

August 2014

## The Link Between Insecure Attachment and Depression: Two Potential Pathways

Cassandra C. DeVito  
*University of Massachusetts Amherst*

Follow this and additional works at: [https://scholarworks.umass.edu/masters\\_theses\\_2](https://scholarworks.umass.edu/masters_theses_2)



Part of the [Social Psychology Commons](#)

---

### Recommended Citation

DeVito, Cassandra C., "The Link Between Insecure Attachment and Depression: Two Potential Pathways" (2014). *Masters Theses*. 11.  
<https://doi.org/10.7275/5428589> [https://scholarworks.umass.edu/masters\\_theses\\_2/11](https://scholarworks.umass.edu/masters_theses_2/11)

This Open Access Thesis is brought to you for free and open access by the Dissertations and Theses at ScholarWorks@UMass Amherst. It has been accepted for inclusion in Masters Theses by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact [scholarworks@library.umass.edu](mailto:scholarworks@library.umass.edu).

THE LINK BETWEEN INSECURE ATTACHMENT AND DEPRESSION: TWO  
POTENTIAL PATHWAYS

A Thesis Presented

by

CASSANDRA C. DEVITO

Submitted to the Graduate School of the  
University of Massachusetts Amherst in partial fulfillment  
of the requirements for the degree of

MASTER OF SCIENCE

May 2014

Psychology

THE LINK BETWEEN INSECURE ATTACHMENT AND DEPRESSION: TWO  
POTENTIAL PATHWAYS

A Thesis Presented

by

CASSANDRA C. DEVITO

Approved as to style and content by:

---

Paula Pietromonaco, Chair

---

Sally Powers, Member

---

Linda Isbell, Member

---

Melinda Novak, Department Head  
Department of Psychology

## ABSTRACT

### THE LINK BETWEEN INSECURE ATTACHMENT AND DEPRESSION: TWO POTENTIAL PATHWAYS

MAY 2014

CASSANDRA C. DEVITO, B.S., UNION COLLEGE

M.S., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Professor Paula Pietromonaco

A wealth of research demonstrates a strong link between insecure attachment and depressive symptoms. However, thus far no work has discerned different pathways to depression for each of the insecure subtypes: anxious and avoidant attachment. This work looks at the behaviors that couples engage in during a conflict interaction as a potential mediator for the attachment-depression relationship, with different behaviors mediating the link between anxious and avoidant attachment and depression. For anxiously attached individuals, it was predicted that lack of support and response from the partner (actual or perceived) would account for the relationship between their attachment and depressive symptoms. While for avoidant individuals, it was predicted that partners' hostile behaviors would account for a positive association between attachment and depression, but humor and relationship-enhancing behaviors would account for a negative association between attachment and depression. Results from this work indicated that for anxiously attached *women*, their perceptions of their partners' responsiveness and their partners' actual hostility mediated the link between their attachment and depressive symptoms.

## TABLE OF CONTENTS

	Page
ABSTRACT.....	iii
LIST OF TABLES.....	v
LIST OF FIGURES .....	vi
CHAPTER	
1. INTRODUCTION .....	1
2. METHOD .....	15
3. RESULTS .....	19
4. DISCUSSION .....	24
REFERENCES .....	35

## LIST OF TABLES

Table	Page
1. Descriptive Information .....	31
2. Zero-order Correlations among all variables .....	32

## LIST OF FIGURES

Figure	Page
1. The relationship between wives' attachment anxiety and depressed mood is partially mediated by perceptions of their husbands' responsiveness.....	33
2. The relationship between wives' attachment anxiety and depression is partially mediated by levels of their husbands' hostility during a conflict interaction .....	34

# CHAPTER 1

## INTRODUCTION

Depression is unquestionably a major concern within the United States. A leading cause of deteriorating quality of life and a strong risk factor for developing physical illnesses (Wulsin, 2004; Liew, 2012), depression is widespread and research on the topic aims at understanding it from a variety of angles. While countless studies have looked at the typical behavior of depressed individuals themselves (Hong, 2007; Keller & Nesse, 2006), the proposed research seeks to examine how behaviors within individuals' closest relationships might contribute to the tendency to develop depressive symptoms.

Attachment theory (Bowlby, 1969) provides a framework for how individual tendencies within close relationships may act as a risk factor for the development of depression (Bifulco, Moran, Ball, & Lillie, 2002). A wealth of research has linked attachment insecurity to depressive symptomology (Bifulco et al., 2002; Roberts, Gotlib, & Kassel, 1996; Scharfe, 2007), with mechanisms such as self-esteem, dysfunctional attitudes, and trauma discussed as potential mediators. How individuals behave toward their romantic partners is an important area to explore in the attachment-depression link, as individuals typically interact with their relationship partners constantly, and therefore their partners have the ability to influence their mood states. Thus far, research linking attachment and depression suggests that social support (from romantic partners) is associated with the development of depressive symptoms and mediates this relationship (Ko & Lewis, 2010; Conde, Figueiredo, & Bifulco, 2011). However, this research has investigated how individuals perceive the availability of support from their partner and not their partners' actual behavior.



A separate but related line of research has examined the link between behavior and depression without taking into account partners' attachment styles. This research has shown that women's positive engagement during a discussion task is especially important, as it predicts lower depression levels for both partners (Laurent, Kim, Capaldi, 2009). Conversely, high levels of withdrawal behavior from women predict higher depression levels for both partners. Negative partner interactions are thought to initiate and maintain depression through exposure to decreasing levels of social support, increased stress and hostility (Beach, Sandeen, & O'Leary, 1990), demonstrating that behavior seems to play a key role in determining depressive outcomes within couples. This work provides a basis for understanding links between couple members' behaviors and depression, but it would be important to know the extent to which individual differences in attachment predict particular behaviors, which in turn, predict depressive symptoms. However, evidence examining how specific behaviors mediate the attachment-depression link is sparse.

The current research aims (1) to identify the extent to which attachment anxiety or avoidance (or both) predict women's and men's depressive symptoms, (2) to assess whether relationship behaviors provide a mediating mechanism accounting for the attachment-depression link, and (3) to determine which types of relationship behaviors carry the most weight in explaining the link between attachment orientation and depression. This approach is novel and important in that it attempts determine the extent to which individuals' behaviors in their closest relationships provide a mechanism through which attachment increases (or reduces) the risk of depression. Furthermore, considering the association between attachment, behavior and depression in this manner leaves room for multiple explanatory pathways depending on type of insecure attachment (i.e. anxious or avoidant).

## **Literature Review**

Attachment theory (Bowlby, 1969) was originally developed to explain the bonds between infants and caregivers, but attachment processes also are implicated in adult romantic relationships (Hazan & Shaver, 1987; Mikulincer & Shaver, 2007). The current work focuses on attachment processes in adult marital relationships. This literature review will outline four areas of research (1) the aspects of attachment in adulthood relevant to this study, (2) the ways in which attachment orientations have been linked to depression, (3) the ways in which adult attachment predicts certain relationship behaviors, and (4) relationship behaviors that are known to predict depression.

### **Attachment in Adulthood**

Attachment theory provides a lens through which individuals view, interpret, and internalize social interactions. Previous experiences in close relationships inform “cognitive working models” and thus shape people’s expectations of how their future relational interactions will play out (Bowlby, 1969). These working models not only inform expectations but also shape associated emotional and behavioral responses. In this way, attachment theory represents a normative model for how people think, feel and behave in close relationships.

Attachment theory was originally developed as a way of explaining the close bonds observed between an infant and caregiver (Bowlby, 1969). Bowlby proposed an attachment system that became activated on behalf of the infant under distress (i.e. separation from caregiver, threat, etc.) and caused the infant to engage in behaviors aimed at maintaining proximity to the caregiver (crying, clinging, etc.). These behaviors then elicit comforting behavior on behalf of the caregiver, which calms the infant, restoring a sense of emotional well being or “felt security” (Sroufe & Waters, 1977). How the caregiver responds to the infant is of

particular importance in attachment theory, as it forms the basis of the working models created early in life. Consistency and quality of comfort are of the utmost importance and shape the level of comfort infants have with others, as well as their ability to trust and rely on others, and freely explore new situations. The primary focus of the present work is on attachment in adult romantic relationships, however, where relevant, I will refer to the literature on infants and caregivers.

Theory and research over the past 25 years has demonstrated that attachment processes similar to those observed in children and their caregivers also occur in adult romantic relationships (see Hazan & Shaver, 1987; Mikulincer & Shaver, 2007; Pietromonaco & Beck, in press). Although the processes are parallel, they are not identical. For example, rather than the nonverbal distress signals that infants employ, adults are able to express and react to their own distress in more specific and overt ways. In a normative sense, attachment theory explains the need to seek comfort and security from a close relationship partner during times of distress. However, the theory also accounts for individual differences, as individuals will seek comfort and reassurance in different ways depending on their previous relationship experiences (“working models”; Hazan & Shaver, 1987,1994). Measures of adult attachment typically focus on two dimensions – attachment anxiety and avoidance. Individuals can be high on one of the two dimensions or both; low scores on both dimensions reflect attachment security.

Similar to infants, when adults have experienced consistent and effective comfort from a relationship partner, they come to develop a sense of trust in others and willingness to disclose personal issues, that leads them to continue to seek out close others in stressful situations. This pattern defines a secure attachment style. However, unsatisfactory interactions with close others can produce different attachment patterns characterized by insecurity. Those high in attachment

anxiety have typically received inconsistent support and caregiving from past relationship partners, which results in a “hyperactivation” of the attachment system and working models marked by excessive neediness and a need for comfort and reassurance that is seemingly never fulfilled. Individuals high in avoidance have typically experienced a lack of responsiveness and caregiving from their partners. This results in a “deactivation” of the attachment system whereby attachment needs are suppressed and working models downplay the need for close emotional bonds. Measures of adult attachment typically focus on these two dimensions – attachment anxiety and avoidance. Individuals can be high on one of the two dimensions or both; low scores on both dimensions reflect attachment security.

### **Attachment and Behavior**

Individual differences in attachment orientations contribute to behavior through working models created from previous relationship experiences. Specifically, attachment orientations have been linked to different behaviors toward caregivers. Within the developmental literature, infants who are securely attached are much more comfortable exploring and engaging with their environments, while those who are insecurely attached are either highly preoccupied by the possibility of their caregivers leaving (anxiously attached) or detached from their caregivers (avoidantly attached; Ainsworth et al., 1978). Within the literature on adult attachment, findings indicate that adults and infants exhibit similar behaviors during interpersonally stressful situations (See Mikulincer & Shaver, 2007, for a review).

For instance, some work (Fraley & Shaver, 1998) provides insight into how adults with different attachment styles behave when separated from their romantic partner. In this work, the researchers observed adult couples in an airport, who were either traveling together or saying goodbye to one another before one member boarded an airplane. Their rationale was that

travelling as a couple should not engage the attachment system, yet those parting ways and traveling alone, should experience some level of attachment-related distress and behave according to their attachment orientations. Women who were low in both attachment anxiety and avoidance (i.e., who were more secure) experienced lower levels of separation anxiety, but expressed appropriate caregiving behaviors when traveling without their partners. Anxiety, for women in particular, was associated with experiencing greater distress at separation, whereas avoidance in women was associated with both less contact seeking and less caregiving when separating. For women, especially, behavior seems to be related to attachment orientation.

Central to the study of attachment-related behaviors are support and caregiving, which are not only central to personal well being, but to satisfying and healthy relationships (Carnelley, Pietromonaco, & Jaffe, 1996; Collins & Feeney, 2000). A wealth of studies have subjected couples to laboratory-induced stressful situations in order to observe just how caregiving dynamics play out within couples. For instance Collins and Feeney (2000) asked their participants (dating couples) to discuss a stressful problem within their relationships while being videotaped. Avoidantly attached individuals tended to stray from seeking support from their partners during the discussion, while anxiously attached individuals were likely to provide inadequate care. Similarly, in the context of sharing positive experiences, avoidantly attached individuals tend to behave less responsively towards their partners (who shared a positive experience; Shallcross, Howland, Bemis, Simpson, & Frazier, 2011). This relationship was especially strong when avoidantly attached participants had a partner who was anxiously attached. Conversely, anxiously attached individuals underestimated their own responsiveness when their partners were high in attachment avoidance.

However, other work suggests that, although sometimes attachment anxiety can inhibit people's abilities to behave constructively in the face of relational threat, these negative effects may be buffered by greater relationship commitment (Tran & Simpson, 2009). Participants (married couples) engaged in an "accommodative dilemma discussion" in which one partner was asked to choose a discussion topic having to do with a characteristic about their partner that they would like to change. Insecurely attached individuals behaved less constructively during the accommodative interaction, with avoidant individuals also behaving more destructively. However, individuals who were highly committed to their partners behaved in a more constructive manner, which buffered the negative effects of attachment insecurity. Wives' level of commitment more strongly predicted emotional outcomes for both partners than did husbands' commitment. Taken together, these findings suggest that both anxiously and avoidantly attached individuals are hindered in their efforts to be responsive to their partners and adequately provide support when they are distressed. Similarly, those who are insecurely attached may not clearly signal their distress to their partners. Furthermore, these associations may be dependent upon other individual differences and interestingly tied to wives' levels of relationship commitment.

### **Attachment and Depression**

Individuals display different patterns of emotional regulation and coping strategies during stressful times depending on their attachment orientations (Simpson & Rholes, 1994). As a result, attachment (namely, insecure attachment) is considered closely linked to psychological dysfunction and the experience of negative emotion (see Mikulincer & Shaver, 2007, for a review). Depressive symptoms are more common in those who are insecurely attached (Carnelley, Pietromonaco, & Jaffe, 1994; Simpson, Rholes, Campbell, Tran, & Wilson, 2003), and some theorists have partly attributed this link to the low self-esteem and high levels of

dysfunctional attitudes (rooted in working models) harbored by insecurely attached individuals (Roberts et al., 1996). The attitudes rooted within the cognitive working models of those who are insecurely attached reflect relational histories with inconsistent or unresponsive partners and therefore negatively bias perceptions of the self and other close relationship partners (Collins & Allard, 2001). Furthermore, insecure individuals tend to experience more negative than positive emotion in their close relationships (Simpson, Collins, Tran & Haydon, 2007), and their strategies for interacting with their partners may negatively affect their relationship. For example people who are anxiously attached are more likely to seek excessive levels of reassurance from their partners (Joiner, Alfano, & Metalsky, 1992). Excessive reassurance seeking (ERS) has been linked to depression primarily because of its strong relationship with attachment anxiety (Shaver, Schachner, & Mikulincer, 2005).

Given that insecure attachment is comprised of two subtypes (anxious and avoidant), which result from very different relational experiences, it is logical to expect that the pathways through which avoidant and anxious individuals develop depression will differ. Avoidant individuals are mainly concerned with maintaining autonomy and control in their relationships, which often results in emotional distancing (see Mikulincer and Shaver, 2007, for a review). Conversely, those who are high on anxious attachment tend to seek extreme closeness to their partners and emotional reassurance, while holding an irrational fear of abandonment. These distinct differences in relational concerns should lead depression to develop through different behavioral mechanisms for anxious and avoidant attachment. Prior work has demonstrated that sociotropic vs. autonomic personality styles are differentially related to depression (Coyne & Whiffen, 1995; Hammen, Ellicott, Gitlin, & Jamison, 1989), and while some amount of overlap is expected between these two constructs, this work is substantially different in that it

specifically concerns relationships within early marriage and also aims to identify distinct behaviors leading to depression.

### **Behavior and Depression**

Interpersonal behaviors are especially important when considering the development and maintenance of depression (Joiner, Alfano, & Metalsky, 1992; Youngren & Lewinsohn, 1980). In general, rejection from others has been found to be associated with depression (Coyne, 1976). However, both the individual actors and their partners may influence emotional outcomes, especially during times of interpersonal stress. During these times, emotional support may be particularly important in influencing the development of depressive symptoms. Among older couples, perceiving higher levels of emotional support is related to lower levels of depressive symptoms (Ko & Lewis, 2010). Conversely, individuals who exhibit higher levels of autonomy (i.e. distancing from their partners) are prone to higher levels of depression (Lynch, Robins, & Morse, 2001).

For married couples, specific behaviors within the relationship may increase or decrease the likelihood of depression (Whiffen & Aube, 1999). For instance, Whiffen and Aube found that men who characterized themselves as “needy” saw an increase in depressive symptoms, if behaviors conveying intimacy were lacking within the marriage. A study comparing outpatient depressed, inpatient depressed and not depressed women revealed different depression-based tactics for resolving conflict (Coyne, Thompson & Palmer, 2002). Both types of depressed women and their husbands reported having greater marital distress and exhibited more destructive ways of coping with conflict (i.e. yelling, threatening, etc.) than the control group. While these correlational findings cannot determine precise causal links, they demonstrate that



destructive coping behaviors are related to depression in women and may further feed into depressive symptoms.

Research with longitudinal measures provides some insight into whether, over time, certain behaviors are related to an increase in depressive symptoms (Laurent, Kim, & Capaldi, 2009). Over the course of ten years, couples in their early 20's and 30's engaged in five laboratory sessions and in a conflict discussion task at each time point. When women were more engaged in the conflict discussion, both partners were less likely to develop depressive symptoms over time. Conversely, when women were less engaged, the likelihood of developing symptoms increased for both partners. Interestingly, both men's and women's depressive symptoms were dependent upon the level of engagement displayed by women.

### **The Role of Perception**

Working models arise as a function of individual differences and inform the expectations that individuals have about themselves and others within close relationships. While differences in working models can be detected in overt behaviors, other research has looked directly at the attachment-related cognitive biases that may influence perceptions of one's own and other's behaviors. For instance, in a lab-based support exchange, insecurely attached individuals who received low-support messages, ostensibly from their partner, rated those messages as more negative than securely attached participants (Collins & Feeney, 2004). Furthermore, insecurely attached individuals rated a behavioral interaction with their partner as less supportive and rated later messages of genuine support as less supportive. Individuals are also prone to misremembering information about themselves when it conflicts with their attachment style. Interestingly, avoidant individuals who engaged in a stressful discussion task with their partner reported behaving less supportively than they actually did (as rated by a third-party observer;

Beck, Pietromonaco, DeVito, Powers, & Boyle, 2013). In other words, their perceptions of their own behavior were inaccurate and reflected a cognitive bias to downplay behaviors indicating relational dependence.

Given that levels of interpersonal support are related to the development of depressive symptoms (Ko & Lewis, 2010), how much support an individual *perceives* within a relationship may play a larger role than actual support in determining depressive outcomes. As most research examining the link between behavior and depression in couples relies on self-reported measures of own and partner behavior, perceptions of support are in fact being reported. However, perceptions of behavior are vulnerable to inaccuracy due to differences in attachment working models; therefore, work comparing perceptions vs. actual support in relation to depression is necessary.

### **The Present Study**

The present work aims to discern the types of behaviors associated with developing depressive symptoms for individuals high in attachment anxiety or avoidance, or both. Both forms of attachment insecurity are associated with different beliefs and expectations about close relationships, different strategies for emotion regulation, and different perceptions of partners' behaviors. Taken together, these findings suggest that whether one is high in attachment anxiety or avoidance will play a key role in determining which types of behaviors will be associated with the development of depressive symptoms. While previous work has established the link between anxious attachment and depression, the link between avoidant attachment and depression is less clear. Perhaps the key to establishing connections for both forms of attachment insecurity lies in the different behaviors that may mediate the link between attachment and depression for anxiety and avoidance.

The current research uses data collected from newlywed couples to assess how different behaviors may differentially predict depression based on attachment style in early marriage. Couples engaged in a fifteen-minute discussion of an area of unresolved conflict in their marriage; all discussions were digitally recorded. Couple behavior was independently coded using both the Secure Base Scoring System (SBSS; Crowell, Treboux, Fyffe, Pan, & Waters, 2002) and the Rapid Marital Interaction Coding System (RMICS; Heyman & Vivian, 1993).

### **Predictions for Anxious Attachment**

Because individuals high in attachment anxiety are hypersensitive to their partners' availability, it is predicted that their levels of depressive symptoms will be highly dependent upon whether or not they are able to be comforted during the interaction. Anxiously attached individuals are perpetually concerned with how they are regarded by their partner and need a great deal of emotional reassurance, and therefore it seems logical to predict that their spouses' levels of supportiveness and responsiveness to their needs would reflect upon their perceptions of their own worthiness. Previous research has found that anxiously attached individuals harbor irrational beliefs about themselves and others, termed "dysfunctional attitudes" (Lee and Hankin, 2009). As a result, these irrational beliefs may mean that anxiously attached individuals are more dependent on others' notions of worthiness as an individual than their own.

Within a relationship, whether or not one is worthy is often conveyed by the level of responsiveness and caregiving that one receives. However, an individual's perceptions of her partner's responsiveness may be skewed by her internal working models, regardless of the amount of actual support he provides (Collins & Feeney, 2004). Therefore, when either perceptions of responsiveness or actual responsiveness are low, it may be internalized by anxiously attached to mean something negative about themselves. This internalization will be

evident in the level of depressive symptoms reported and also in their mood state immediately after the conflict interaction. The following hypotheses were advanced for attachment anxiety:

Hypothesis 1: More anxiously attached individuals will show higher levels of depressive symptoms when their partners display low levels of supportiveness and responsiveness during the interaction. A similar association is expected among attachment anxiety, individuals' perceptions of their partners' responsiveness, and depressed mood immediately following the interaction.

### **Predictions for Avoidant Attachment**

Conversely, individuals high in attachment avoidance tend to be heavily self-reliant and are hesitant to self-disclose or rely on their partners. Therefore, in contrast to anxious individuals, supportiveness and responsiveness should not be key to their levels of depressive symptoms. Rather, avoidant individuals will do best when the interaction goes smoothly without having to self-disclose to a high degree and their partners engage in behaviors that keep the tone of the interaction positive. Previous work demonstrates that, within a support provision task within couples, the use of one partner's affiliative humor (humor that reduces tension/enhances the relationship), predicts the other partner's post-discussion positive mood (Howland & Simpson, 2013). Therefore, when partners of avoidantly attached individuals engage in behaviors such as expressing humor or making relationship-enhancing attributions, the interaction may be easier for avoidant individuals because these behaviors allow the discussion to maintain a sense of levity without requiring a high level of self-disclosure on the part of the avoidant individual. However, if partners are hostile, avoidant individuals may feel especially threatened because hostile behaviors reinforce the negative views that avoidantly attached individuals hold about

close relationships. Therefore, it will be more difficult for them to ignore or disengage from the interaction. The following hypotheses were advanced for attachment avoidance:

Hypothesis 3: When the partners of avoidantly attached individuals express humor and make relationship-enhancing attributions, avoidant individuals will have lower levels of depressive symptoms and less depressed mood immediately after the interaction.

Hypothesis 4: When partners engage in hostile behavior, avoidant individuals are expected to show more depressive symptoms and increased depressed mood following the interaction.

## CHAPTER 2

### METHOD

#### Participants and Procedure

Two-hundred and twenty-five newlywed couples between the ages of 18 and 50 were recruited from Western Massachusetts marriage records based on recency and length of marriage. Participants were eligible only if they had been married for less than seven months. All participants were informed that they would be taking part in a study investigating conflict patterns and relationship attributes in newlywed couples. Upon entering the lab, participants completed a set of questionnaires (see, Table 1 for descriptive information) on the computer including the Experiences in Close Relationships Questionnaire (Brennan, Clark, & Shaver, 1998) and the Inventory of Depressive Symptomatology (Rush, Guillon, Basco, Jarrett, & Trivedi, 1996). They then engaged in a digitally recorded conflict task. Participants returned to the lab 12 to 15 months later for a second session, and again for a third session, in which the procedure was exactly the same.

#### Measures

**Attachment style.** The Experiences in Close Relationships Questionnaire is a 36-item measure that assesses the two dimensions of adult attachment patterns: anxiety and avoidance. Participants are asked to respond to each statement on a scale of 1 to 7 (1 being “Disagree Strongly” and 7 being “Agree Strongly”) according to how much they agree or disagree that the statement describes them. For example, a statement assessing the anxiety dimension reads “I need a lot of reassurance that I am loved by my partner”; husbands’  $\alpha = .88$ , wives’  $\alpha = .90$ , and a statement assessing avoidance reads “I prefer not to show my partner how I feel deep down”; husbands’  $\alpha = .86$ , wives’  $\alpha = .83$ .

**Depression.** The Inventory of Depressive Symptomatology (IDS; Rush et al., 1996) is a 30-item measure that asks how often over the past two weeks have participants experienced changes in: appetite, energy level, mood, concentration and somatic symptoms. Twenty-eight of the 30 items (excluding appetite increase and decrease questions), are summed to create a total depression score ranging from 0 to 84. Total scores fit into one of five categories of depression ranging from 0 to 4 (zero being none and four being very severe) in terms of severity of depression. Scores ranging between 0 and 13 fit into the “0” category, or, not depressed. Scores of those who are depressed fit into the categories as follows: between 14 and 25 indicates group 1, mild depression, between 26 and 38 indicates group 2, moderate depression, between 39 and 48 indicates group 3, severe depression, and between 49 and 84 designates group 4, very severe depression. Depression levels in this sample were generally low for women and men, although higher for women, ( $M = 11.76$ ,  $SD = 7.62$  and  $M = 10.16$ ,  $SD = 5.99$  for wives and husbands respectively), a difference that was statistically significant,  $t(224) = 2.48$ ,  $p < .01$ .

**Mood following the interaction.** Items selected from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), a 20-item measure assessing mood, were used to assess depressed mood after the conflict interaction. Participants were asked “Indicate to what extent you feel this way right now, at the present moment” and given a list of adjectives to rate on a scale of 1 to 5 (one being the lowest and five being the highest). Three items (Distressed, Upset, Sad) from the PANAS and one additional item (Blue) were used to create a measure of post-conflict depressed mood ( $\alpha = .84$ ).

**Perceptions of partner behavior.** Immediately after the conflict interaction, participants rated their perceptions of their partners’ responsiveness using four items (husbands’  $\alpha = .86$ , wives’  $\alpha = .92$ ): “In the discussion with your spouse, to what extent: (1) Was your spouse

supportive during the interaction?, (2) Was your spouse responsive to your needs?, (3) Did your spouse understand the way that you feel about things?, (4) Did your spouse show concern for you?” Participants responded to all items on a 5-point scale, 1 being “Not at all” and 5 being “Extremely”. These items were averaged for each husbands and wives to create a measure of perceived partner responsiveness.

**Observer-rated Secure Base Behavior.** Four trained observers coded couples’ attachment behaviors, during the conflict discussion using the Secure Base Scoring System (SBSS; Crowell et al., 1998; Crowell et al., 2002) and the Rapid Marital Interaction Coding System (RMICS; Heyman & Vivian, 1997). The SBSS was designed to be analogous to scoring systems for infant-parent attachment behaviors (Ainsworth, Blehar, Waters, & Wall, 1978); however, it captures the behavioral aspects of the attachment system within an adult relationship. The SBSS assesses both partners’ secure base use (careseeking) and secure base support (caregiving) behaviors while they discuss a topic upon which they disagree.

The conflictual context creates a distressing situation that activates attachment behavior in one or both partners where they must respond to one another. The SBSS secure base use subscale assesses the extent to which individuals: (1) exhibit a clear and strong signal of distress towards their partner, (2) maintain this distress signal throughout the interaction, (3) approach their partner, and (4) are able to be comforted. Conversely, the secure base support subscale assesses behavior towards one’s partner and the extent to which individuals: (5) show interest in their partner, (6) recognize and correctly interpret their partner’s distress, and (7) are responsive to their partner’s distress. Each of these behaviors are coded separately but also averaged into two different subscales: Summary of Secure Base Use (codes 1-4) and Summary of Secure Base



Support (codes 5-7). For the purposes of this research, responsiveness to one's partner was assessed using the individual responsiveness scale (number 7).

Four trained observers coded partners' behaviors during the conflict discussion using the SBSS. An intraclass correlation coefficient (ICC; Shrout & Fleiss, 1979) was calculated using the scores for the 30% of conflict discussions that had been coded by all trained observers to establish agreement among the observers. The ICC for responsiveness was .92, which indicated excellent agreement.

**Observer Rated Behavior using the RMICS.** The RMICS (Heyman & Vivian, 1997) assesses both verbal and non-verbal behavior within the conflict interaction and is comprised of nine codes: hostility, dysphoric affect, withdrawal, extent of problem discussion, self-disclosure, acceptance, humor, distress-maintaining attributions and relationship-enhancing attributions. the relationship between attachment and depression. For the purposes of this research, on the hostility and relationship-enhancing attributions codes were used. Hostility is described in the RMICS as expressing angry or negative affect and conveying statements with strong negative content (this excludes content that could be coded as psychological abuse). Conversely, relationship-enhancing attributions are described as having attributed the cause of a neutral or positive event to the self or partner or explaining that although the self or partner may have caused a negative event, it was not done intentionally and therefore, not blameworthy. Both the hostility and relationship-enhancing attribution codes were adequately reliable (Kappa = .50 and Kappa = .59, for hostility and relationship-enhancing attributions, respectively).

## **CHAPTER 3**

### **RESULTS**

#### **Analytic Strategy**

The focus of this study was on testing the extent to which particular behaviors mediate the link between attachment style and depression. Accordingly, mediation analyses were conducted following the steps for conducting mediation within dyads outlined by Ledermann, Macho and Kenny (2011); analyses were performed in Lisrel 8.8 (Jöreskog & Sörbom 2007), which allowed for shared variance within couples. All variables were constructed as latent, resulting in a combined mediation-measurement model. Attachment anxiety and avoidance factors were created by creating parcels of items from the ECR (Brennan et al., 1998) using the methods outlined by Wei and her colleagues (2005). Parceling entails randomly assigning items from a measure into different groups, creating small, representative subscales, ensuring that the mean and variance across parcels is relatively constant. For this research, the two subscales on the ECR (anxiety and avoidance) were each broken into three parcels, and each of the three parcels loaded onto the larger factors of “attachment anxiety” and “attachment avoidance” for husbands and wives. All other variables (behaviors and depression) were constructed from a single indicator, which was automatically set to load to 1 on the given factor and have a standard error of zero (i.e. husbands’ depression factor has a single indicator, their scores on the IDS, which loads onto the depression factor with a value of 1 and SE of 0). This process allowed for factors to be created from variables where only one measure was available and parceling was not an option. Mediation was assessed via significance of the indirect effect in Lisrel output.

#### **Measurement Model**

Initial analyses testing the measurement model were conducted with both attachment anxiety and avoidance predicting depressive symptoms for husbands and wives with the error terms of husbands' and wives' depression correlated. This test resulted in a very good fit to the data as specified by multiple fit indices,  $\chi^2(69, N = 209) = 115.58$ ; CFI = .97, RMSEA = .05 (90% confidence interval [CI]: .04, .07). Therefore, all of the factors are adequately measured by their indicator variables. Furthermore, all relationships within the model were significant. Husbands' attachment anxiety and avoidance predicted their depressive symptoms ( $\beta = 2.34$ , SE = .58,  $p < .0001$  and  $\beta = 1.47$ , SE = .70,  $p < .05$ , husbands and wives respectively). Similarly, wives' attachment anxiety and avoidance predicted their depressive symptoms ( $\beta = 3.24$ , SE = .59,  $p < .001$  and  $\beta = 2.64$ , SE = 1.22,  $p < .05$ , husbands and wives respectively). All mediation models were first compared to a version of this measurement model with the inclusion of each behavior as a predictor of the outcome but not a mediator. Full mediation is identified when the model fits better with the inclusion of a mediator. In no case was the model fit better with the inclusion of a mediator, suggesting partial mediation; therefore, only the indirect effect of each proposed mediator is reported.

### **Predictions for Attachment Anxiety:**

**Hypotheses 1 and 2: More anxiously attached individuals will show increased levels of depressive symptoms and depressed mood when their partners display (or they perceive) low levels of responsiveness during the interaction.**

*Observer-rated responsiveness.* Actual partner responsiveness, assessed with the responsiveness score on the SBSS, did not predict depression for husbands ( $\beta = -.0004$ , SE = .002,  $p = ns$ ) or wives ( $\beta = .002$ , SE = .003,  $p = ns$ ). While partner attachment anxiety did not predict responsiveness for wives ( $\beta = 3.19$ , SE = 11.49,  $p = ns$ ), it was associated with lower

levels of responsiveness in husbands ( $\beta = -41.86, SE = 10.64, p < .001$ ), suggesting that when wives are higher in attachment anxiety, their husbands are less responsive towards them.

Although, actual responsiveness was not a significant mediator between attachment anxiety and depressive symptoms for either husbands ( $\beta = -.01, SE = .05, p = ns$ ) or wives ( $\beta = -.004, SE = .002, p = ns$ ), as neither indirect effect was significant.

*Perceived partner responsiveness.* Perceived partner responsiveness significantly predicted depressed mood following the interaction for both husbands ( $\beta = -.17, SE = .08, p < .01$ ) and wives ( $\beta = -.26, SE = .08, p < .01$ ), such that when either husbands or wives perceived their spouse as being more responsive during the interaction, they felt less depressed afterward. However, husbands' levels of attachment anxiety did not predict their perceptions of their wives' responsiveness ( $\beta = -.11, SE = .09, p = ns$ ). Only wives' anxiety predicted their perceptions of their husbands' responsiveness ( $\beta = -.30, SE = .082, p < .001$ ), such that when wives were more anxious they were more likely to perceive their husbands as having been less responsive during the interaction. Perceived partner responsiveness did in fact partially mediate the relationship between wives' attachment anxiety (controlling for avoidance) and their post-conflict depressed mood (see, Figure 1),  $\beta = .08, SE = .03, p < .01$  (indirect effect).

However, an alternate model was also tested, and similarly, wives' depressed mood also predicted her perceptions of their husbands' responsiveness ( $\beta = -.14, SE = .05, p < .01$ ). This relationship was also partially mediated by wives' attachment anxiety, such that when wives had more depressed moods after the conflict interaction, they were more likely to perceive their husbands as less responsive, if they were also high in attachment anxiety ( $\beta = -.06, SE = .02, p < .01$ ).

### **Predictions for Attachment Avoidance:**

**Hypothesis 3: When the partners of avoidantly attached individuals express humor and make relationship-enhancing attributions, avoidant individuals will have lower levels of depressive symptoms because such behaviors foster a positive mood and allow avoidant individuals to navigate the interaction without having to self-disclose, which they find distressing.**

*Humor.* Spousal use of humor, as measured by the “humor” code on the RMICS, did not significantly predict depression in husbands ( $\beta = -.01, SE = .04, p = ns$ ) or wives ( $\beta = -.04, SE = .05, p = ns$ ). Similarly, spousal use of humor was not predicted by husbands’ ( $\beta = .78, SE = .98, p = ns$ ) or wives’ ( $\beta = -1.52, SE = 1.33, p = ns$ ) attachment avoidance.

*Relationship-Enhancing Attributions.* Spousal relationship-enhancing attributions, as assessed by the “relationship-enhancing attributions” code on the RMICS, did not predict depression levels in husbands ( $\beta = .05, SE = .12, p = ns$ ) or wives ( $\beta = .12, SE = .13, p = ns$ ). When husbands were higher in attachment avoidance, wives tended to make fewer statements that put the relationship in a positive light ( $\beta = -.76, SE = .35, p < .01$ ); however, the association between own attachment avoidance and partner’s relationship-enhancing attributions was not significant for wives ( $\beta = -.13, SE = .53, p = ns$ ).

**Hypothesis 4: When partners engage in hostile behavior, avoidant individuals are expected to show more depressive symptoms.**

Partners’ hostile behavior, as assessed via the “hostile” code on the RMICS, predicted depression for wives ( $\beta = .17, SE = .06, p < .01$ ) but not for husbands ( $\beta = .02, SE = .04, p = ns$ ). When husbands were more hostile, wives reported more depressive symptoms. While own attachment avoidance did not predict partner hostile behavior for husbands ( $\beta = .77, SE = 1.12, p = ns$ ) or wives ( $\beta = 1.82, SE = 1.28, p = ns$ ), when wives were more anxious, husbands behaved

in a more hostile manner during the conflict interaction ( $\beta = .96, SE = .46, p < .05$ ). Although partner hostility did not mediate the relationship between avoidant attachment and depressive symptoms for husbands or wives ( $\beta = .02, SE = .04, p = ns$  and  $\beta = -.31, SE = .25, p = ns$ , respectively), husbands' hostile behavior did partially mediate the relationship between wives' attachment *anxiety* and wives' levels of depressive symptoms ( $\beta = -.17, SE = .06, p < .01$ ; See, Figure 2). Furthermore, an alternate model with wives' depression mediating the link between her attachment anxiety and husband's hostility was tested and did not hold ( $\beta = .72, SE = .51, p = ns$ ).

## CHAPTER 4

### DISCUSSION

Two potentially important findings emerged from this work. First, the link between wives' anxiety and depressive symptoms was partially accounted for by the extent to which their husbands displayed hostile behavior during the conflict interaction. Second, the link between wives' attachment anxiety and their depressed mood immediately following the discussion was partly explained by the extent to which wives perceived their husbands as responsive during the interaction. However, an alternate model was also supported where the link between wives' attachment anxiety and perceptions of their husbands' responsiveness was mediated by her depressed mood. Both findings concerning perceptions fit well with prior research, demonstrating that perceptions of spousal behavior are particularly important for explaining the relationship between attachment anxiety and depressive symptoms in women (Ko & Lewis, 2010; Conde et al., 2011). All findings in this work concern anxiously attached women only; however, this fits well with prior work. Women in this sample, and generally so (see, Kessler et al., 2003), have higher levels of depression than men, and attachment anxiety was more strongly associated with depression than avoidance in this sample, a finding that has been demonstrated in the attachment depression literature (see, Shaver et al., 2005; Roberts et al., 1996).

A number of hypotheses were not supported in this work. One potential explanation is that the variables are related not through mediation, but moderation. However, moderation models were tested in this sample and they did not hold. Another potential issue is that measuring attachment, behavior, and depression concurrently did not allow for the true nature of how these constructs work within relationships to be examined. As all participants in this research had been married for only 6 months or less, their depression was most likely not yet due

to issues associated with the marriage. Furthermore, the proposed mediation models rely on the assumption that one individual's attachment style elicits certain behaviors in her partner. While some prior work has demonstrated that individuals behave differently depending on their partners' attachment style when sharing positive experiences (Shallcross et al., 2011), perhaps individuals in the current study were not with their spouses long enough to be able to adapt and automatically tailor their responses to their relational tendencies. Testing these models when couples have been married for a longer period of time may yield different results.

Finding that husbands' hostility partially mediated the relationship between wives' anxiety and their depressive symptoms is unique, as thus far, no other work has examined how *actual* behavior plays a role in the relationship between attachment and depression. A wealth of research has examined the toxic quality of hostility among relationships; for example, in early marriage, hostility predicts lower marital quality 1, 2, and 3 years later (Newton & Kiecolt-Glaser, 1995). Specifically, hostility among husbands, predicts decreases in their own and their wives' marital quality years after marriage. Furthermore, *wives'* hostility predicts both their own and their husbands' lower marital adjustment over a year later (Baron, Smith, Butner, Nealy-Moore, Hawkins, & Uchino, 2007). Hostility is a discriminating factor in whether or not couples get divorced within the first five years of marriage (Rogge, Bradbury, Hahlweg, Engl, & Thurmair, 2006) and predicts marital satisfaction 18 months after marriage. Within a laboratory conflict interaction, similar to the paradigm used in this study, when husbands are high in hostility and low in defensiveness, this predicts greater overall conflict between the couple, while the same pattern was associated with withdrawal in wives (Newton, Kiecolt-Glaser, Glaser, Malarkey, 1995). Taken together, these findings highlight the negative impact of hostility on numerous aspects of marriage and are in keeping with the current work, which demonstrates that



hostility is problematic for the development of depression in anxiously attached women in particular.

In addition, the aforementioned finding is especially concerning for women high in attachment anxiety given that hostility is not only toxic to relationships, but also to health. In a marital problem-solving task, interactions marked by high hostility, specifically, elicited clinically significant increases in blood pressure in individuals with hypertension (Ewart, Taylor, Kraemer, & Agras, 1991). This association was particularly problematic for women, as hostile interactions and marital dissatisfaction accounted for 50% of the variance in women's systolic blood pressure. Other work suggests that instances of hostility affect the body long term and can affect the immune system and as a result, wound-healing (Kiecolt-Glaser, Loving, Stowell, Malarkey, Lemeshow, Dickinson, & Glaser, 2005). When couples were given blisters and then engaged in a social support or marital disagreement interaction, those who discussed an area of disagreement had slower wound healing and lower production of immune cytokines. These findings suggest that hostility generally has a deep impact on many aspects of health and in some cases, can be more detrimental to women. The current research contributes to this work by specifying that hostility is especially problematic for the mental health of women high in attachment anxiety, as a similar pattern is not observed for attachment avoidance.

Furthermore, the current work has demonstrated that perceptions of spousal responsiveness are particularly important in regard to anxiously attached women's depressed mood. While these variables are clearly related in a meaningful way, we found that two mediation models fit the data. First, women high in anxiety are more likely to see their spouses as less responsive. In turn, when women perceive their partners as behaving less responsively, they are more likely to have a depressed mood following the interaction. However, an alternate

model demonstrated that wives' depressed mood following the interaction predicts her perception of her partner's responsive behavior, and this link is mediated by wives' attachment anxiety. Both findings demonstrate a reciprocal process at work- one that does not hold for participants high in avoidance or for men in the study.

Past research has underscored the importance of perceptions of behavior within spousal interactions. While observing their partners in a stressful situation, those high in attachment anxiety are more likely to perceive more anxiety on the part of their partner and to feel more distress themselves; however, those high in attachment avoidance perceived less partner anxiety and felt more anger (Monin, Feeney, & Schulz, 2012). In addition, those high in attachment anxiety are particularly likely to perceive messages of genuine support from their partners as less supportive than those lower in anxiety (Collins & Feeney, 2004). Similarly, after discussing a major problem in their relationship, those high in attachment anxiety are prone to perceiving their partners and relationships in general less positively, and of those high in anxiety, women in particular were more likely to display increased levels of stress, anxiety and more negative behaviors (Simpson, Rholes, & Phillips, 1996). Men who were high in avoidance were rated as less warm and supportive by third-party observers, especially when discussing a major problem in the relationship (vs. a minor problem). The findings of the current work add to this literature by demonstrating that women high in anxiety are more likely to see their spouses as less responsive, a result that does not hold for participants high in avoidance or for men in the study. In turn, when women perceive their partners as behaving less responsively, they are more likely to have a depressed mood following the interaction. Other work has demonstrated that perceptions of support and response account for the relationship between attachment and depressive symptoms (i.e. Simpson et al., 2003); however, these findings add to this work by

defining conditions under which perceptions of low support might lead to negative outcomes in everyday interactions for anxiously attached women.

Recent research has emphasized the importance of *perceptions of* behavior over actual behaviors in the context of negative health outcomes. For example, regardless of attachment style, perceiving that one's spouse is giving ambivalent support (rather than entirely positive or negative support) during everyday events, has been linked to greater inflammation, which is linked to a host of deleterious cardiovascular health outcomes (Uchino, Bosch, Smith, Carlisle, Birmingham, Bowen, Light, Heaney, & O'Hartaigh, 2013). Within social interactions, perceiving both positive and negative (ambivalent) messages from an experimenter (as compared to only positive or negative) is associated with high Systolic Blood Pressure reactivity, a contributing factor to a multitude of negative health outcomes (Birmingham, Uchino, Smith, Light, & Sanbonmatsu, 2009).

### **Limitations and Future Directions**

This work is limited in a number of ways. First, it is correlational and therefore these variables may be associated in another way (depression predicts attachment with behavior mediating), or it could be that behavior is so highly related to both constructs that it leads to both decreased spousal attachment insecurity and increased depressive symptoms/affect. We did test alternate models to take a finer-grained look at the correlational nature of this work and found that wives' attachment anxiety mediated the relationship between her depressed mood following the interaction and her husbands' responsiveness. This leaves room for multiple interpretations and future work might test these relationships using an attachment-priming paradigm to clarify the relationship between wives' attachment anxiety and her depressed mood. An experimental paradigm would allow for causal inferences about the relationships between these variables.

Alternate models did not hold for the finding concerning wives' attachment anxiety and husbands' hostility.

Second, the current sample is primarily white, middle-class, and entirely made up of newlywed couples. Some work suggests that attachment processes operate differently in other races (i.e. African-American women; Cooley & Garcia, 2012) where exercising caution in close relationships might actually be adaptive. Future work should examine these findings in a more representative sample and also in older couples who have been married for a longer period of time. It is possible that these processes operate differently in other racial or socioeconomic groups and also that they change over time.

While the findings of this work have not clearly answered the question of how attachment anxiety and avoidance may differently relate to depression through behavior, they have provided some insight into the processes at work and where future research may build on these findings. They also provide support for including couples' behavior (as anxious women seem to be particularly sensitive to their husbands' hostility) into therapeutic interventions where at least one partner is experiencing dysphoria or depression. In addition, these findings echo prior work that emphasizes the importance of perceptions in social interaction. The way that individuals perceive their partners' behaviors may be more important for predicting depression with some behaviors than others. For instance, caregiving behaviors, like responsiveness, may be best characterized by the care recipient's perceptions of responsiveness and more instrumental behaviors, like the use of humor, may be better characterized by actual, coded behaviors. Future work should take the nature of each behavior into consideration when choosing the best way to operationalize behavioral constructs.

Overall, these findings highlight the importance of perceptions of spousal support behavior and actual spousal hostile behavior for the mental well being of anxiously attached newlywed women. Both findings fit well with prior research and have strong implications for future work seeking to examine the attachment-depression link. The lack of support for a number of hypotheses calls for more investigation into the role of behavior and a look at how these processes operate over the course of marriage. Regardless, a strong argument can be made that anxiously attached women are an important population of interest when studying this association and that a combination of perception-based behavioral measures and coded behaviors may be the most accurate way to examine this topic.

**Table 1: Descriptive Information**

	Husbands		Wives	
	<i>M(SD)</i>	Range	<i>M(SD)</i>	Range
Attachment Avoidance	1.84(.67)	3.78	1.59(.58)	3.06
Attachment Anxiety	2.48(.84)	4.28	2.72(1.02)	5.11
Depressive Symptoms	10.16(5.99)	38.00	11.76(7.62)	45.00
Hostility	3.71(6.67)	50.00	5.01(8.59)	70.00
Relationship-Enhancing Attributions	4.20(3.28)	15.00	4.53(3.14)	15.00
Humor	9.83(8.30)	41.00	11.37(8.87)	46.00
Secure Base Support (Centered)	0(1.33)	6.00	0(1.01)	6.00
Responsiveness (Centered)	0(1.42)	6.00	0(1.25)	6.00
Perceptions of Spousal Response	3.75(1)	4	3.83(1.09)	4

*Notes.*  $N = 209$ . For all variables, higher numbers indicate more of that construct.

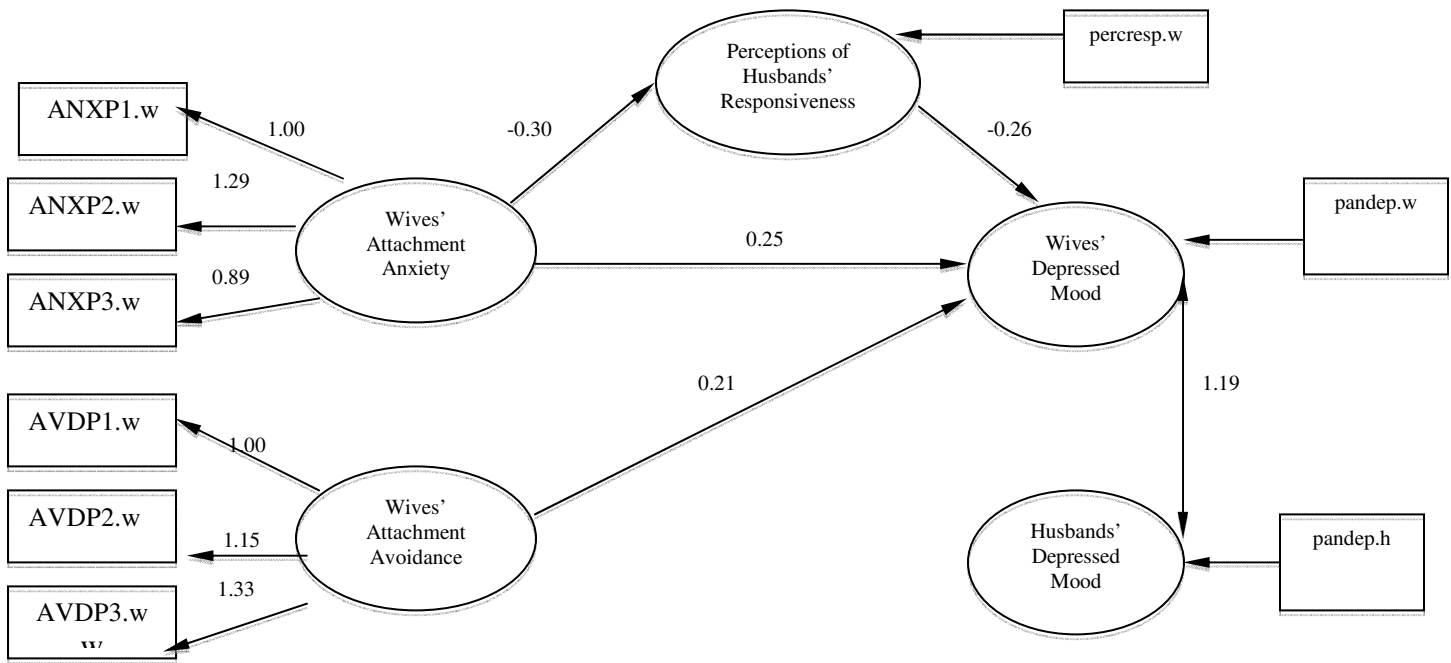
**Table 2: Zero-order Correlations among all variables**

Table 2

*Zero-order correlations among all variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Attachment Anxiety																			
1.Wives		.19**	.12**	.31**	.20**	.19**	.19**	.06	.21**	.08	.11*	.29**	.19**	.19**	.07	.08	.09	.01	
2.Husbands			.29**	.38**	.03	.06	.12	.32**	...	.05	.11	.03	.04	.02	.06	-.8*	.04	.02	
Attachment Avoidance																			
3.Wives				.28**	.20**	.22**	.36**	...	.18**	.21**	-.0*	.16*	.11	.18**	.06	.09	.02	.003	
4.Husbands					.02	.06	.2**	.27**	.23**	-.33**	.04	-.16*	.06	.00	.05	.06	-.3	-.01	
Depressive Mood																			
5.Wives						.92**	.17*	.01	.32**	.26**	.29**	.22**	.22**	.21**	.25**	.16*	.03	.08	
6.Husbands							.17**	.06	.33**	.33**	.30**	.26**	.24**	.19**	.27**	.19**	.01	.09	
Depressive Symptoms																			
7.Wives								.4*	.03	.05	..	.13	.01	.06	.09	.11	.05	.05	
8.Husbands									.03	.05	.08	.09	.03	.02	.03	.11	.02	.04	
Perceptions of Partner Responsiveness																			
9.Wives										.55**	.38**	.55**	.40**	.40**	.05	.09	.09	.01	
10.Husbands											.30**	.29**	.34**	.29**	.14*	.08	.14*	.01	
Responsive Behavior																			
11.Wives												.46**	.45**	.41**	.14	.29**	.02	.02	
12.Husbands													-.41	-.25**	-.02	.06	.09	.10	
Hostile Behavior																			
13.Wives														.8**	.06	.02	.04	-.0*	
14.Husbands															.03	.004	.06	.10	
Use of Humor																			
15.Wives																	.51**	.01	.03
16.Husbands																		.00	.03
Relationship-Enhancing Attributions																			
17.Wives																			.21**
18.Husbands																			

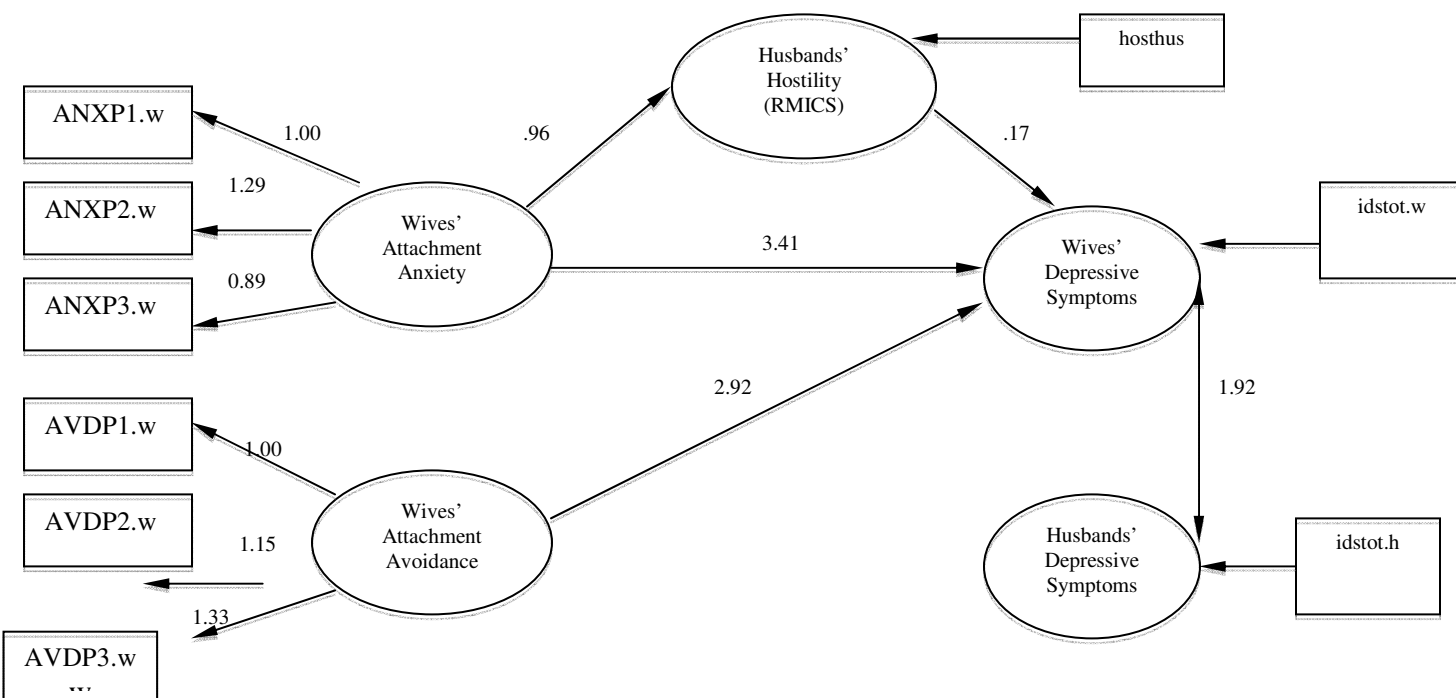
Notes. \* = significant at  $p < .05$  level, \*\*significant at  $p < .01$  level, \*\*\*significant at  $p < .001$  level.



**Figure 1: The relationship between wives' attachment anxiety and depressed mood is partially mediated by perceptions of their husbands' responsiveness.**

*Notes.* All relationships are significant at the  $p < .01$  level. The relationship between wives' attachment and her depressive mood is reduced (although still significant) with the inclusion of the mediator. Indicators of perceptions of responsiveness and depressed mood all load onto their factors with a relationship of 1.





**Figure 2: The relationship between wives' attachment anxiety and depression is partially mediated by levels of their husbands' hostility during a conflict interaction.**

*Notes.* All relationships are significant at the  $p < .01$  level. The relationship between wives' attachment and her depression is reduced (although still significant) with the inclusion of the mediator. Indicators of hostility and depressed mood all load onto their factors with a relationship of 1.

## REFERENCES

- Ainsworth, M., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Oxford England: Lawrence Erlbaum.
- Baron, K., Smith, T. W., Butner, J., Nealey-Moore, J., Hawkins, M. W., & Uchino, B. N. (2007). Hostility, anger, and marital adjustment: Concurrent and prospective associations with psychosocial vulnerability. *Journal Of Behavioral Medicine, 30*(1), 1-10.
- Beach, S.R.H., Sandeen, H.H., & O'Leary, K.D. (1990). *Depression in marriage: A model for etiology and treatment*. New York: Guilford Press.
- Beck, L.A., Pietromonaco, P.R., DeVito, C.C., Powers, S.I., & Boyle, A.M. (2013). Congruence between spouses perceptions and observers' ratings of responsiveness: The role of attachment avoidance. *Personality and Social Psychology Bulletin*, doi: 10.1177/0146167213507779.
- Bifulco, A., Moran, P. M., Ball, C., & Lillie, A. (2002) Adult attachment style: It's relationship to psychosocial depressive vulnerability. *Social Psychiatry & Psychiatric Epidemiology, 37*, 60-67.
- Birmingham, W., Uchino, B. N., Smith, T. W., Light, K. C., & Sanbonmatsu, D. M. (2009). Social ties and cardiovascular function: An examination of relationship positivity and negativity during stress. *International Journal Of Psychophysiology, 74*(2), 114-119.
- Bowlby, J. (1969), *Attachment and loss, Vol.1: Attachment*. New York: Basic Books.

- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson, W. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York, NY US: Guilford Press.
- Carnelley, K. B., Pietromonaco, P. R., & Jaffe, K. (1996). Attachment, caregiving, and relationship functioning in couples: Effects of self and partner. *Personal Relationships, 3*(3), 257-277.
- Collins, N. L., & Feeney, B. C. (2000). A safe haven: An attachment theory perspective on support seeking and caregiving in intimate relationships. *Journal Of Personality And Social Psychology, 78*(6), 1053-1073.
- Collins, N. L., & Feeney, B. C. (2004). Working models of attachment shape perceptions of social support: Evidence from experimental and observational studies. *Journal Of Personality And Social Psychology, 87*(3), 363-383.
- Conde, A., Figueiredo, B., & Bifulco, A. (2011). Attachment style and psychological adjustment in couples. *Attachment & Human Development, 13*(3), 271-291.
- Cooley, E. L., & Garcia, A. L. (2012). Attachment style differences and depression in African American and European American college women: Normative adaptations. *Journal Of Multicultural Counseling And Development, 40*(4), 216-226.
- Coyne, J. C. (1976). Depression and the response of others. *Journal Of Abnormal Psychology, 85*(2), 186-193.
- Coyne, J. C., Thompson, R., & Palmer, S. C. (2002). Marital quality, coping with conflict, marital complaints, and affection in couples with a depressed wife. *Journal Of Family Psychology, 16*(1), 26-37.

- Coyne, J.C. & Whiffen, V.E. (1995). Issues in personality as a diathesis for depression: The case of sociotropy-dependency and autonomy-self-criticism. *Psychological Bulletin*, 118, 358-378.
- Crowell, J. A., Treboux, D., Gao, Y., Fyffe, C., Pan, H., & Waters, E. (2002). Assessing secure base behavior in adulthood: Development of a measure, links to adult attachment representations and relations to couples' communication and reports of relationships. *Developmental Psychology*, 38(5), 679-693.
- Ewart, C. K., Taylor, C. B., Kraemer, H. C., & Agras, W. S. (1991). High blood pressure and marital discord: Not being nasty matters more than being nice. *Health Psychology*, 10, 155-163.
- Fraley, R., & Shaver, P. R. (1998). Airport separations: A naturalistic study of adult attachment dynamics in separating couples. *Journal Of Personality And Social Psychology*, 75(5), 1198-1212.
- Hammen, C., Ellicott, A., Gitlin, M., & Jamison, K.R. (1989). Sociotropy/autonomy and vulnerability to specific life events in patients with unipolar depression and bipolar disorders. *Journal of Abnormal Psychology*, 98, 154-160.
- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal Of Personality And Social Psychology*, 52(3), 511-524.
- Hazan, C., & Shaver, P. R. (1994). Deeper into attachment theory. *Psychological Inquiry*, 5(1), 68-79.
- Heyman, R. E., Eddy, J., Weiss, R. L., & Vivian, D. (1995). Factor analysis of the Marital Interaction Coding System (MICS). *Journal Of Family Psychology*, 9(2), 209-215.

- Holt-Lunstad, J., Smith, T. W., & Uchino, B. N. (2008). Can hostility interfere with the health benefits of giving and receiving social support? The impact of cynical hostility on cardiovascular reactivity during social support interactions among friends. *Annals Of Behavioral Medicine, 35*(3), 319-330.
- Hong, R. Y. (2007). Worry and rumination: Differential associations with anxious and depressive symptoms and coping behavior. *Behavior Research and Therapy, 45*(2), 277-290.
- Howland, M. & Simpson, J. (2013). Attachment orientations and reactivity to humor in a social support context. *Journal of Social and Personal Relationships, 1-24*.
- Joiner, T. E., Alfano, M. S., & Metalsky, G. I. (1992). When depression breeds contempt: Reassurance seeking, self-esteem, and rejection of depressed college students by their roommates. *Journal Of Abnormal Psychology, 101*(1), 165-173.
- Keller, Matthew C., and Nesse, R.M. (2006), The Evolutionary Significance of Depressive Symptoms: Different Adverse Situations Lead to Different Depressive Symptom Patterns, *Journal of Personality and Social Psychology, 91*, 316-330.
- Kessler, R.C., Berglund P., Demler, O., Jin, R., Koretz, D., Merikangas, K.R., Rush, A.J., Walters, E.E., Wang, P.S. (2003). The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). *Journal of the American Medical Association, 289*(3), 3095-3105.

- Kiecolt-Glaser, J., Loving, T.J., Stowell, J.R., Malarkey, W.B., Lemeshow, S., Dickinson, S.L., & Glaser, R. (2005). Hostile marital interactions, proinflammatory cytokine production and wound healing. *Archives of General Psychiatry, 62*, 1377-1384.
- Ko, L.M., & Lewis, M.A. (2010). The role of giving and receiving emotional support on depressive symptomology among older couples: An application of the actor-partner interdependence model. *Journal of Social and Personal Relationships, 28*, 83-99.
- Laurent, H. K., Kim, H. K., & Capaldi, D. M. (2009). Longitudinal effects of conflict behaviors on depressive symptoms in young couples. *Journal Of Family Psychology, 23*(4), 596-605.
- Lee, A., & Hankin, B. L. (2009). Insecure attachment, dysfunctional attitudes, and low self-esteem predicting prospective symptoms of depression and anxiety during adolescence. *Journal Of Clinical Child And Adolescent Psychology, 38*(2), 219-231.
- Liew, H. (2012). Depression and chronic illness: A test of competing hypotheses. *Journal Of Health Psychology, 17*(1), 100-109.
- Lynch, T. R., Robins, C. J., & Morse, J. O. (2003). Couple Functioning in Depression: The Roles of Sociotropy and Autonomy. *Journal Of Clinical Psychology, 59*(12), 1349-1359.
- Mikulincer, M. & Shaver, P. R. (2007) Attachment in Adulthood: Structure, Dynamics & Change. Guilford Press.
- Monin, J. K., Feeney, B. C., & Schulz, R. (2012). Attachment orientation and reactions to anxiety expression in close relationships. *Personal Relationships, 19*(3), 535-550.

- Newton, T. L., & Kiecolt-Glaser, J. K. (1995). Hostility and erosion of marital quality during early marriage. *Journal Of Behavioral Medicine, 18*(6), 601-619.
- Newton, T. L., Kiecolt-Glaser, J. K., Glaser, R., & Malarkey, W. B. (1995). Conflict and withdrawal during marital interaction: The roles of hostility and defensiveness. *Personality And Social Psychology Bulletin, 21*(5), 512-524.
- Roberts, J. E., Gotlib, I. H., & Kassel, J. D. (1996). Adult attachment security and symptoms of depression: The mediating roles of dysfunctional attitudes and low self-esteem. *Journal Of Personality And Social Psychology, 70*(2), 310-320.
- Rogge, R. D., Bradbury, T. N., Hahlweg, K., Engl, J., & Thurmaier, F. (2006). Predicting marital distress and dissolution: Refining the two-factor hypothesis. *Journal Of Family Psychology, 20*(1), 156-159.
- Rush, A.J., Guillon, C.M., Basco, M.R., Jarrett, R.B., Trivedi, M.H. (1996). The inventory of depressive symptomatology (IDS): Psychometric properties. *Psychol. Med.* 26, 477–486.
- Scharfe, E. (2007). Cause or consequence?: Exploring causal links between attachment and depression. *Journal Of Social And Clinical Psychology, 26*(9), 1048-1064.
- Shallcross, S. L., Howland, M., Bemis, J., Simpson, J. A., & Frazier, P. (2011). Not “capitalizing” on social capitalization interactions: The role of attachment insecurity. *Journal Of Family Psychology, 25*(1), 77-85.
- Shaver, P. R., Schachner, D. A., & Mikulincer, M. (2005). Attachment Style, Excessive Reassurance Seeking, Relationship Processes, and Depression. *Personality And Social Psychology Bulletin, 31*(3), 343-359.

- Simpson, J. A., Collins, W., Tran, S., & Haydon, K. C. (2007). Attachment and the experience and expression of emotions in romantic relationships: A developmental perspective. *Journal Of Personality And Social Psychology*, 92(2), 355-367.
- Simpson, J. A., & Rholes, W. S. (1994). Stress and secure base relationships in adulthood. In K. Bartholomew, D. Perlman (Eds.), *Attachment processes in adulthood* (pp. 181-204). London England: Jessica Kingsley Publishers.
- Simpson, J. A., Rholes, W., Campbell, L., & Wilson, C. L. (2003). Changes in attachment orientations across the transitions to parenthood. *Journal Of Experimental Social Psychology*, 39(4), 317-331.
- Simpson, J. A., Rholes, W., Campbell, L., Tran, S., & Wilson, C. L. (2003). Adult attachment, the transition to parenthood, and depressive symptoms. *Journal Of Personality And Social Psychology*, 84(6), 1172-1187.
- Simpson, J. A., Rholes, W., & Phillips, D. (1996). Conflict in close relationships: An attachment perspective. *Journal of Personality and Social Psychology*, 71(5), 899-914.
- Sroufe, L., & Waters, E. (1977). Attachment as an organizational construct. *Child Development*, 48(4), 1184-1199.
- Tran, S., & Simpson, J. A. (2009). Prorelationship maintenance behaviors: The joint roles of attachment and commitment. *Journal Of Personality And Social Psychology*, 97(4), 685-698.



Uchino, B. N., Bosch, J. A., Smith, T. W., Carlisle, M., Birmingham, W., Bowen, K. S., & ...

O'Hartaigh, B. (2013). Relationships and cardiovascular risk: Perceived spousal ambivalence in specific relationship contexts and its links to inflammation. *Health Psychology, 32*(10), 1067-1075.

Watson, D., O'Hara, M. W., Simms, L. J., Kotov, R., Chmielewski, M., McDade-Montez, E.A., Gamez, W., & Stuart, S. (2007). Development and validation of the inventory of depression and anxiety symptoms (IDAS). *Psychological Assessment, 19* (3), 253-268.

Whiffen, V. E., & Aube, J. A. (1999). Personality, interpersonal context and depression in couples. *Journal Of Social And Personal Relationships, 16*(3), 369-383.

Wulsin, L. R. (2004). Is depression a major risk factor for coronary disease? A systematic review of the epidemiologic evidence. *Harvard Review Of Psychiatry, 12*(2), 79-93.

Youngren, M. A., & Lewinsohn, P. M. (1980). The functional relation between depression and problematic interpersonal behavior. *Journal Of Abnormal Psychology, 89*(3), 333-341.