

First, autonomy seems to have greater predictive power than avoidant attachment in that it produced a main effect, while avoidant attachment did not. Research has shown that conflict tends to arise in relationships for autonomous individuals when they feel that others are trying to control them (Beck, 1987; Zuroff & Fitzpatrick, 1995). Negativity, as operationalized by the MADS, included controlling behavior by either the participant or the participant's partner. Some examples of these behaviors include, "we attacked each other and did not listen to each other's gripes," "my partner hassled and nagged me," and "when I made complaints, my partner did too." Thus, a possible explanation for autonomy's main effect relation with negativity is that highly autonomous individuals may be more concerned with who controls an argument. As a consequence, a high autonomy person may be more likely to engage in controlling tactics (i.e., negativity) to maintain his or her sense of self-control, independence, and ultimately, his or her sense of self-worth.

Our failure to observe the expected avoidant attachment main effect reported in previous studies (Bartholomew & Horowitz, 1991; Simpson et al., 1996) could be due to design issues. The present study utilized a different measure to assess conflict and communication styles than previous research. Moreover, we focused on one retroactively remembered conflict situation, and it is possible that a main effect relationship for avoidant attachment would emerge in examination of cross-situational aggregation of behavior. In essence, then, the possibility exists that the present study was not sensitive

enough to observe a main effect. Additionally, previous research has not found consistent results for avoidant attachment impacting behavior in conflict situations (Simpson et al., 1996). Rather, the negative behaviors associated with avoidant attachment have been demonstrated more in fear-provoking situations (Rholes et al., 1999; Simpson et al., 1992).

Another possible reason for the main effect's absence implicates the significant autonomy  $\times$  avoidant attachment interaction, which suggested that autonomy's effect on negativity was conditional on the level of avoidant attachment. Instead of exacting a main effect relation on its own, avoidant attachment's important role lies in its moderation of the relation between autonomy and negativity. As expected, the lowest levels of negativity were evident among persons with low autonomy and low avoidant attachment. For those high in avoidant attachment, although there did not appear to be a dramatic effect of level of autonomy on negativity, there was a tendency for avoidant attachment's effects to decrease as autonomy increases. In persons with low levels of avoidant attachment, autonomy's effects on negativity are more extreme. To explore the meaning of this interaction, a discussion of the similarities and differences between avoidant attachment and autonomy is needed.

Both avoidant attachment and autonomy have been associated with avoiding emotional intimacy. Whereas autonomous individuals may fear being close because they do not want to lose control or feel dependent on someone else, avoidantly attached individuals fear being emotionally close (although they internally long for this) because they expect others to be untrustworthy, unavailable and rejecting (Beck, 1987; Bowlby, 1980; Hazan & Shaver, 1987; Zuroff & Fitzpatrick, 1995). If a highly autonomous individual *or* a highly avoidant individual conflicts with a partner, he/she appears likely

to engage in negativity as a way to regain control of the situation and assert his/her independence. However, with increasing levels of *both* autonomy and avoidant attachment in the same person, negativity decreases, although it still occurs in greater levels than if the individual scored low on both constructs. One possible explanation is that a highly autonomous, avoidantly attached individual may value independence so much that he/she is not emotionally involved enough to become very negative. Or in other words, despite becoming annoyed and acting somewhat negatively toward their partners, these individuals may not let themselves care enough or become emotionally involved enough in the relationship to evidence the negative behaviors assessed in the present study. Another possible explanation implicates the fact that the conflict strategies scale assesses both the participant's behavior and that of his or her partner. Levels of negativity may decrease when an individual is highly autonomous and avoidantly attached because his/her partner has learned to retreat when this individual asserts his/her control.

Next, let us consider the results for withdrawal. The marginally significant main effects for autonomy and avoidant attachment suggest that withdrawal behaviors increase in concert with increasing levels of autonomy and avoidant attachment. These findings parallel research in which autonomy and avoidant attachment independently predicted withdrawal and avoidance in conflict situations (Bartholomew & Horowitz, 1991; Bieling & Alden, 2001; Nelson et al., 2001; Simpson et al., 1996; Whisman & Friedman, 1998).

However, as in the case with the prediction of negativity, the significant interaction between avoidant attachment and autonomy in predicting withdrawal indicates that the relationship between these constructs is not as simple as the main effects suggest. As expected based on the main effects, the lowest levels of withdrawal occurred when

both avoidant attachment and autonomy were low. Additionally, high avoidance was associated with higher withdrawal across levels of autonomy. Thus, persons with high levels of avoidant attachment tend to withdraw from conflict regardless of whether or not they are highly autonomous. Avoidant attachment, as the name suggests, has been associated with avoidant behavior since its conceptualization by Bowlby in 1980. Withdrawal is one way in which avoidantly-attached individuals avoid relationship oriented emotions and feelings. They might not allow themselves to get overly engaged in conflict because this may arouse latent fears of rejection. Instead, they avoid conflict and the feelings associated with it altogether. Since the measure of withdrawal includes ratings of both the participant and his/her partner, these findings might indicate that the partners of highly avoidant individuals also tend to withdraw in reaction to and/or because they are frustrated by their partner's withdrawal. In other words, avoidantly attached individuals may behave in ways that unwittingly elicit the type of rejecting behaviors (i.e., withdrawal) that they expect.

Furthermore, the effect of autonomy on withdrawal was strongest among participants with low avoidant attachment. Autonomous individuals may withdraw from conflict for different reasons than avoidantly-attached individuals. For example, since autonomous individuals' self-worth depends on their perceptions of themselves as independent and self-reliant, they may withdraw to demonstrate to themselves and/or others that they do not require the relationship and, hence, do not need to resolve conflict. Another possible explanation stems from consideration of the possible developmental social learning experiences of autonomous people. Recall that personal success and independent achievement characterizes autonomous individuals and provides the basis for their sense of self-worth. Given autonomy's inherent defensive separation, these persons

might not experience enough 'working through' of interpersonal difficulties to facilitate development of interpersonal conflict resolution skills. In the absence of conflict resolution facility, autonomous persons might withdraw. This withdrawal might then contribute to experiences of chronic interpersonal stress, which has been reported in the literature (Nelson et al., 2001).

As levels of avoidant attachment decrease in highly autonomous individuals, they appear to withdraw even more, which seems counterintuitive due to avoidant attachment's relationship with withdrawal. However, persons with an avoidant attachment style are hypothesized to have latent attachment related cognitions and feelings that they must fight to suppress in order to remain in control, indicating that underneath it all, they want closeness and fear the rejection they expect (Campbell et al., 2001; Rholes et al., 1999). Perhaps, when highly autonomous individuals do not have simultaneous high levels of avoidant attachment, their potentially destructive withdrawal behavior is not reigned in by latent fears of rejection.

Finally, let us consider the results for negative escalation. The main effects of autonomy and avoidant attachment did not simultaneously predict negative escalation, but their interaction term was marginally significant. As with negativity and withdrawal, the results of autonomy on negative escalation were more powerful when avoidant attachment was low.

Negative escalation describes a behavioral pattern of negative messages followed by other increasingly negative messages. Thus, the lack of a significant main effect for avoidant attachment is aligned with previous research in which avoidantly-attached individuals are unlikely to express positive or negative emotion (Bartholomew & Horowitz, 1991; Simpson et al., 1996). Similarly, previous research has noted that highly

autonomous individuals have difficulty experiencing and expressing affect (Bieling & Alden, 2001; Nelson et al., 2001; Whisman & Friedman, 1998).

While neither avoidant attachment nor autonomy predicts negative escalation on its own, the interaction of these two vulnerability factors appears to have some effect on this behavior. Past studies have shown that individuals scoring high on autonomy are more likely than those low in autonomy to demonstrate anger (Bieling & Alden, 2001; Nelson et al., 2001; Simpson et al., 1996; Whisman & Friedman, 1998). Consequently, highly autonomous individuals may be irritated by their partners and likely to show it during conflict. This might be due to a desire to establish control over their feelings about the relationship and a corresponding lower degree of concern about appeasing their partners overall. Negative escalation increases in these individuals as avoidant attachment decreases. The suppression of the experience and expression of emotion in highly avoidant individuals may reduce the experience of expressed anger in autonomous individuals.

In summary, having a negative model of others (avoidance attachment) and a reliance on independence and achievement for self-worth (autonomy) predicts a different quality of maladaptive, interpersonal behaviors that distance the individual from his/her partner than having a negative model of self (anxious attachment) and reliance on relationships (sociotropy). In all three behavioral models (i.e., negativity, negative escalation and withdrawal), the interactive effect between avoidant attachment and autonomy played an important role in predicting behavior. The greatest impact on behavior occurred when levels of autonomy were high and levels of avoidant attachment were low. Overall, these results suggest that high levels of avoidant attachment may suppress some of the negative emotional expressions or behaviors of highly autonomous

individuals. This finding makes conceptual sense given that avoidantly attached individuals tend to suppress attachment related thoughts and feelings (Bowlby, 1980).

#### *Negative Behavior Predicting Change Scores in Depressive Affect*

Hypothesis 2 stated that the negative behaviors predicted by insecure attachment and cognitive personal style in hypothesis 1 (i.e., negativity, negative escalation and withdrawal) would predict changes in depressive affect from pre- to post-stress induction. This hypothesis was partially supported. Multiple regression analyses indicated that negative behavior was predictive of change scores in depressive affect, but only negative escalation evidenced a significant main effect. When this analysis was run separately for gender, the previous findings were no longer significant.

Several conclusions can be reached from these findings. First, retroactively remembering maladaptive behaviors in a conflict situation appears to negatively impact an individual's mood. These results support Coyne's interpersonal model of depression, which suggests that negative behavior in social interactions plays a role in developing and maintaining depression (Coyne 1976; Coyne et al., 1991). Thus, recalling a pattern of communication in which there was a rapid escalation of negative feelings and responses affects an individual's contemporary feelings. Over time, repeated experiences or recollections of negative escalation might negatively impact the quality of the relationship and lead to more significant symptoms of depression. In light of previous research that has observed a different directional relationship in which depressive symptoms impact responses to relationship distress (Coyne et al., 2002; Marchand, 2004; Marchand & Hock, 2000; Marchand-Reilly & Reese-Weber, 2005), further study regarding the connections among mood and negative relationship behavior needs to be conducted. Nevertheless, because the present study observed an effect from pre-to post-stress

induction, it appears likely that remembering negative behavior had some impact on the individual's mood. Consistent with Coyne's model, depressive experiences and relational difficulties might work in multiple directions with relationship quality affecting mood on some occasions and negative mood impacting relations on others. Additionally, these results are significant given that the recollection of negative behavior rather than actual, observed behavior was assessed. Actual behavior is probably more likely to predict negative affect than the recollection of behavior in this study, but this would need to be assessed in samples of behaviors between couples in conflict.

Second, since only negative escalation had a positive association with and a main effect for change scores in depressive affect, results from this study suggest the possibility that negative escalation has more of an impact on depressive mood than either negativity or withdrawal. Therefore, when romantic couples engage in a negative communication pattern in which negative feelings rise quickly, their mood is more likely to decline as a result. This provides useful information for therapists working with couples with depression. It seems that therapists should focus on identifying and changing negative escalation patterns within couples to impact their overall functioning.

The lack of significant findings for negativity and withdrawal could be due to several factors. It is possible, for example, that these variables may have little or no effect on depressive mood. Another explanation is that behavioral negativity and withdrawal might occur more towards the beginning of relationships (and consequently towards the beginning of the depressive spiral), while engaging in negative escalation represents a culmination of arguments in which negative feelings rise quickly because past hurts and conflicts are simultaneously remembered. More specifically, negativity and withdrawal could be identified as passive-aggressive conflict strategies; negativity involves

complaining and nagging, while withdrawal involves not responding or leaving the argument. These less overtly aggressive maneuvers may be exhibited at the beginning of a relationship. However, as these behaviors are expressed and experienced, each member of the couple becomes more and more frustrated with the other and more aggressive tactics like negative escalation may occur.

The lack of findings for negativity and withdrawal could also be explained by these variables having more of an impact on mood over time, rather than on just one retroactively remembered conflict situation. Furthermore, the stress induction procedure may not have been sensitive enough to detect main effects. Finally, the lack of findings when the analyses were run separately for gender could be due to an insufficient sample size.

#### *Mediation Model*

Hypothesis 3 stated that the observable behaviors predicted by insecure attachment and cognitive personal style in hypothesis 1 would mediate the relationship between insecure attachment, cognitive personal style and changes in depressive affect. This hypothesis was not supported. Two separate mediation models were tested; the first employed anxious attachment and sociotropy as the independent variables and the second included avoidant attachment and autonomy as the independent variables. Negative behavior was the mediator variable and a depressive affect change score was the dependent variable.

For both models, part one of Baron and Kenny's (1986) methods (the independent variable predicting the mediator variable) was calculated in hypothesis 1. To test part two, (the independent variable predicting the dependent variable), insecure attachment and cognitive personal style were entered as simultaneous predictor variables and change

scores in depressive affect was entered as the criterion variable. Contrary to expectations, anxious attachment and sociotropy were not significant predictors of change scores in depressive affect in the first model. Similarly, in the second model, avoidant attachment and autonomy were marginally significant predictors. As a result, part three (the independent variable and the mediator variable predicting the dependent variable simultaneously) was not tested for either model (Baron & Kenny, 1986).

Arguably, the most compelling explanation for these results (or lack thereof) is that the attachment elicitation exercise (the stress induction procedure) did not produce large enough changes in affect to allow full testing of mediation. Past research has found strong associations between anxious attachment and depression (i.e., Carnelly et al., 1994; Hankin et al., 2005; Murphy & Bates, 1997; West & George, 2002) and between sociotropy and depression (i.e., Alford & Gerrity, 2003; Beck et al., 2001; Beck et al., 2003; Bruch, 2002; Mazure et al., 2001; Morrison et al., 2003; Raghaven et al., 2001; Sato, 2003; Voyer & Cappeliez, 2002). It is quite possible that these associations exist due to an interpersonal behavioral pathway. In addition, studies of the associations between avoidant attachment and depression (i.e., Carnelly et al., 1994; Hankin et al., 2005; Murphy & Bates, 1997; West & George, 2002) and between autonomy and depression (i.e., Abela et al., 2003; Alford & Gerrity, 2003; Beck et al., 2001; Beck et al., 2003; Bieling et al., 2004; Bruch, 2002, Mazure et al., 2001; Mazure & Maciejewski, 2003; Morrison et al., 2003; Raghaven et al., 2002; Sato, 2003) have returned more equivocal results than the work implicating anxious attachment and sociotropy. Nonetheless, the possibility exists that behavioral experiences are the hinges upon which the depressogenic qualities of autonomy and avoidant attachment turn. Considered collectively, the present study's results and past research suggest that future research

efforts might revisit the mediation hypothesis. These efforts should be undertaken with explicit attention to design issues oriented to mediation determination.

#### *Specificity of Findings to Depression*

Hypothesis 4, which tested the specificity of the study's findings to depression, was supported. Neither model significantly predicted change scores in anxious affect. Thus, the findings from this study suggest that the associations found between insecure attachment and cognitive-personality style appear to be more specific to depression overall.

#### *Summary*

The impact of insecure attachment and cognitive personal style on behavior between couples in conflict is complex. Anxiously attached, sociotropic individuals appear to utilize more passive-aggressive behaviors (i.e., negativity) to negotiate conflict because of their fear of abandonment and desire to maintain closeness. On the other hand, avoidantly attached, autonomous individuals seem to engage in more overt, distancing behaviors (i.e., negative escalation and withdrawal). Furthermore, the interactive effect between avoidant attachment and autonomy played an important role in predicting behavior. The greatest impact on behavior occurred when levels of autonomy were high and levels of avoidant attachment were low. It appears that high levels of avoidant attachment may suppress some of the negative emotional expressions or behaviors of highly autonomous individuals. Contrary to expectations, insecure attachment and cognitive personal style did not predict changes in depressive affect from pre-to post-stress induction, although these relationships were significant for both pre- stress induction affect and post-stress induction affect. Most likely, the stress induction procedure was not sensitive enough to allow full examination of these relationships.

*Limitations and Future Directions*

The results of this study should be considered with several limitations in mind. First, as already noted, retroactive recall of a single conflict with a romantic partner may not be sensitive enough to elicit attachment related cognitions and feelings. In addition, excluding couples with a past year history of domestic violence might have also lowered the ceiling for the level of conflict experienced. The present study also operationalized behavior and vulnerability via self-report methodology. Considering behavior, the possibility remains that participants' recall differed from what actually transpired during conflict. Additional investigation of the current hypotheses using actual behavioral samples and alternative methods of assessing vulnerability would be quite helpful. Although several possibilities for future studies exist, laboratory-based observation of actual conflict or longitudinal modeling of the depressogenic interactive effects of insecure attachment and cognitive vulnerability appear to be among the more promising. Furthermore, conclusions about the causal relationship between insecure attachment, cognitive-personal style, and behavior cannot be established due to correlational design. Whereas the direction implied in the tests of the study's 1<sup>st</sup> hypothesis seems plausible (i.e., insecure attachment and cognitive vulnerability interact to impact behavior), the current study can not rule out the possibility that the relationship operates in the reverse direction. Future research efforts are needed in order to increase confidence in the directionality implied in the present study. Finally, although the means and standard deviations for this study's measures were comparable to previous literature, the college student sample may not generalize to the general population or to a clinical sample.

*Contributions to the Field*

Arguably, the most important contribution of this study is that it provides empirical evidence supporting the integration of cognitive theory and interpersonal models in understanding behavior between romantic couples. Both interpersonal (attachment) and cognitive (sociotropy, autonomy) factors play an important role in explaining individuals' negative, interpersonal behaviors with significant others. In fact, the relationship between autonomy and behavior was conditional on the level of avoidant attachment. Thus, assessing for attachment style and cognitive-personality style may give therapists direction on what maladaptive behaviors the client may engage in, both with significant others and with the therapist, when under stress. While these behaviors were not predictive of changes in depressive affect, they were predictive of depressive affect at two separate points in time. This not only supports Coyne's (1976) interpersonal model of depression, but also emphasizes the potential importance of recognizing and changing these maladaptive behaviors with therapeutic interventions. Depression does not appear to occur solely due to intrapersonal factors. Rather, both the individual and his/her environment need to be considered when understanding and treating symptoms of depression. Therefore, therapeutic interventions for depression should be aimed at negative cognitions *and* interpersonal behaviors, which include attention to the individual's attachment style.

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Figure 1:

*Visual Diagrams of Hypotheses*

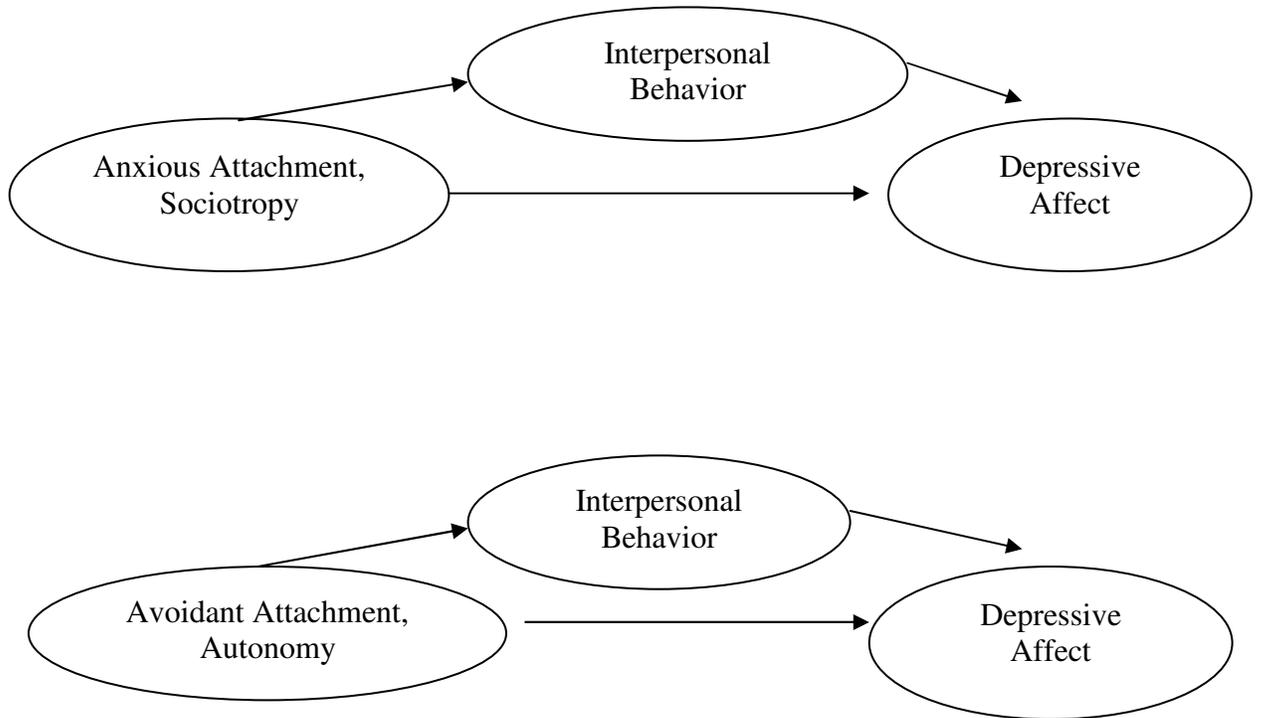


Figure 2:

*Nonsignificant Interaction between Anxious Attachment and Sociotropy Predicting*

*Negativity*

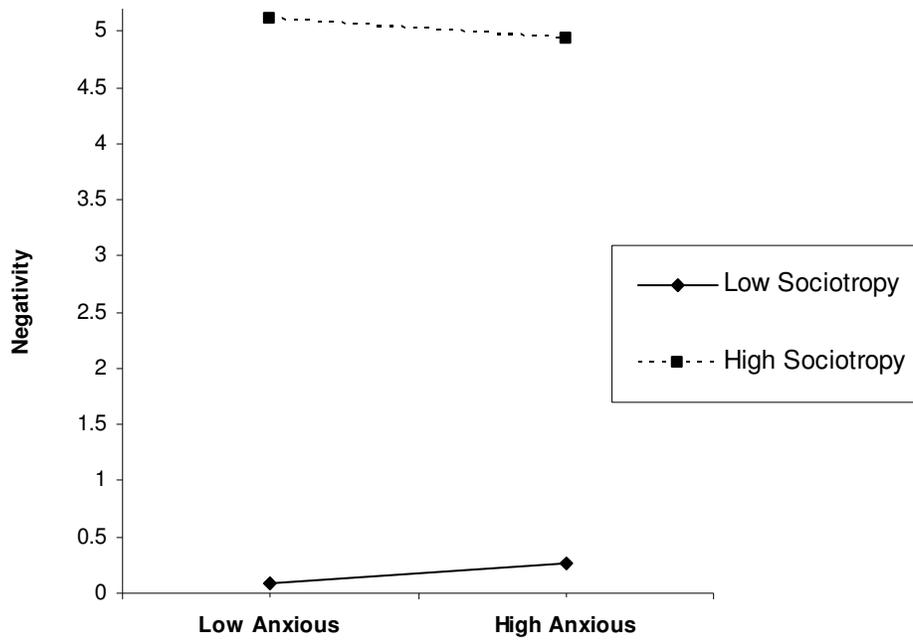


Figure 3:

*Interaction between Avoidant Attachment and Autonomy Predicting Negativity*

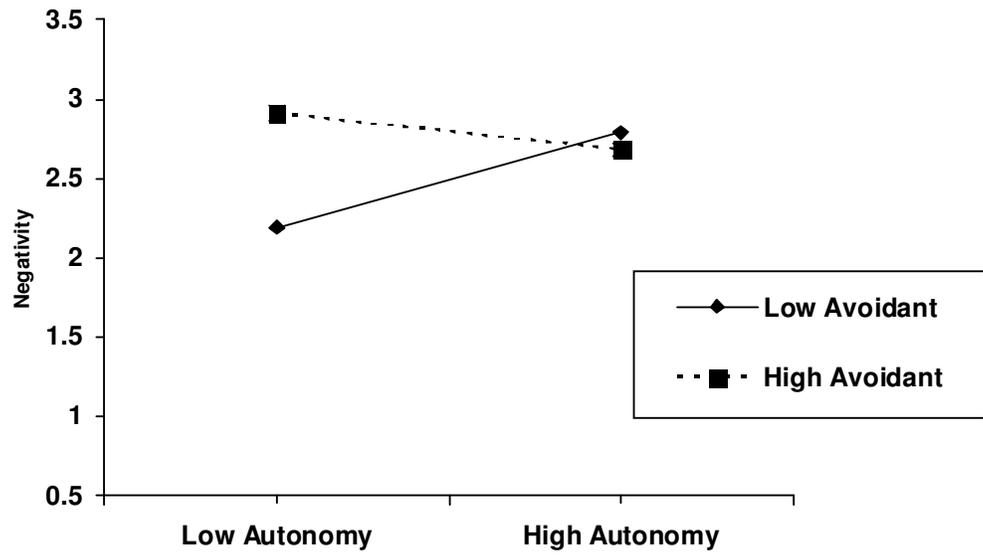


Figure 4:

*Interaction between Avoidant Attachment and Autonomy Predicting Negative Escalation*

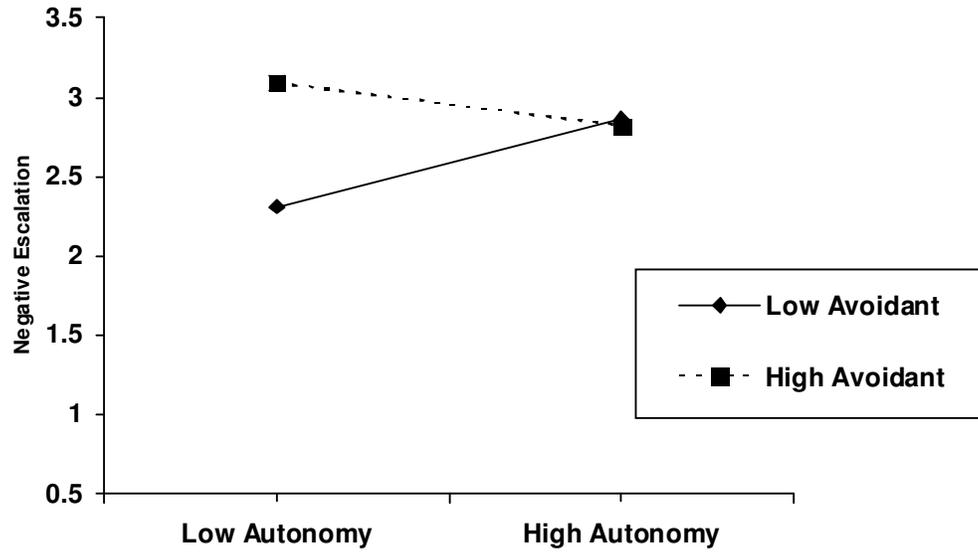


Figure 5:

*Interaction between Avoidant Attachment and Autonomy Predicting Withdrawal*

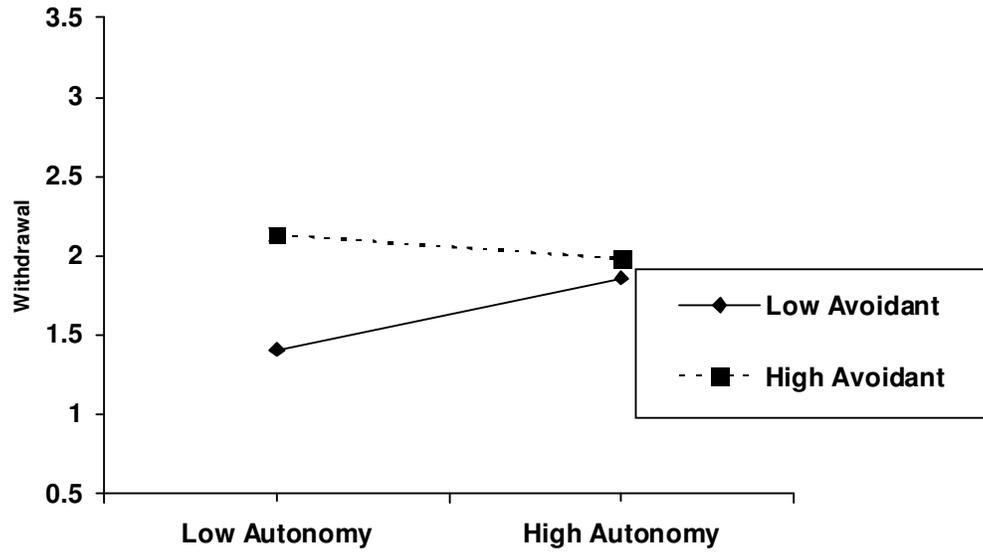


Table 1

*Means and Standard Deviations for Study Measures, Excluding Demographic Variables*

Variable	Mean	Standard Deviation	N
1. DEP	13.12	4.68	89
2. DEP T2	13.69	6.80	87
3. DEP $\Delta$	0.63	4.94	87
4. MANX	18.06	6.29	89
5. MANX T2	17.30	7.06	87
6. MANX $\Delta$	-0.54	4.80	87
7. NEGESC	2.66	.89	89
8. NEGATIVITY	2.54	.71	89
9. WITHDRAWAL	1.81	.62	89
10. CESDTOT	11.64	8.11	87
11. ANX	2.96	1.11	88
12. AVOID	2.15	1.02	88
13. SOC	87.71	19.55	86
14. AUT	72.22	18.54	86

DEP= Depression scale from the Multiple Affect Adjective Check List Revised (MAACL-R) ; MANX = Anxiety Scale from the MAACL-R; NEGESC = Negative Escalation Scale from the Managing Affect and Differences Scale (MADS); NEGATIVITY = Negativity Scale from the MADS; WITHDRAWAL = Withdrawal Scale from the MADS; CESDTOT = Total Score for the Center for Epidemiological Studies – Depression Subscale; ANX= Anxiety Scale from the Experiences in Close Relationships Questionnaire (ECRQ); AVOID= Avoidance Scale from ECRQ; SOC= Sociotropy Scale from the Personal Style Inventory (PSI); AUT= Autonomy Scale from the PSI; All T2= Post Stress Induction MAACL-R;  $\Delta$  = Change Score; N = 90

Table 2

## Zero-Order Correlations among Study Variables, Excluding Demographic Variables

Variables	Variables													
	1	2	3	4	5	6	7	8	9	10	11	12	13	
1. DEP														
2. DEPT2	.69**													
3. DEP Δ	-.01	.72**												
4. MANX	.67**	.36**	-.14											
5. MANX T2	.69**	.73**	.35**	.75**										
6. MANX Δ	.15	.61**	.69**	-.19	.51**									
7. NEGESC	.14	.30**	.28**	.02	.16	.24*								
8. NEGAT	.12	.15	.10	.01	.07	.10	.71**	.						
9. WITHDR	.15	.13	.05	.02	-.01	-.01	.15	.29**						
10. CESDTOT	.61**	.66**	.33**	.43**	.55**	.25*	.26*	.14	.20					
11. ANX	.31**	.32**	.15	.29**	.34**	.13	.22*	.26*	.23*	.41**				
12. AVOID	.23*	.32**	.25	.04	.17	.21	.17	.16	.32**	.37**	.32**			
13. SOC	.22*	.19	.05	.15	.16	.02	.20	.24*	.22*	.33**	.64**	.25*		
14. AUT	.28**	.35**	.23*	.12	.18	.14	.22*	.26*	.33**	.48**	.50**	.49**	.51**	

DEP= Depression scale from the Multiple Affect Adjective Check List Revised (MAACL-R) ; MANX = Anxiety Scale from the MAACL-R; NEGESC = Negative Escalation Scale from the Managing Affect and Differences Scale (MADS); NEGATIVITY = Negativity Scale from the MADS; WITHDRAWAL = Withdrawal Scale from the MADS; CESDTOT = Total Score for the Center for Epidemiological Studies – Depression Subscale; ANX= Anxiety Scale from the Experiences in Close Relationships Questionnaire (ECRQ); AVOID= Avoidance Scale from ECRQ; SOC= Sociotropy Scale from the Personal Style Inventory (PSI); AUT= Autonomy Scale from the PSI; All T2= Post Stress Induction MAACL-R; Δ = Change Score; N =90

Table 3

*Summary of Multiple Regression Analyses for Anxious Attachment and Sociotropy Predicting Negative Behavior*

Variables entered	<u>sr</u>	<u>B</u>	<u>SE B</u>	<u>β</u>
Analysis # 1: Criterion = Negativity				
Step 1 ( $\Delta R^2 = .08^*$ )				
ANX	.13	.11	.09	.17
SOC	.11	.01	.01	.13
Step 2 ( $\Delta R^2 = .02$ )				
ANX_SOC	-.14	.00	.00	-.14
Analysis #2: Criterion = Negative Escalation				
Step 1 ( $\Delta R^2 = .06$ )				
ANX	.12	.12	.15	.11
SOC	.08	.01	.01	.10
Step 2 ( $\Delta R^2 = .01$ )				
ANX_SOC	-.09	.00	.00	-.09
Analysis #3: Criterion = Withdrawal				
Step 1 ( $\Delta R^2 = .06$ )				
ANX	.11	.07	.07	.14
SOC	.10	.00	.00	.13
Step 2 ( $\Delta R^2 = .00$ )				
ANX_SOC	-.06	.00	.00	-.06

Note: ANX= anxiety scale of the adult attachment measure (ECRQ); SOC= sociotropy scale of the cognitive-personal style measure (PSI); ANX\_SOC = interaction between ANX and SOC

\* $p < .05$ ; \*\* $p < .01$

Table 4

*Summary of Multiple Regression Analyses for Avoidant Attachment and Autonomy Predicting Negative Behavior*

Variables entered	<u>sr</u>	<u>B</u>	<u>SE B</u>	<u>β</u>
Analysis # 1: Criterion = Negativity				
Step 1 ( $\Delta R^2 = .07^*$ )				
AVOID	.04	.03	.09	.04
AUT	.21 *	.01	.01	.24
Step 2 ( $\Delta R^2 = .06^*$ )				
AVOID_AUT	-.24 **	-.01	.01	-.28
Analysis #2: Criterion = Negative Escalation				
Step 1 ( $\Delta R^2 = .05$ )				
AVOID	.07	.07	.10	.08
AUT	.16	.01	.01	.18
Step 2 ( $\Delta R^2 = .03$ )				
AVOID_AUT	-.18	-.01	.01	-.22
Analysis #3: Criterion = Withdrawal				
Step 1 ( $\Delta R^2 = .14^{**}$ )				
AVOID	.19	.12	.07	.22
AUT	.19	.01	.00	.22
Step 2 ( $\Delta R^2 = .04^t$ )				
AVOID_AUT	-.20 <sup>t</sup>	-.01	.00	-.24

Note: AVOID= avoidance scale of the adult attachment measure (ECRQ); AUT= autonomy scale of the cognitive-personal style measure (PSI); AVOID\_AUT = interaction between AVOID and AUT

\* $p < .05$ ; \*\* $p < .01$ ,  $t = p = .052$

Table 5  
*Summary of Multiple Regression Analysis for Negative Behavior Predictive Change Scores in Depressive Affect*

Criterion = Change Scores in Depressive Affect				
Variables entered	<u>sr</u>	<u>B</u>	<u>SE B</u>	<u>β</u>
Step 1 ( $\Delta R^2 = .10^*$ )				
NEGESC	.30 **	2.42	.84	.44
NEGATIVITY	-.15	-1.57	1.06	-.23
WITHDRAWAL	.04	.30	.87	.04

Note: NEGESC = Negative escalation scale from the Managing Affect and Differences Scale (MADS); NEGATIVITY=Negativity scale from the MADS; WITHDRAWAL=Withdrawal scale from the MADS; \* $p < .05$ ; \*\* $p < .01$

Table 6:

*Summary of Multiple Regression Analyses for Attachment and Cognitive-Personal Style Predicting Change Scores in Depressive Affect*

Criterion = Change Scores in Depressive Affect

Analysis #1: Predictors = Anxious Attachment, Sociotropy

Variables entered	<u>sr</u>	<u>B</u>	<u>SE B</u>	<u>β</u>
Step 1 ( $\Delta R^2 = .03$ )				
ANX	.16	.96	.64	.21
SOC	-.07	-.02	.04	-.09

Analysis #2: Predictors = Avoidant Attachment, Autonomy

Variables entered	<u>sr</u>	<u>B</u>	<u>SE B</u>	<u>β</u>
Step 1 ( $\Delta R^2 = .07^t$ )				
AVOID	.12	.68	.59	.14
AUT	.14	.04	.03	.16
Step 2 ( $\Delta R^2 = .02$ )				
AVOID_AUT	.14	.05	.04	.17

Note: ANX= anxiety scale of the adult attachment measure (ECRQ); AVOID=autonomy scale of the ECRQ; SOC= sociotropy scale of the cognitive-personal style measure (PSI); AUT = autonomy scale of the PSI; ANX\_SOC = interaction between ANX and SOC; AVOID\_AUT=interaction between AVOID and AUT

\* $p < .05$ ; \*\* $p < .01$ ,  $t = p = .06$

Table 7:

*Summary of Multiple Regression Analyses for Attachment and Cognitive-Personal Style Predicting Change Scores in Anxious Affect*

Criterion = Change Scores in Anxious Affect

Analysis #1: Predictors = Anxious Attachment, Sociotropy

Variables entered	<u>sr</u>	<u>B</u>	<u>SE B</u>	<u>β</u>
Step 1 ( $\Delta R^2 = .02$ )				
ANX	.14	.80	.62	.18
SOC	-.07	-.02	.04	-.09

Analysis #2: Predictors = Avoidant Attachment, Autonomy

Variables entered	<u>sr</u>	<u>B</u>	<u>SE B</u>	<u>β</u>
Step 1 ( $\Delta R^2 = .04$ )				
AVOID	.15	.80	.58	.17
AUT	.05	.02	.03	.06

Note: ANX= anxiety scale of the adult attachment measure (ECRQ); AVOID=autonomy scale of the ECRQ; SOC= sociotropy scale of the cognitive-personal style measure (PSI); AUT = autonomy scale of the PSI

\* $p < .05$ ; \*\* $p < .01$

## Appendix 1:

*Summary of Multiple Regression Analyses for Anxious Attachment and Sociotropy Predicting Negative Behavior for Men Only*

Variables entered	<u>sr</u>	<u>B</u>	<u>SE B</u>	<u>β</u>
Analysis # 1: Criterion = Negativity				
Step 1 ( $\Delta R^2 = .18$ )				
ANX	.28	.21	.15	.36
SOC	.08	.00	.01	.10
Step 2 ( $\Delta R^2 = .00$ )				
ANX_SOC	-.01	.00	.01	-.01
Analysis #2: Criterion = Negative Escalation				
Step 1 ( $\Delta R^2 = .25^*$ )				
ANX	.18	.18	.19	.23
SOC	.26	.02	.02	.33
Step 2 ( $\Delta R^2 = .01$ )				
ANX_SOC	.07	.01	.01	.12
Analysis #3: Criterion = Withdrawal				
Step 1 ( $\Delta R^2 = .25^t$ )				
ANX	.16	.09	.11	.20
SOC	.27	.01	.01	.35
Step 2 ( $\Delta R^2 = .02$ )				
ANX_SOC	-.14	-.01	.01	-.23

Note: ANX= anxiety scale of the adult attachment measure (ECRQ); SOC= sociotropy scale of the cognitive-personal style measure (PSI); ANX\_SOC= interaction between ANX and SOC  
 \* $p < .05$ ; \*\* $p < .01$ ,  $t = p = .053$

## Appendix 2:

*Summary of Multiple Regression Analyses for Anxious Attachment and Sociotropy Predicting Negative Behavior for Women Only*

Variables entered	<u>sr</u>	<u>B</u>	<u>SE B</u>	<u>β</u>
Analysis # 1: Criterion = Negativity				
Step 1 ( $\Delta R^2 = .07$ )				
ANX	.05	.05	.12	.07
SOC	.15	.01	.01	.22
Step 2 ( $\Delta R^2 = .02$ )				
ANX_SOC	-.13	.00	.00	-.14
Analysis #2: Criterion = Negative Escalation				
Step 1 ( $\Delta R^2 = .03$ )				
ANX	.05	.06	.14	.08
SOC	.07	.01	.01	.10
Step 2 ( $\Delta R^2 = .00$ )				
ANX_SOC	-.04	.00	.01	-.04
Analysis #3: Criterion = Withdrawal				
Step 1 ( $\Delta R^2 = .03$ )				
ANX	.11	.08	.10	.15
SOC	.00	.00	.01	.01
Step 2 ( $\Delta R^2 = .00$ )				
ANX_SOC	-.01	.00	.00	-.01

Note: ANX= anxiety scale of the adult attachment measure (ECRQ); SOC= sociotropy scale of the cognitive-personal style measure (PSI); ANX\_SOC=interaction between ANX and SOC  
 \* $p < .05$ ; \*\* $p < .01$

## Appendix 3:

*Summary of Multiple Regression Analyses for Negative Behavior Predicting Change Scores in Depressive Affect (Separated by Gender)*

Criterion = Change Scores in Depressive Affect

Variables entered	<u>sr</u>	<u>B</u>	<u>SE B</u>	<u>β</u>
Analysis # 1: Men Only				
Step 1 ( $\Delta R^2 = .19$ )				
NEGESC	.36	1.91	1.03	.49
NEGATIVITY	-.12	-1.02	1.64	-.17
WITHDRAWAL	.16	.91	1.10	.17
Analysis #2: Women Only				
Step 1 ( $\Delta R^2 = .09$ )				
NEGESC	.29	2.61	1.15	.44
NEGATIVITY	-.15	-1.64	1.37	-.24
WITHDRAWAL	-.01	-.06	1.16	-.01

Note: NEGESC = Negative escalation scale from the Managing Affect and Differences Scale (MADS); NEGATIVITY=Negativity scale from the MADS; WITHDRAWAL=Withdrawal scale from the MADS

\* $p < .05$ ; \*\* $p < .01$