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Romantic relationship memory effects on future romantic relationship forecasts: differences by attachment

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**Romantic Relationship Memory Effects on
Future Romantic Relationship Forecasts:
Differences by Attachment**

By

Derek D. Caperton

Accepted in Partial Completion
Of the Requirements for the Degree
Master of Science

Kathleen L. Kitto, Dean of the Graduate School

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MASTER'S THESIS

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Derek D. Caperton

August 1, 2014

**Romantic Relationship Memory Effects on
Future Romantic Relationship Forecasts:
Differences by Attachment**

A Thesis

Presented to

The Faculty of

Western Washington University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science

by

Derek D. Caperton

August 2014

Abstract

The present study experimentally investigated the effects of recalling romantic relationship memories on forecasts for future romantic relationships for people of different attachment orientations. I assessed 133 college students not in a romantic relationship at the time of the study for their attachment group membership and asked them to recall and write about either their most vivid positive or negative romantic relationship memory. I measured the effects of recalling the memory on mood and asked participants to make a series of predictions, or forecasts, concerning the quality of an imagined future relationship in which they were a part. I expected secure individuals' lack of defensive processing would lead to mood changes congruent with the valence of the memory they recalled, but that their stable positive relationship attributions would result in uniformly positive forecasts. I expected dismissive individuals to be emotionally indifferent to their memories and consistently negative in their forecasts. Finally, I hypothesized that preoccupied individuals' hypervigilance to relationship information would lead to memory-congruent mood changes that would carry over to differentiate the quality of their forecasts. I generally found support for my hypotheses. Secure individuals' mood changes differed dependent on the memory they recalled, but their positive forecasts did not. Memory valence did not change or differentiate dismissive individuals' mood, but memories unexpectedly did affect the quality of dismissive individuals' forecasts. Preoccupied individuals, finally, did experience mood changes as expected, and their forecasts generally changed congruent with the valence of the memory they recalled. Overall, secure individuals' forecasts of an imagined future relationship were more positive than their insecure counterparts'.

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Romantic Relationship Memory Effects on Future Romantic Relationship Forecasts: Differences by Attachment

It is a central tenet of attachment theory (Bowlby, 1969, 1973, 1980) that past relationship experiences guide those of future relationships. Indeed, the body of attachment research thus far supports this contention, revealing connections between individuals' earlier attachment and current relationship characteristics (Fraley, 2002; Waters, Weinfield, & Hamilton, 2000). However, we understand little of the mechanisms behind these patterns, particularly in the realm of romantic relationships (Furman & Winkles, 2011). Although styles of attachment reliably predict the experiences of individuals in romantic relationships (e.g., Feeney & Noller, 1990; Heffernan, Fraley, Vicary, & Brumbaugh, 2012; Simpson, 1990), we still do not fully understand by what means these patterns are perpetuated. One possibility is that attachment shapes the autobiographical memories individuals carry from earlier relationship experiences (Feeney & Cassidy, 2003; Philippe, Koestner, & Lokes, 2013; Simpson, Rholes, & Winterheld, 2010), and that these memories color expectations and beliefs about new relationships, affecting behavior (Downey, Freitas, Michaelis, & Khouri, 1998; Schacter & Addis, 2007).

The present study experimentally investigates the effects of emotional memories from past romantic relationships on mood and predictions, or *forecasts*, about future relationships, and whether these effects differ depending on predominant attachment style. Examining how individuals of different attachment orientations forecast future romantic relationships and how those forecasts are affected by an arousing relationship memory can inform how attachment and autobiographical memories interact to inform relationship functioning.

Broadly, this study will shed light on cognitive and emotional mechanisms underlying attachment-related differences in romantic relationships.

Attachment Theory and Romantic Relationships

One way to conceptualize romantic relationships is as an attachment process. Attachment theory (Bowlby, 1969, 1973, 1980) is an evolutionary, ethological model of human relationships originally designed to explain and predict mother-child interactions. Attachment theory postulates that a human's first relationships (most pertinently with a primary caregiver, often the mother; Ainsworth, 1979) lay the framework for social interactions, and this framework reverberates throughout a lifetime. In adulthood, attachment anxiety and avoidance (Bartholomew & Horowitz, 1991) commonly conceptualizes patterns of attachment, where the co-occurring degree of each dimension denotes an individual's classification. High attachment anxiety suggests fears of rejection and abandonment manifest as excessive worry over a partner's availability and attention. Low attachment anxiety, in contrast, indicates more confidence in the beneficence of a partner's intentions and responsiveness. High ratings of attachment avoidance imply preference for independence and discomfort with closeness, while low attachment avoidance suggests comfort with intimacy and relational interdependence. Secure individuals are low in both attachment anxiety and avoidance. Dismissive individuals are high in avoidance and low in anxiety, and those high in anxiety and low in avoidance are preoccupied.¹

¹ A fourth attachment orientation, fearful attachment, denotes individuals high in levels of anxiety and avoidance simultaneously. However, I will not discuss or investigate fearful attachment in this study because of the frequently opposing emotional, cognitive, and behavioral patterns typical of high avoidance and high anxiety (detailed above and below). The theoretical (and, indeed, practical; Bartholomew & Horowitz, 1991; Shaver & Mikulincer, 2002) incoherence of fearful attachment make the prototype unpredictable in the context of this study and a three-prototype approach has precedence (Hazan & Shaver, 1987).

Notably, an individual's attachment prototype is associated with romantic relationship quality and satisfaction (Simpson, 1990; see Mikulincer & Shaver, 2010, for a review). Attachment security positively correlates with relationship satisfaction, and insecure attachment (high anxiety and/or avoidance) is linked to relatively less relationship satisfaction (J. Feeney, 2008). Further, secure attachment positively correlates with trust, interdependence, and commitment. Secure individuals also experience greater intimacy and stability in their relationships. Anxiety, however, negatively relates with trust, and preoccupied individuals experience higher incidence of jealousy, conflict, and negative emotions. Attachment avoidance is also associated with undesirable relationship experiences, being negatively associated with interdependence, intimacy, and commitment. Moreover, securely attached individuals are more adept at solving relational conflicts than their insecure counterparts, again resulting in heightened satisfaction in the relationship. Finally, attachment security positively correlates with the frequency of reported positive emotions and negatively correlates with negative emotions in romantic relationships; anxiety and avoidance correlate in the reverse fashion (Caperton & Goodvin, 2014; Simpson, Collins, Tran, & Haydon, 2007).

Internal Working Models

To explain how and why patterns of attachment persist within individuals, Bowlby (1969, 1973, 1980) developed the concept of the "internal working model." Internal working models are mental representations of attachment information. Attachment events from infancy through adulthood inform the nature of internal working models, cumulatively enacting an "internal simulation" of attachment information (Bowlby, 1988, as cited in Bretherton & Munholland, 2008; Main, Kaplan, & Cassidy, 1985). This simulation creates a

default framework for close relationships that supplants the need for creating individual mental models for every distinct relationship.

Secure individuals hold positive internal working models typified by comfort with both closeness and independence, and trust that they are accepted and loved (Hazan & Shaver, 1987). Further, secure individuals hold positive dispositions toward other people, assuming others are trustworthy, dependable, and altruistic (Collins & Read, 1990), and believe that their attachment figures are available and helpful to them in distressing situations.

An obsession for closeness and fear of an inaccessible partner dominate the working models of preoccupied individuals. They harbor deep concerns that their partner does not reciprocate the intensity of their commitment (Hazan & Shaver, 1987). Preoccupied individuals also evidence low self-worth and social self-confidence. They believe that they have little control over their lives and find understanding others to be complex and challenging (Collins & Read, 1990). Preoccupied individuals also make negative attributions for ambiguous relational behaviors (Collins, 1996) and respond to true relational negativity with anger and hostility (Simpson, Rholes, & Phillips, 1996). Preoccupied individuals, because of their uncertainty that attachment figures will be accessible and supportive, intensify their efforts to manage a relationship when under duress. This hyperactivation of emotion and coping strategies (Mikulincer & Shaver, 2003) often has the opposite effect that was desired. As opposed to resolution of distress, preoccupied strategies demand more from the attachment partner than can be expected, adding to the original source of distress.

Finally, the dismissive working models of some individuals predispose them to eschew relational intimacy in favor of independence, fearing the loss of their personal

agency. Dismissive individuals prefer autonomy and self-sufficiency in their relationships and are uncomfortable with the notion of dependence (their own or their partner's) in a relationship (Hazan & Shaver, 1987). Dismissive individuals, who typically maintain relatively high self-worth and assertiveness, find that those competencies wilt in social situations, especially those of an intimate nature. They generally do not consider other people to be trustworthy or dependable (Collins & Read, 1990).

Implicit within the above descriptions are patterns of how individuals attend to attachment information. Preoccupied individuals hyperattend to attachment information for fear of losing their partners and dismissive individuals ignore attachment information out of fear of losing their independence. Although these individual characteristics are considered global relationship strategies (Fraley & Shaver, 2000) implemented as foundational relationship schemes, it is key to understand the trigger that activates the most prototypical attachment protocols: stress (Simpson & Rholes, 2012). The working models of stressed insecure individuals react defensively in the interest of protecting the self. Preoccupied individuals react to stressful relationship information by being hyperattentive and over-sensitive to the source of the stress. Dismissive individuals, however, diminish the importance of the attachment information at the source of their stress, even neglecting its existence. Meanwhile, secure individuals not only are more capable at constructively coping with relationship stress, attachment information in general does not threaten them. For these reasons, secure individuals do not resort to defensive mechanisms to abate relationship stressors (Mikulincer & Shaver, 2003; Rholes, Simpson, & Orina, 1999). These patterns have implications for the autobiographic memories of romantic relationships that individuals are

likely to hold, and for how memories that are consistent, or inconsistent, with their attachment working model affect them.

In summary, secure individuals trust in their partners, assume their partners love and desire them, and generally have positive mental models of relationships. Insecure individuals, however, work from the assumption that romantic relationships are difficult and troubling.

Internal Working Models and Memory

A growing body of research demonstrates that the events and stories individuals recall and share about their relationships reflects attachment working models. Recent research demonstrates that memory content and themes differ by attachment style. For example, Nosko, Tieu, Lawford, and Pratt (2011) found in a longitudinal study that the themes described in participants' "relationship defining" memory narratives had predictable attachment correlates. Dismissive and preoccupied individuals were more likely to tell stories about a relationship breaking-up than were secure individuals, who most frequently recalled stories of "true love." Dismissive individuals were most likely to tell stories of independence in their past relationships. Further, highly avoidant individuals also have the most difficulty recalling their own (Mikulincer & Orbach, 1995) and others' (Fraley & Brumbaugh, 2007) relationship information.

The emotional content of memories is also subject to attachment differences. In general, the emotional content of an event is retained in memory (Christianson & Engleberg, 1999) and conjured once again when the memory is activated (Collins & Allard, 2004), measurably altering an individual's physiological and psychological state (Philippe, Koestner, Lecours, Beaulieu-Pelletier, & Bois, 2011; Schwartz, Weinberger, & Singer, 1981). However, attachment-related individual differences in this effect exist. For example,

in evaluating recent emotional events, attachment anxiety and avoidance both predict lower levels of recalled positive emotion (Gentzler & Kerns, 2006). In addition, dismissive individuals also recall less negative emotional attachment information when compared to others (Edelstein, 2006), and their memories of either emotional valence tend to be relatively milder in intensity as well (Mikulincer & Orbach, 1995). Anxious individuals, on the other hand, recall memories of sadness, anger, and anxiety more quickly than people of other attachment styles do. Further, preoccupied individuals evidence greater emotionality and affect intensity in recalling emotional attachment events than others, even though they did not report greater emotionality during the original event (Pietromonaco & Barrett, 1997). Attachment security, in contrast, is associated with a more complete recall of emotional memories (Mikulincer et al., 2001; Rowe & Carnelley, 2003). Secure individuals also recall more positive emotions in their attachment memories, which incidentally combat negative affective states (Pereg & Mikulincer, 2004). Indeed, secure individuals even recall more positive events from stories when primed with a rejection-oriented cue, whereas insecure people better recall negative events when primed with rejecting or supporting stimuli (Miller & Noirot, 1999). That is, despite being primed for thoughts of rejection, secure individuals still recall more positive events, while their insecure counterparts recall more negative events, regardless of primed mindset.

In summary, secure individuals' memories tend to be overall more positive in nature, leading to greater psychological resiliency in stressful situations (Philippe, Lecours, Beaulieu-Pelletier, 2009). In contrast, preoccupied and dismissive individuals report more negative emotion and negative events in their memories. Further, while preoccupied individuals are likely to recall negative valence memories quickly and with high intensity, the

memories of dismissive individuals are less complete and coherent in areas of attachment information and relational emotion. These patterns are largely consistent with proposals regarding attachment and attention to relationship salient information, described above.

Internal Working Models and Forecasts

Key to Bowlby's conception of internal working models (Bowlby, 1969, 1973, 1980) is their purported predictive function. In addition to providing robust conditional guidelines for memory protocols and interactions in the present (Simpson & Rholes, 2012), internal working models should anticipate the nature of future interactions. In other words, attachment theory posits that internal working models organize dispositional outlooks and specific predictions of future relationships, dependent on the course and character of past relationships. This facet of attachment theory predicts that experiences from past relationships should inform cognitions concerning future relationships in a thematically coherent manner. For example, if an individual has only known abusive romantic relationships in the past, attachment theory would predict that the individual would expect abuse in subsequent relationships. The same would hold true for an individual who has only known supportive and loving relationships. The effects of experiences do not stop with forecasts, however. Indeed, Bowlby posited that outlook would actualize in a sort of self-fulfilling prophecy (Holmes, 1993). That is, he predicted that expectations about the future would mediate links between past events and future behavior. If an individual believes that relationships operate in a certain fashion (because of remembered past experiences), those predictions would likely become manifest (Downey, Freitas, Michaelis, & Khouri, 1998). This line of thinking is not novel to attachment theory – Piagetian schemas (Piaget, 1928), behavioral scripts (Anderson, 1983), mental simulations in cognitive neuroscience (Adolphs,

2006; Gallese 2005), and comparable ideas in other areas (e.g., Abelson, 1981; Bluck, 2003; Pillemer, 2003; Ross, 1989; Schacter et al., 2012) all predict similar patterns.

Several studies have found support for this aspect of internal working models in the context of romantic relationships. Collins (1996) found that preoccupied and dismissive individuals have more negative explanations of hypothetical relationship events than secure individuals do. Dismissive individuals, despite their negative explanations, did not express emotional distress. Preoccupied individuals, however, experienced more emotional stress in response to the hypotheticals and indicated response behaviors that would likely result in additional conflict. This result could help explain research relating attachment anxiety negatively to optimism about future love relationships (Carnelley & Janoff-Bulman, 1992). Similarly, Mohr, Crook-Lyon, and Kolchakian (2010) also examined how current attachment style related to expectations about a relationship with an imagined future romantic partner. In response to a hypothetical situation addressing the fallout of an imagined argument with this fictional partner, Mohr and colleagues found that high attachment avoidance predicted that the participant expected to respond negatively, and that high attachment anxiety predicted expecting that their partner would respond negatively. Mohr and colleagues also found that both indices of insecurity predicted aversive communication patterns, and that avoidance related to predictions of lower satisfaction in the future relationship. Corroborating evidence for the effects of forecasts have been found outside of an attachment context as well, indicating that the emotional valence (Kuwabara & Pillemer, 2010) or need satisfaction (Philippe, Koestner, Beaulieu-Pelletier, Lecours, & Lekes, 2012) of recalled memories impact subsequent decisions, actions, incidence of break-up, and well-being.

These results suggest that working models do function to inform affective reactions and cognitions about future romantic relationships. In general, the absence of attachment anxiety and avoidance seems to result in a relatively more positive forecast. Attachment avoidance, by comparison, relates to beliefs that future relationships will be less satisfying, while maintaining the theme of emotional detachment. Likewise, patterns observed in anxious working models elsewhere hold true in forecasts. Preoccupied individuals are most likely to assume that their partner is not trustworthy, hyperactivate their emotions, and feel that there is little cause for optimism concerning future relationships. Should the patterns predicted above come to fruition in a sort of self-fulfilling prophecy, as attachment theory would predict and other research suggests, forecasts could be powerful predictors of future relationship quality and satisfaction.

The Present Study

As reviewed above, attachment internal working models likely play a role in what memories from past relationships people experience and recall. Despite these predispositions, it is likely that individuals have a range of relationship experiences, and thus relationship memories. For example, although avoidant individuals are disproportionately likely to recall break-up narratives when asked to recall a romantic relationship memory, at some point they experienced the formation of those close relationships and their associated positive experiences before the break up. The question of theoretical (and practical) interest, therefore, is what effect deliberately recalling a positive or a negative romantic relationship memory has on relationship forecasts, and whether the valence of the memory differentially affects secure, dismissive, and preoccupied individuals. This question becomes particularly interesting when considering how an individual might react to being asked to reminisce in a

manner antithetical to their typical attachment processes. Secure individuals, for example, are predisposed toward recalling positive memories – what happens when they are explicitly asked to recall negative ones? Further, preoccupied individuals can be emotionally volatile and particularly negative – how would they react to being asked to recall a relationship memory they consider most positive? Moreover, for dismissive individuals, who belittle the importance of their attachment memories in general, how might asking them to recall their most positive or negative emotional attachment memories affect them? This study will examine how remembering a relationship experience that is either consistent or inconsistent with existing internal working models may affect expectations for future romantic relationships.

The effect of recalling emotional memories on forecasts, either consistent with or contradictory to an individual's internal working model, could become manifest in their forecasts in a number of ways. For example, recalling a positive memory might not cause the forecasts of secure individuals to be substantially more positive than they already were, but recalling a positive memory might prompt insecure, especially preoccupied, individuals to make relatively more positive forecasts. This is because secure individuals already have positive outlooks for their future romantic relationships, and so a corroborating memory would do little to augment that outlook. However, a preoccupied individual, with the combined characteristics of a more dispositional negative outlook *and* a tendency for rumination on attachment information, might experience a boost in outlook if given a positive romantic relationship memory to dwell upon. I would also expect that attachment style would predict interesting reactions to negative memories. Secure individuals might be relatively more resilient to effects of recalling a negative relationship experience so that it

does not negatively influence their relationship forecasts. This resiliency could be credited to their internal working models activating positive emotions and accessing attachment figures (Selcuk, Zayas, Gunaydin, Hazan, & Kross, 2012) to alleviate distress and organize the memory in the broader milieu of their attachment experiences. On the other hand, preoccupied individuals might be expected to ruminate on the negative memory, hyperactivating their affective state and subsequently coloring their more negative forecasts. Dismissive individuals, meanwhile, would likely shut down their affective responses in general, feeling less emotion overall in the interest of maintaining personal agency from the threatening memory. Whether this memory would have any effect on their forecasts in the absence of emotional response is an open question.

The emotional state, or, *mood*, generated by memory is a potential mediator in this study. By measuring the mood of a participant following their recollection of an emotional memory, we can determine if mood explains connections between the recalled memory and subsequent forecast. These data become especially valuable when exploring the mediating role of mood within a single attachment style. For example, consider a scenario where mood and forecast scores for preoccupied individuals were memory-congruent following the recall of both positive and negative relationship memories. In this scenario, I could conclude that mood is a mechanism altering a preoccupied individual's expectations for future romantic relationships, explained by hyperactivated emotions associated with preoccupied working models.

It is also important to take into account the possibility that memory content may differ in meaningful ways by attachment style. Each attachment style would likely present different patterns in their memory narratives that will affect their mood and subsequent forecasts. I

would expect secure individuals to provide emotionally open and coherent narratives (George, Kaplan, & Main, 1985). Because attachment information of either emotional valence does not distress secure individuals, they would likely recall truly negative or positive events from past relationships with neither embellishment nor restriction. Like secure individuals, preoccupied individuals should recall highly emotional relationship events. However, I would also expect that their predisposition toward attending to negative thoughts would skew their recall, shunning positive details in favor of negative ones. Finally, where I might expect preoccupied individuals to be limited in their recall of positive events, dismissive individuals will likely eschew detail and emotionality entirely. In efforts to defuse their stress associated with relationship events in general, dismissive narratives may attend to the information at only a superficial level. For these reasons, this study will account for narrative emotionality, detail, and each individual's evaluation of their memory's positivity and negativity, as the content of the memories is likely to have ramifications for their affective state as well as their relationship forecasts.

Research question. How do positive and negative romantic relationship memories of individuals of different attachment orientations affect their mood and forecasts of future romantic relationships? Further, what patterns of mood and relationship forecast arise when people are asked to recall memories that either reinforce or challenge default processes of their internal working models?

Hypotheses. A broad theoretical interpretation of how people of different attachment orientations process emotional relationship information and their forecasts for romantic relationships informs my specific hypotheses. I expect secure individuals will open themselves to emotional vulnerability in the recall of their memories, but also expect

resilience to subsequent negative emotions, resulting in uniformly positive forecasts. I predict that dismissive individuals will not engage on an emotional level with their recalled memories. As a result, I expect their forecasts to be unaffected by the valence of memory they recall, and for those forecasts to be generally negative. In contrast, I expect congruence in the valence of the memory that preoccupied individuals recall and their subsequent forecasts.

My hypotheses below follow a pattern. The first two hypotheses address mood responses to recalled memories, the second pair concern subsequent relationship forecasts, and the final hypothesis addresses the potential for mood to explain the relationship between memory recalled and forecasts. Moreover, the first and third hypotheses compare their respective outcomes of interest within attachment groups, and the second and fourth hypotheses compare outcomes directly between attachment groups. An explanation of the rationale informing each hypothesis (and, by association, the broader ones above) follows each hypothesis listing.

Hypothesis 1: Pre- to post-memory change in mood within attachment group. I expect secure and preoccupied individuals to experience memory-congruent mood changes. That is, I expect secure and preoccupied individuals to experience decreased state negative emotion and increased state positive emotion after recalling a positive memory and decreased positive emotion and increased negative emotion after recalling a negative relationship memory. I expect dismissive individuals' mood to remain unchanged, regardless of what valence of memory they recall.

Justification for Hypothesis 1. Both secure and preoccupied individuals should pay considerable attention to a relationship memory: secure people because of their positive

associations with relationship information (and, therefore, their lack of defensive processing heightening or suppressing their emotions)², and preoccupied people because of their defensive hyperattention to relationship information. Secure and preoccupied working models should then activate memory-congruent emotions for the same reasons. Dismissive individuals will not attend to relationship information of either valence, not allowing processing to reach emotional depths.

Hypothesis 2: Attachment group differences in mood responses to relationship memories. After recalling a positive relationship memory, I expect that secure individuals will experience more positive shifts in mood than both dismissive and preoccupied individuals will. Further, I expect preoccupied individuals to experience more positive mood shifts than dismissive individuals after recalling a positive relationship memory. I do not expect dismissive and preoccupied individuals to differ in negative mood changes resulting from the positive memory condition, but expect secure individuals to experience less negative mood change than both insecure attachment groups. After recalling a negative relationship memory, I expect preoccupied individuals to experience more negative mood shifts than either secure or dismissive individuals, who will not differ in negative mood changes. I do not expect any positive mood change differences between attachment orientations after recalling a negative relationship memory.

Justification for Hypothesis 2. Secure individuals tend toward positive relationship-related emotions, and preoccupied individuals tend toward negative relationship emotions. Recalling working model-congruent memories for secure and preoccupied individuals should

² I could argue that the positivity of secure working models will curb any negativity they might experience before the state can truly take hold (or, for that matter, be measured). I consider this a real possibility, but ultimately side with the expectation that secure individuals will truly engage with even negative material, allowing themselves to feel appropriately negative emotions.

only reinforce those emotional predispositions. Additionally, because preoccupied individuals hyperattend to relationship information, recalling a positive relationship memory should give them a positive emotion boost beyond what emotionally distancing dismissive individuals may experience. However, because preoccupied individuals also carry negative associations with relationship information, like dismissive individuals, positive relationship memories are unlikely to ameliorate the negative emotions of either attachment style. In response to a negative memory, secure individuals will appropriately attenuate positive emotions, bringing them down to the same level dismissive and preoccupied individuals occupy.

Hypothesis 3: Memory condition effects on forecasts within attachment group. For secure and dismissive individuals, I do not expect forecasts to differ between memory conditions, although I expect secure forecasts to be generally positive and dismissive forecasts to be generally negative. Further, I expect preoccupied individuals' forecasts will be generally negative, but more negative after recalling a negative memory than after recalling a positive memory.

Justification for Hypothesis 3. Stability and coherence marks secure attachment, suggesting that memory valence will not be upsetting or uplifting enough to alter future relationship forecasts. Dismissive individuals' tendency to eschew relationship-related information may neutralize the differential effects of recalling a positive or negative memory. Preoccupied individuals, however, hyperattend to relationship information and the contrasting content of recalling a positive or negative relationship memory is likely to carry over to forecasts, given the preoccupied tendency toward rumination.

Hypothesis 4: Attachment group differences in forecasts post-memory. I expect securely attached individuals will have more positive forecasts than dismissive and preoccupied individuals regardless of what sort of memory they recall. However, I expect dismissive and preoccupied individuals' forecasts to differ by memory condition. After recalling a positive memory, I expect preoccupied participants to have more positive forecasts than dismissive individuals. However, I expect preoccupied individuals to forecast more negatively than dismissive individuals after recalling a negative memory.

Justification for Hypothesis 4. Secure individuals have positive attributions for relationship information. These attributions are robust to challenges suggesting otherwise because the plurality of salient positive relationship experiences automatically diminish their threat. Preoccupied individuals' tendency toward fixation on attachment information suggests that making salient attachment thoughts of either valence would considerably change internal states and forecasts. However, even when ruminating on positive relationship information, the distressing and confusing nature of relationships do not allow for the same level of hopefulness found in attachment security. Dismissive individuals likewise find attachment information distressing, but the emotional valence of attachment information is less likely to affect forecasts due to automatic and defensive distancing taking place before they can process emotional or cognitive changes.

Hypothesis 5: Mood as a potential explanation for links between memory and forecasts. I expect that mood will explain secure individual's relationship with their forecasts only after recalling a positive relationship memory. I do not expect mood to explain the forecasts of dismissive individuals after recalling either valence of emotional memory. For preoccupied individuals, I expect mood will partly explain their forecasts after recalling a

positive memory and fully explain their relationship with forecasts after recalling a negative memory.

Justification for Hypothesis 5. Secure individuals are unlikely to defensively filter the emotional experiences resulting from recalling emotional memories. However, because their stable working models are also unlikely to be affected by mood change, only the more positive mood resulting from recalling a positive memory would explain the indiscriminately positive forecasts. In contrast, dismissive individuals emotionally disentangle from relationship information in general, making mood an unlikely explanation for their forecasts. The moods of preoccupied individuals likely link to their forecasts because of their hyperactivating emotional tendencies. However, because of their more negative associations, the more negative state produced by recalling a negative relationship memory may explain entirely forecasts in that condition.

Method

Participants

One hundred thirty-three undergraduate students (65% women, $M_{age} = 18.26$) from introductory psychology classes at Western Washington University participated in this study in return for in-class credit. Ninety-two percent of participants identified as predominantly or exclusively heterosexual. This sample does not include data from 20 participants whose data were lost due to computer software malfunctions. I also excluded 179 participants who were in committed romantic relationships at the time of the study because the recall and forecasting tasks of this study could be confounded by their current relationship. I also excluded data collected from 25 single participants over 19 years of age. Cluster analyses indicated that older participants were qualitatively different from the younger sample in

personality measures, possibly because of their continued transition from adolescence to emerging adulthood (Arnett, 2000).

Procedure

I recruited participants into the study using the WWU psychology department survey-hosting program. Students logged on to the website and selected my study, titled “Thoughts on Romantic Relationships,” to participate. In the online environment, participants completed demographic questionnaires, completed a measure of romantic attachment, and scheduled to visit the on-campus lab. The program required at least a four-day gap between making an appointment and visiting the lab ($M_{days} = 9.76$, $SD_{days} = 5.15$, $range = 4 - 33$). Once at the lab, research assistants randomly assigned participants to one of two experimental conditions and led participants to a small room with a computer. Research assistants ensured participants of their privacy and told them to take as much time as necessary to complete the computer-based experiment.

All participants began the lab session with a measure of their mood. Following this initial measure, participants received a prompt asking them to recall either their most vivid positive *or* most vivid negative (depending on condition) emotional memory from a past romantic relationship in which they were a part. Participants had two minutes to recall and think on this memory before the program automatically proceeded to a screen where participants could write about their chosen memory. The instructions encouraged detailed narratives and participants could write for as long as they desired. However, participants could not advance the study until ten minutes of writing time had passed.

After completing their narrative, participants rated how positive and negative they thought the memory was and took the same measure of mood with the items in a different

order. For the remainder of the experiment, participants imagined that they were in a future romantic relationship. The instructions framed the imagined relationship as being highly committed and set five years into the future and one year into the relationship, as implemented by Mohr, Crook-Lyon, and Kolchakian (2010). While imagining they are in a future relationship, participants provided their expectations for the qualities of that relationship; that is, their forecasts of what that relationship would be like.

Measures

Romantic attachment. Before coming to the lab, participants completed the Experiences in Close Relationships Questionnaire – Revised (ECR-R, Fraley, Waller, & Brennan, 2000), a self-report measure of adult romantic attachment. The ECR-R has 36-items, half of which measure attachment avoidance ($\alpha = .94$) and half address attachment anxiety ($\alpha = .93$). Attachment avoidance reflects participants' discomfort with closeness and attachment anxiety reflects participants' fear of abandonment. An example of an avoidance item is "I get uncomfortable when a romantic partner wants to be very close." An example of an item measuring anxiety is "I find that my partner(s) don't want to get as close as I would like." All items are rated on a 7-point scale where 1 = *strongly agree* and 7 = *strongly disagree*.

Mood. Forty-five items from the PANAS-X (Watson & Clark, 1994) measured the mood of participants before and after their recall of an emotional romantic relationship memory. An item's relevance to relationship experiences determined its inclusion, such as "joyful" and "ashamed". Participants rated the extent to which they felt the indicated emotion at that moment on a 5-point scale, where 1 = *very slightly or not at all* and 5 = *extremely*. Factor analysis (see "Preliminary Analyses") resulted in a positive mood scale and a negative

mood scale, both of which were reliable in both conditions, before and after participants recalled an emotional memory ($.88 < \alpha < .96$).

Forecasted functioning of future relationship. Participants completed a series of measures following the recall of their emotional memory that addressed their forecasts of future romantic relationships, as implemented by Collins (1996) and Mohr, Crook-Lyon, & Kolchakian (2010). Multiple measures addressed different aspects of attachment working models and relationship quality.

Forecasted relationship satisfaction and dissolution. A two-item (e.g., “I would be satisfied with my relationship with my partner.”) relationship satisfaction scale ($\alpha = .76$) was embedded within the following “forecasted communication” inventory. This version of the scale was adapted by Mohr, Crook-Lyon, and Kolchakian (2010) and created by Collins and Read (1990). Participants also indicated how likely they thought it was that their imagined future relationship would experience infidelity perpetrated by either the participant or the imagined partner and if they thought the relationship would ultimately end in a break-up.

Forecasted communication. Participants completed three subscales of the Marital Communication Inventory (Bienvenu, 1970). These subscales (Schumm et al., 1983) measure the amount of convivial and pleasant discussion participants forecasted to have with their imagined future partner (five items; $\alpha = .76$), the degree to which communication with their imagined future partner would be avoided by both parties (5 items; $\alpha = .76$), and the level of aversive communication participants would experience in the relationship (4 items; $\alpha = .76$). Each item is rated on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly disagree*).

Forecasted romantic attachment. A modified version of the Experiences in Close Relationships Questionnaire (ECR; Brennan, Clark, & Shaver, 1998) measured participants’

forecasted attachment to their imagined future partner. The ECR has 36 items evenly divided between items addressing attachment anxiety ($\alpha = .92$) and avoidance ($\alpha = .92$). Items are rated on a 5-point Likert scale, 1 = *Strongly Disagree*, to 5 = *Strongly Agree*. Mohr, Crook-Lyon, and Kolchakian (2010) reworded this version's items into the future tense. An example of an item measuring future anxiety is "I would worry a lot about my relationships," and an example item measuring future avoidance is "I would prefer not to show a partner how I feel deep down."

Hypothetical relationship scenarios. As in Mohr, Crook-Lyon, and Kolchakian (2010), participants imagined that "you and your partner have just had an argument about the amount of time that you spend together. How likely is it that your partner would be thinking the following thoughts?" This prompt preceded four items beginning with the words "Your partner thinks," followed by "I will never have my needs met in this relationship," "This relationship is not going to last for much longer," "I feel trapped in this relationship," and "I want to end this relationship." These items were rated on a 7-point Likert scale (1 = *not at all likely*, 4 = *somewhat likely*, 7 = *very likely*). Next, participants were asked to rate on the same 7-point Likert scale "how likely it is that you would have the following thoughts" with the same four items from above, only this time beginning with "You think." Averages from both subscales' items formed a measure of how negative participant forecasts are of their partner's and their own thoughts about the hypothetical argument.

Further, participants read four relationship-relevant hypothetical situations and provided quantitative responses (Collins, 1996). An example situation is "Your partner didn't comfort you when you were feeling down." Following each event description, participants indicated how likely they thought each scenario was to result in a conflict. Participants also

rated each of the four prompts on seven different emotions (e.g. “angry,” “sad,” “hurt”) on a 7-point Likert scale, imagining how the event would make them feel. These responses were aggregated to form a measure of how distressing (Collins, 1996) each event would be ($.87 < \alpha < .94$).

Results

Preliminary Analyses

Attachment security. I used the ECR-R (Fraley, Waller, & Brennan, 2000) to assess participants’ romantic relationship attachment. The ECR-R is typically implemented as a continuous measure of attachment, where each participant is scored on dimensions of attachment anxiety and avoidance (Fraley, Waller, & Brennan, 2000). However, using attachment dimensions as predictors requires univariate normality and a linear bivariate relation to be interpretable. I tested the univariate normality of attachment anxiety and avoidance with a Shapiro-Wilk test (Shapiro & Wilk, 1965) and found that, although anxiety did not violate assumptions of normality ($W(133) = .985, p = .142$), attachment avoidance did ($W(133) = .957, p < .001$). To test bivariate linearity, I used a curve estimation of the relation between anxiety and avoidance. Of the curves estimating the relation, the linear model explained the least variability between scores of anxiety and avoidance with only 3.4% of observed variance explained. If I used attachment avoidance as a predictor variable or used the two dimensions as an interaction term, their non-normality and non-linearity could result in erroneous results (Howell, 2010).

Rather than use data transformations that would change the behavior of the bivariate relation (Osborne, 2002), I investigated a satisfactory categorical solution in lieu of a continuous option. Numerous studies in the adult attachment literature use categorical

attachment predictors and outcomes, often labelled as attachment styles, orientations, or prototypes (e.g., Carnelley & Janoff-Bulman, 1992; Collins, 1996; Hazan & Shaver, 1987; Simpson, 1990). Further, a categorical treatment of attachment data is appropriate for investigating hypotheses here.

I elected to use cluster analysis to demarcate attachment categories for these data. I chose cluster analysis because it identifies groups as they naturally occur in the dataset, assigning each case to a cluster based on its similarity to those surrounding it. I consider this approach psychometrically meaningful and therefore superior to artificially splitting the data with median splits or defining categories based on others' published averages. I used two-step cluster analysis with Schwarz's Bayesian clustering criterion and entered attachment anxiety and avoidance simultaneously. Cluster analysis results revealed three clusters with good average silhouette cohesion and separation (.5). Anxiety and avoidance were also relatively close in their input importance (anxiety = 1.0; avoidance = .84); that is, no one dimension was primarily defining the cluster profiles. Further, the identified clusters were theoretically coherent and readily identifiable as secure, preoccupied, and dismissive attachment orientations (Bartholomew & Horowitz, 1991). As shown in Table 1 and illustrated Figure 1, the secure cluster had the lowest mean scores of anxiety and avoidance in the sample. Further, the highest mean avoidance defined the dismissive cluster. The same pattern held true for the preoccupied cluster and mean anxiety scores. Bartholomew's attachment prototypes include a fourth group, fearful-avoidant, which is not represented in the cluster profiles. High levels of anxiety in combination with high levels of avoidance define fearful-avoidant attachment. An examination of the scatterplot mapping attachment cluster profiles on anxiety and avoidance dimensions indicates that the preoccupied and

dismissive clusters evenly split the quadrant defined by high avoidance and high anxiety. Given that I have no hypotheses for fearful-avoidance, splitting the quadrant is appropriate.

Mood factor analysis and scales. I used exploratory factor analysis to determine which PANAS-X items (Watson & Clark, 1994) were best suited to measure positive and negative mood for this sample. To do so, I subjected post-manipulation survey scores to principal components analysis and used a promax rotation to allow for correlated factors. I removed one item (“jittery”) that indicated only mediocre sampling adequacy (item KMO = .664). The resulting overall KMO measure of sampling adequacy was a meritorious .88, and all item measures of sampling adequacy were greater than .76. Nine factors emerged with eigenvalues greater than one, but an examination of the scree plot supported a two-factor solution. Additionally, the two highest-eigenvalue factors explained 48% of observed variance with the other seven factors only contributing a cumulative 23% of explained variance. I then limited the pattern matrix to load all items on two factors. One factor contained positive emotion items and the other contained negative emotion items. To differentiate the factors, I selected items into the final scales that had a factor coefficient of at least .7 with the expected factor and a coefficient no greater than .3 on the other factor. Factor loadings and item assignments are in Table 2. The resulting scales were negatively correlated ($r = -.378, p < .01$) and reliable pre- and post-manipulation in both conditions ($.88 < \alpha < .96$).

Forecast factor analysis and scales. I used exploratory factor analysis to aggregate and simplify the outcomes of the relationship forecast questionnaires. I analyzed the scored scales and standalone items using principal components analysis with a promax rotation. The resulting overall KMO was a meritorious .86, with every item measure of sampling adequacy

greater than .73. Although four factors emerged with eigenvalues above one, the scree plot and ratio of explained variance suggested a two-factor solution. The two highest-eigenvalue factors explained a combined 47% of observed variance after limiting the analysis to a two-factor solution. As seen in Table 3, each scale or item except *conflict resulting from partner wanting a night to themselves* and *participant infidelity* had a factor coefficient of at least .58 on the expected factor, with no factor coefficients greater than .22 on the other factor. The interpretation of the structure coefficients was consistent with the pattern coefficients. To improve factor differentiation, I did not assign the cross-loading item *conflict resulting from partner wanting a night to himself/herself* or the weak-loading item *participant infidelity* to either factor.

I designated one factor as the Relationship Dissatisfaction Factor (RDF) and the other as Partner Rejection Angst Factor (PRAF) after examining the respective scales and items assigned to each factor. I indicate scale assignment in Table 3. General negative outcomes and experiences define the imagined future relationship scales contained in the RDF, indicative of imagined relationship dissatisfaction. In contrast, the new PRAF scale contains items and scales defined by negative reactions to slights perpetrated by the participants' imagined future partners. I analyzed the reliability of the RDF and PRAF scales using every item that contributed to the scales from which they were constructed. I found both scales to be highly reliable in both the positive memory recall condition (RDF $\alpha = .87$; PRAF $\alpha = .96$) and the negative memory recall condition (RDF $\alpha = .87$; PRAF $\alpha = .95$).

I computed the RDF and PRAF variables used in analyses by standardizing scales and standalone items, reverse-coding scales that loaded negatively onto their assigned factor, and

averaging the results. All subsequent analyses of forecast variable implement the RDF and PRAF variables in this standardized form.

Partner Rejection Angst Factor hypotheses ramifications. The Partner Rejection Angst Factor (PRAF) introduces an interesting but unexpected outcome variable to this study. Whereas the broadness of the Relationship Dissatisfaction Factor (RDF) allows it to fit cleanly into my hypotheses, the PRAF is notably different. PRAF, unlike RDF, obviously maps onto a specific dimension of attachment, in the case of PRAF, anxiety. Given that anxiety levels in part define my primary predictor variables, attachment groups, I would expect slightly different attachment-related outcomes from forecasts of partner rejection angst than I would for forecasts of relationship dissatisfaction. Although I have the same predictions for Hypothesis 5 for PRAF as I would RDF (i.e., I think mood should similarly mediate PRAF ratings as they would RDF ratings.), I would expect slightly different attachment-related predictions for Hypotheses 3 and 4.

Whereas I think secure individuals, relative to the overall group and both of their insecure counterparts, will forecast lower RDF levels (“more positive” forecasts), I do not expect PRAF levels to differentiate between secure and dismissive individuals. Both secure and dismissive individuals rate relatively low in attachment anxiety. As such, they should not be concerned with their partner’s rejection of them in the imagined future romantic relationship (i.e., more positive PRAF forecasts for secure *and* dismissive groups). I also expect preoccupied individuals to forecast higher PRAF scores than secure and dismissive individuals in both conditions. Preoccupied attachment hinges on the sensitivities tapped by the PRAF, and I expect that recalling a positive relationship memory will not be enough to ameliorate such a defining characteristic of preoccupied working models to the point where

their PRAF forecasts would not differ from those of secure or dismissive individuals'. In summary, I expect preoccupied individuals' PRAF ratings to be higher than others' in the positive memory condition and taken to maximum levels as the result of recalling a working model-arousing negative relationship memory.

Narrative homogeneity between attachment clusters and manipulation checks. I wanted to see if participants' written narratives of a positive or negative romantic relationship memory differed by attachment cluster and memory condition in order to contextualize the primary analyses of this study. I was specifically interested to see if narratives differed by attachment and condition in length (i.e., word count), use of positive emotion words, use of negative emotion words, and participants' own ratings of how positive and negative they thought their memory was. Differences in these variables between attachment clusters would contextualize relations between this study's manipulation, state emotion, and forecasts and would be important to consider in interpreting any findings. Differences in these variables between memory conditions would function as a manipulation check.

Research assistants cleaned the narratives by correcting misspelled and misused (e.g., "there" rather than "their") words before I entered the narratives into the Linguistic Inquiry and Word Count computer program (LIWC; Pennebaker, Booth, & Francis, 2001). The LIWC program analyzed each narrative for the overall word count and the number of positive and negative emotion words according to a built-in dictionary. Positive emotion words included "happy," "love," and "pretty," while negative emotion words included "hate," "afraid," and "pissed."

Analytic approach. I took a hierarchical regression approach to analyze these data. I performed a series of data transformations and analyses to predict word count, positive emotion words, negative emotion words, and participant ratings of memory positivity and negativity with each attachment cluster, memory condition, and the two-way interactions between the attachment cluster and memory condition. The following describes my treatment of the data and my analytical approach. I coded attachment clusters using effect codes. Effect coding conveys group membership using ones, zeroes, and minus ones. Focal groups receive either a one or zero in $k - 1$ vectors, while one group acts as a reference group and receives a minus one in each vector. Whereas dummy coding (ones for focal group, zeroes for reference group/s) compares a group's mean to the mean of the reference groups (a simple effects parameterization), effect coding estimates the true main effects of categorical variables by testing the deviation of a focal group's mean from the grand mean (Stevens, 2007; Wendorf, 2004). When used in a regression analysis, the grand mean of the dependent variable becomes the intercept and the slope of the predictor is the difference between the dependent variable's grand mean and the mean of the predictor (Penn State Methodology Center, 2012). Because the number of participants in each attachment cluster was not equal, I weighted my effect codes so that the focal group remained coded as 1, but the reference group was coded as the negative inverse of the ratio between the number of cases in the focal group to the number of cases in the reference group (e.g. 50 focal group secure participants / 40 reference group dismissive participants = $1.25 * -1 = -1.25$; Newsom, 2012; UCLA Statistical Consulting Group, 2014). I coded two sets of vectors in order to analyze all three attachment clusters by changing the reference group from the first vector to a focal group in the second vector. As a result, I report the subsequent regression results from two regression equations.

However, because both equations contain the same attachment information – only different reference groups – the overall R^2 and F statistics were the same in both. Moreover, the attachment group that remained a focal group in both analyses (secure) returned identical regression coefficients and t -test results in both regression equations.

Memory condition was coded so that 0 = *positive memory condition* and 1 = *negative memory condition*. I then centered the memory condition variable to keep the grand mean of the dependent variable near the intercept and to prevent potential problems arising from predictor multicollinearity. To create interaction terms, I multiplied each attachment cluster vector by memory condition to create three two-way interaction terms.

I used hierarchical multiple regression for these analyses. In Step 1, I entered paired attachment vectors and the memory condition variable simultaneously. In Step 2, I added the interaction terms of each attachment vector with memory condition. Regression coefficients and bivariate correlations predicting linguistic content variables are in Table 4. Regression coefficients and bivariate correlations predicting participant ratings of their memory's positivity and negativity are in Table 5. Means and standard deviations for all narrative variables are in Table 6.

Word count. The overall regression equation predicting word count was not statistically significant at Step 1 or Step 2 of the regression equation, with predictors explaining only 3% of the observed variance in word count. In other words, the length of memory narratives did not differ by attachment group membership, memory condition, or by attachment group membership between memory conditions.

Positive emotion words. The overall regression equation predicting positive emotion words was statistically significant at Step 1, with predictors explaining 27% of the variance,

$F(3, 128) = 15.48, p < .001$. The addition of Step 2 ($\Delta F(2, 126) = .532, p = .589$), however, did not explain statistically more variance ($\Delta R^2 = .006$). Attachment group membership was not a predictor of positive emotion words in the context of the other predictors. However, memory condition was a negative predictor of positive word usage in the context of the other predictors ($t(128) = -7.47, p < .001$). These results indicate that, although use of positive emotion words did not differ by attachment group membership, participants in the positive memory condition used more positive emotion words in their narratives than did participants in the negative memory condition.

Negative emotion words. The overall regression equation predicting negative emotion words was statistically significant at Step 1, with predictors explaining 31% of the variance, $F(3, 128) = 18.82, p < .001$. The addition of Step 2 ($\Delta F(2, 126) = .450, p = .639$) did not explain statistically more variance ($\Delta R^2 = .005$). Attachment group membership was not a predictor of negative emotion word usage in the context of the other predictors, but memory condition was a positive predictor in the context of the other predictors ($t(128) = 7.47, p < .001$). Like with positive emotion words, usage of negative emotion words did not differ by attachment group membership. However, participants in the negative memory condition did use more negative emotion words than participants in the positive memory condition did.

Participants' ratings of memory positivity and negativity. Both regression equations predicting participant ratings of how positive ($F(3, 129) = 145.80, p < .001$) and negative ($F(3, 129) = 94.32, p < .001$) they considered their recalled memory to be explained statistically significant amounts of variance in Step 1 (memory positivity: $\Delta R^2 = .001$; memory negativity: $\Delta R^2 = .004$), but not in Step 2³ (memory positivity: $R^2 = .772$; memory

³ A note on interactions in the above regression analyses: It might be interpreted that non-significant attachment group-by-condition interactions indicate that a given attachment groups' usage of, for example, positive

negativity: $R^2 = .687$). Memory condition was the only statistically significant predictor in both equations, indicating a negative relationship with ratings of memory positivity ($t(129) = -20.89, p < .001$) and a positive relationship with ratings of negativity ($t(129) = 16.63, p < .001$). Attachment membership was not a predictor. In other words, participant attachment membership did not affect their ratings of how positive or negative their memory was. However, participants in the positive memory condition rated their memory as being more positive than did individuals in the negative memory condition. In turn, participants in the negative memory condition rated their memory as being more negative than did individuals in the positive memory condition

Within-condition mood changes. Finally, I investigated participants' scores of positive and negative state emotion to determine the effectiveness of the memory conditions at altering mood. Using repeated-measures ANOVA, I examined the changes in state emotions indicating positive and negative mood from before the recall manipulation to after. Please see Table 7 for descriptive statistics, tests of significance, and effect sizes found in the positive memory condition. For the same statistics for the negative memory condition, see Table 8. In the positive memory condition, I found a decrease in positive mood and no change for negative mood from pre-manipulation to post-manipulation. In the negative memory condition, I found a decrease in positive mood and an increase in negative mood pre- to post-manipulation. I also used a one-way ANOVA to compare post-manipulation positive and negative mood directly between conditions. The differences in scores of positive

emotion words did not differ by memory condition. This interpretation would be incorrect. Because I used effect coding for attachment variables that centers the intercept about the grand mean of the dependent variable, a non-significant interaction instead indicates that the usage of positive emotion words for a given attachment group was no different from the whole sample's usage of positive words between conditions. Therefore, the statistically significant main effects of memory condition capture each attachment group's usage of positive emotion words.

mood did not reach between conditions ($F(1, 131) = 3.18, p = .249$). However, scores of negative mood did ($F(1, 131) = 4.81, p = .030$), such that participants reported higher levels of negative mood following recall of a negative memory than they did after recalling a positive memory.

Summary and discussion of condition effectiveness. Taken together, these manipulation checks indicate that participants adhered to condition-specific instructions in their narrative writing and considered the positivity and negativity of the event they recalled to be congruent with the condition's goal. However, this pattern did not directly translate into condition congruent changes in mood pre- to post-manipulation or post-manipulation differences in positive and negative mood. Participants in the negative memory condition collectively experienced decreased positive mood and increased negative mood, as intended in the study design. However, participants in the positive memory condition also experienced *decreased* positive mood and no change in negative mood. Further, scores of positive mood did not differ between conditions, where negative mood scores did differ between conditions.

The intent of each condition was to elicit congruent changes in positive and negative mood (e.g., increased positive mood and decreased negative mood in the positive memory condition). The negative memory condition exhibited this pattern in all analyses, but the positive memory condition did not. The greater salience of and weight given to negative life events when compared to positive life events (Rozin & Royzman, 2001; Taylor, 1991) may explain these results. If negative events and the emotions they bear are more deeply processed as a function of self-definition (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), it would follow that recalling these negative autobiographical events result in more tangible mood outcomes. However, this theory does not reconcile why positive mood

decreased after recalling a positive memory. I suggest two reasons for this effect. First, I suspect the decrease in positive mood is associated with general emotion attenuation resulting from recall task cognitive load (Van Dillen, Heslenfeld, & Koole, 2001). In concentrating on recalling and writing their narratives, participants' focus may have depressed emotionality in general. In combination with the decentralized importance of positive memories addressed above, cognitive load may have devitalized the emotional experience of recalling a positive romantic relationship memory. Alternatively, perhaps simultaneously, decreased positive mood after recalling a positive relationship memory may be the result of participants becoming wistful. My participants were not in committed romantic relationships at the time of the experiment. Therefore, recalling a positive, autobiographical relationship memory could elicit feelings of yearning and nostalgia (Gebauer & Sedikides, 2010) for an event or relationship that is no longer a part of their lives (Bluck & Alea, 2002). This nostalgia could consequently undermine the positivity of the memory and associated positive mood.

Primary Analyses

Hypothesis 1. Hypothesis 1 posited how levels of positive and negative mood would change from before recalling an emotional relationship memory to after for people of different attachment groups. To investigate, I used repeated-measures ANOVAs to examine how state positive and negative mood changed from pre- to post-manipulation with each of the three attachment clusters in each memory condition. The results of these analyses are in Table 7 for the positive memory condition and Table 8 for the negative memory condition. Secure participants in the positive memory condition experienced no changes in positive or negative mood, contrary to expectations, but they did experience expected decreases in

positive mood and increases in negative mood in the negative memory condition. Both dismissive and preoccupied participants, in contrast, reported decreases in positive mood in the positive memory condition. This result aligns with hypotheses for preoccupied individuals, but I expected dismissive individuals to report no changes in mood. In the negative memory condition, preoccupied participants, like the secure participants, reported decreases in positive mood and increases in negative mood pre- to post-manipulation, as expected. Dismissive participants reported decreased positive mood in the negative memory condition, contrary to predictions, but aligned with hypotheses for negative mood, with no change in negative mood in either memory condition.

Hypothesis 2. My second hypothesis suggested attachment group differences in how recalling positive and negative relationship memories would affect mood.⁴ I created mood balance scores by subtracting each participant's ratings of negative mood indicators from their ratings of positive mood to create a single variable that would holistically assess participant mood. To investigate, I saved the unstandardized residuals from a regression analysis predicting post-manipulation mood scores with pre-manipulation mood scores. I then used one-way ANOVAs⁵ to compare mood residuals between attachment groups, in effect comparing the shift in mood from pre- to post-manipulation between attachment groups. I found that, in both the positive ($F(2, 60) = 2.87, p = .065, \eta^2 = .09$) and negative memory conditions ($F(2, 67) = 1.79, p = .175, \eta^2 = .05$), overall mood did not differ by attachment group membership. To explore whether positive and negative mood specifically

⁴ I also compared pre-manipulation scores of positive and negative mood between attachment clusters in each condition. One-way ANOVAs and Tukey's HSD follow-ups revealed only one statistically significant difference: secure participants reported more positive mood than dismissive participants in the negative memory condition ($F(2, 67) = 4.32, p = .017$). I consider this result in the Hypothesis 2 section within the Discussion.

⁵ I used a Bonferroni correction to account for increased the increased probability of Type I error resulting from multiple tests, adjusting the level of significance from $p = .05$ to $p = .013$. This adjustment did not change the interpretation of any results, however.

would differ between memory conditions, I performed the same analysis using residuals from positive and negative mood ratings. I found that, in the positive memory condition, ratings of positive ($F(2, 60) = 2.20, p = .119, \eta^2 = .07$) and negative ($F(2, 60) = 2.43, p = .096, \eta^2 = .08$) mood change did not differ by attachment cluster. Additionally, I did not find attachment group differences for positive ($F(2, 67) = .56, p = .573, \eta^2 = .02$) or negative ($F(2, 60) = 2.85, p = .065, \eta^2 = .08$) mood changes in the negative memory condition. In other words, the memory conditions' effects on mood did not differ by attachment group membership.

Hypothesis 3. Hypothesis 3 concerns the predictive function of attachment, memory condition, and the two working together in concert to predict scores of Relationship Dissatisfaction Factor (RDF) and Partner Rejection Factor (PRAF). To address the hypothesis, I took the same multiple hierarchical regression approach as I did when analyzing narrative variables. Additionally, I used PROCESS (Model 1; Hayes, 2013) to probe statistically significant interactions. PROCESS is a computation macro for SPSS that performs multivariate analyses and automatic probing. For interactions, the macro provides conditional effects that indicate the nature of the predictor's relation to the outcome variable at different levels of the moderator. I entered dummy-coded attachment variables so that 1 = *focal attachment group* and 0 = *other attachment groups* to allow for simple effects parameterization (Hayes, 2013) and greater ease of interpretation.

Predicting Relationship Dissatisfaction with attachment and memory condition.

Regression coefficients and bivariate correlations predicting Relationship Dissatisfaction Factor scores (RDF) are in Table 9. The overall regression equation predicting RDF was statistically significant at Step 1, with predictors explaining 24% of the variance, $F(3, 127) = 13.48, p < .001$. The addition of Step 2 ($\Delta F(2, 124) = 5.92, p = .004$) explained statistically

more variance ($\Delta R^2 = .066$). However, memory condition was not a contributor in Step 1 ($t(126) = -1.01, p = .314$). These results indicate that, considered together, attachment group membership and their respective interaction terms with memory condition were predictors of RDF, despite the valence of the memory participants recalled not affecting RDF scores alone. Below, I report the effects of attachment membership and their interactions with memory condition in predicting RDF.

Secure cluster. At Step 1, being in the secure cluster was a negative predictor of RDF in the context of the other predictors ($t(126) = -5.99, p < .001$). However, in Step 2, the interaction term of secure-by-condition was not a predictor of RDF in the context of the other predictors ($t(124) = .163, p = .871$). These results suggest that securely attached individuals forecasted less⁶ relationship dissatisfaction than what was typical for the full sample. Moreover, because the interaction with memory condition was not significant, these forecasts were not different based on whether a secure person recalled a positive relationship memory or a negative one. These results support my hypothesis for secure individuals.

Dismissive cluster. The Step 1 entry of the dismissive cluster also predicted RDF in the context of the other predictors ($t(126) = 4.72, p < .001$). The association between dismissive attachment and RDF is positive, indicating that dismissive participants forecast more relationship dissatisfaction overall. The inclusion of the Step 2 interaction of dismissive-by-condition was also statistically significant ($t(124) = -3.03, p = .003$), contrary to expectations. The interaction between memory condition and the dismissive cluster indicates that the relation between dismissive attachment and RDF differed depending on the

⁶ Higher scores on the forecast variables indicate predictions of more of that negative variable. In the terminology used in my hypotheses, higher scores in these variables would be akin to my use of the term “negative” because higher scores indicate less desirable outcomes. Conversely, a more positive outcome would be associated with lower scores in the forecast variables.

participants' memory condition assignment. To investigate, I analyzed this two-way interaction using PROCESS (Model 1; Hayes, 2013) as described above. I found that dismissive attachment had a positive conditional effect on RDF in the positive memory condition ($t(128) = 5.24, p < .001$), but not the negative memory condition ($t(128) = .178, p = .217$). Therefore, dismissive participants forecasted more relationship dissatisfaction following the recall of a positive memory than is typical, but did not differ from the average in relationship dissatisfaction forecasts after recalling a negative memory.

Preoccupied cluster. Finally, I predicted RDF using preoccupied cluster membership and found that the Step 1 entry of preoccupied attachment was, unexpectedly, not a predictor of RDF in the context of the other predictors, $t(126) = 1.60, p = .111$. Overall, preoccupied people did not differ from the group in their relationship dissatisfaction forecasts. However, the Step 2 preoccupied-by-condition variable was statistically significant ($t(124) = 2.81, p = .006$). In exploring this interaction, conditional effects revealed that preoccupied individuals did not differ from the average RDF forecasts in the positive memory condition ($t(128) = -.865, p = .389$), but preoccupied attachment did predict higher levels of RDF in the negative memory condition than was typical ($t(128) = 2.7, p = .007$). In other words, after recalling a positive relationship memory, preoccupied people did not forecast more or less relationship dissatisfaction than average. However, recalling a negative romantic relationship memory did cause preoccupied individuals to forecast more relationship dissatisfaction than was typical for the whole sample, as expected.

Predicting Partner Rejection Angst with attachment and memory condition. I investigated the attachment clusters and their interactions with the memory conditions relations with the Partner Rejection Angst Factor (PRAF) in the same manner as I did with

RDF. Regression coefficients and bivariate correlations predicting PRAF are in Table 9. The overall regression equation predicting PRAF was statistically significant at Step 1, with predictors explaining 19% of the variance in PRAF, $F(3, 129) = 10.30, p < .001$. The addition of Step 2, however, ($\Delta F(2, 127) = .428, p = .652$) did not explain statistically more variance ($\Delta R^2 = .005$). Moreover, memory condition was not a predictor of PRAF in Step 1 ($t(129) = .368, p = .713$). These results indicate that attachment membership alone explained notable variation in forecasts of partner rejection angst. Recalling a positive or negative relationship memory, however, had no effects on participants' PRAF ratings for a particular attachment group or the collective group. Because there were no statistically significant results in Step 2 of the models, I only report the Step 1 effects of attachment membership predicting PRAF. As such, the reported effects hold true whether participants recalled a positive memory or a negative memory. I expected the lack of an interaction with memory condition for secure and dismissive individuals, but not for preoccupied individuals.

Secure cluster. Attachment security at Step 1 of the model was a negative predictor of PRAF in the context of the other predictors ($t(129) = -3.75, p < .001$), as expected. That is, secure people forecasted less partner rejection angst than was typical for the overall sample.

Dismissive cluster. Unexpectedly, membership in the dismissive cluster did not predict PRAF levels in the context of the other predictors of Step 1 ($t(129) = -1.59, p = .113$). In other words, dismissive people did not differ from the norm of the sample in their forecasts of partner rejection angst.

Preoccupied cluster. The preoccupied attachment cluster predicted a positive relation with PRAF ($t(129) = 5.44, p < .001$). This result indicates that preoccupied participants forecasted, as expected, more partner rejection angst than was typical for the sample.

Hypothesis 4. My fourth hypothesis concerned how the forecasts of different attachment groups would compare with one another.

Differences in Relationship Dissatisfaction by attachment. To explore the RDF forecasts difference between attachment groups within a given memory condition, I used analyses of variance.⁷ Table 10 shows the analyzed means and standard deviations. The omnibus test returned as statistically significant in the positive memory condition ($F(2, 58) = 15.13, p < .001, \eta^2 = .34$), so I analyzed the differences between the attachment clusters using Tukey's HSD. I found that secure and preoccupied participants did not differ in their ratings of RFD ($p = .245$), counter to my expectations. However, dismissive participants reported higher scores of RFD than both secure ($p < .001$) and preoccupied participants ($p = .002$), as expected. That is, after recalling a positive relationship memory, dismissive individuals forecasted more relationship dissatisfaction than did secure and preoccupied participants.

The negative memory condition also exhibited differences in RDF scores by attachment cluster ($F(2, 66) = 11.32, p < .001, \eta^2 = .26$). Specifically, secure participants reported lower RDF scores than dismissive ($p = .003$) and preoccupied ($p < .001$) participants, as expected. In turn, dismissive participants' scores of RDF were did not differ from those of preoccupied participants ($p = .618$), contrary to my predictions. In other words, preoccupied individuals forecasted more RDF than dismissive and secure individuals after recalling a negative relationship memory, and secure RDF forecasts were lower still than dismissive participants' forecasts.

I also wanted to conduct a more holistic, post-hoc examination of how different attachment groups made forecast predictions. To investigate, I compared the slopes of each

⁷ A Bonferroni correction moved the level of significance from $p = .05$ to $p = .013$. This adjustment again did not change the interpretation of any results.

attachment group's RDF forecasts between conditions, allowing me to contrast how memory condition affected each attachment groups' forecasted RDF. To isolate the slope of RDF for each attachment group, I used PROCESS to find the conditional effect of memory condition when a dummy-coded attachment variable was equal to one. I then compared the coefficients and standard errors of these lines in a slopes difference test (Cohen, Cohen, West, & Aiken, 2003; Soper, 2014), using the n 's for the respective number of participants assigned to the pertinent attachment cluster.

An illustration of these results is in Figure 2. I found that the secure participants' slopes predicting RDF across memory conditions did not differ from those of dismissive ($t(86) = 1.85, p = .067$) or preoccupied ($t(86) = 1.45, p = .151$) participants. However, the slope of dismissive participants did differ from slopes of preoccupied participants ($t(79) = 3.09, p = .002$) when predicting RDF across conditions. These results indicate that the relation of memory condition to relationship dissatisfaction forecasts for secure participants did not differ from either dismissive or preoccupied participants' slopes. The effect of the memory conditions, however, did cause dismissive and preoccupied participants' forecasts of relationship dissatisfaction to differ. Notably, the slope for dismissive individuals was negative where the slope for preoccupied individuals was positive, indicating that the memory conditions had inverse effects on preoccupied and dismissive participants.

Differences in Partner Rejection Angst by attachment. I used ANOVA to investigate if there were differences between attachment clusters' PRAF levels in the same memory condition. Please find the means and standard deviations for these analyses in Table 10. The omnibus test indicated that there were significant differences between the attachment clusters in the positive memory condition ($F(2, 60) = 8.82, p < .001, \eta^2 = .23$). Investigation with

Tukey's HSD revealed that preoccupied participants forecasted more PRAF than secure ($p = .001$) and dismissive participants ($p = .003$). Secure and dismissive participants did not differ in their PRAF forecasts ($p = .930$). In other words, although secure and dismissive individuals forecasted similar partner rejection angst, preoccupied individuals forecasted more partner rejection angst than both after recalling a positive memory, all of which supports my predictions.

In the negative memory condition, PRAF scores also differed by attachment ($F(2, 67) = 6.66, p = .002, \eta^2 = .17$). As was the relation in the positive memory condition, secure and dismissive participant did not differ in the forecasts of PRAF ($p = .561$). However, preoccupied participants only forecasted more PRAF than secure participants ($p = .002$). Preoccupied and dismissive individuals did not differentiate in PRAF scores ($p = .057$), although I expected they would.

As performed with the RDF, I used the conditional effect of memory condition when attachment cluster variables were equal to one to elucidate the effect of each attachment style across conditions in predicting PRAF. Figure 3 illustrates these results. My analyses revealed no differences between the slopes of participants from secure, dismissive, and preoccupied clusters predicting PRAF across conditions. That is, secure, dismissive, and preoccupied people forecasted partner rejection angst in the same manner across conditions.

Hypothesis 5. Hypothesis 5 predicted that changes in mood could explain the link between an attachment group's memory and their forecasts. To test this, I again implemented the balance score residuals used during manipulation checks. Balance scores are appropriate for determining the mediating role of mood because they are a holistic representation of a participants' mood. An examination of the mediating role of only negative mood or only

positive mood would be low in ecological validity because the two do not exist discretely. To test preliminary conditions for mediation, I isolated individuals from each attachment cluster and computed the zero-order correlations for memory condition, mood balance residuals, and forecast variables. In each analysis, the correlation between the memory condition and mood balance score was non-significant. According to Baron and Kenny (1986), this result fails a necessary condition for partial and complete mediation, indicating that mood does not mediate the relation between memory condition and forecast variables for any of the three attachment groups.

Discussion

I designed the present study to explore the effects of people's past relationship memories on their forecasts of future romantic relationships. To investigate, I asked participants not currently in a romantic relationship to recall either their most vivid positive or negative relationship event. I measured the mood changes participants experienced after recalling a relationship memory and asked them to forecast details about an imaginary future relationship in which they are a part. I organized this study in an attachment framework, expecting differential results predictable by a participant's attachment orientation.

Broadly, I expected the data to reveal that secure individuals experience an emotional openness to the memory they recalled while remaining steadfast in their positive and hopeful anticipations of a future relationship, resilient to negative emotions and cognitions. For dismissive individuals, I predicted emotional indifference and distancing, followed by stubborn negativity in their forecasts. Finally, for preoccupied individuals, I expected hyperactivated state emotions would lead to congruent changes in future relationship forecasts, the results of fearful attention to relationship information. Below, I discuss these

predictions in detail. I will then discuss the results as they relate to one another in combination and their broader implications. Finally, I will address limitations of this study and make recommendations for future directions in this line of research.

Hypotheses Discussion

Hypothesis 1. I made a series of attachment group-specific hypotheses regarding how positive and negative mood would change from before recalling an emotional relationship memory to after. My investigation yielded mixed results concerning my hypotheses.

Secure group. For secure individuals, I expected their lack of defensive processing (Mikulincer & Shaver, 2003; Rholes, Simpson, & Orina, 1999) to result in condition-congruent mood changes. In other words, I expected secure participants to report increased positive mood and decreased negative mood after recalling a positive memory and decreased positive mood and increased negative mood after recalling a negative memory. Although I found support for this prediction in the negative memory condition, secure individuals' mood remained unchanged after recalling a positive memory condition. I suspect recalling a positive relationship memory did not affect secure individuals' positive mood because the task of recalling and writing about a positive memory activated cognitive resources that quieted mood responses. Further, positive memories from a past relationship could have made secure individuals wistful, removing some of the positivity from the memory. An attachment-specific reason for this effect could be that positive relationship memories are congruent with secure working models (Pereg & Mikulincer, 2004). Therefore, recalling a positive memory might not emotionally affect secure individuals. However, working model-incongruent memories (i.e., negative ones, for secure individuals), in combination with the absence of defensive filtering, lead to memory-congruent mood changes.

Dismissive group. Because of their defensive self-distancing from emotion and relationship information (Bartholomew & Horowitz, 1991; Mikulincer & Orbach, 1995; Fraley & Brumbaugh, 2007), I did not expect dismissive participants to respond emotionally to recalling either a positive or negative relationship memory. Indeed, dismissive participants did not report any change in negative mood resulting from the recall of either valence of memory. However, dismissive individuals did report decreases in positive mood in both memory conditions. This decrease in positive mood could be in part due to wistful feelings and concentration on the experimental task, but I also suspect an attachment-specific reason. In engaging with relationship information of either valence, I suspect that dismissive working models attenuated positive mood in efforts to create emotional distance from the troubling stimuli (Gentzler & Kerns, 2006).

Preoccupied group. Hypervigilance to relationship information and emotional volatility, often marked by negative moods stemming from their insecurity, are common descriptors for the internal states of attachment preoccupation (Mikulincer & Shaver, 2003). For these reasons, I expected preoccupied participants to experience increases in negative mood and decreases in positive mood in both conditions. I found some support for this prediction as well. In the negative memory condition, preoccupied participants did report decreases in positive mood and increases in negative mood. Preoccupied participants also reported decreases in positive mood in the positive memory condition, but experienced no change in negative mood. Although I predicted increases in positive mood after recalling a positive memory, this result is also unsurprising. Preoccupied individuals, despite deeply considering a positive event, still must overcome their dispositional negative moods experienced in response to relationship information. A nullification of positive mood in this

scenario makes sense. Further, if pining over positive memories of the past were to affect any attachment group, it would be the ruminative preoccupied. Because preoccupied individuals observe negative relationship information especially closely (Mikulincer & Shaver, 2010; Simpson, Collins, Tran, & Haydon, 2007), the focus of their attention might not have been on the positivity of the memory, but rather on the fact that the memory was from a relationship that (for one reason or another) ended.

Hypothesis 2. My second hypothesis made predictions on how ratings of positive and negative mood shifts from before to after recalling a relationship memory would compare between attachment groups within a given memory condition. I expected each attachment group's mood changes to compare in the same manner that their attention to relationship information does (Mikulincer & Shaver, 2010; Simpson & Rholes, 2012). That is, I expected secure individuals to report relatively more positive mood changes after recalling a positive relationship memory, preoccupied individuals to report relatively more negative mood changes after recalling a negative relationship memory, and for dismissive individuals' indifference to relationship information to place them in the middle of relative positive and negative mood changes regardless of memory recalled. Instead, I found that participants of different attachment groups did not differ in how recalling a positive or negative relationship memory affected their mood. I suspect this result is due to the restricting structure of the narrative probe. I asked participants to think about their relationship memory for two minutes before advancing to a screen that demanded ten minutes of writing before participants could advance. I also had explicit instructions for engaging with and writing about their memory. I designed the probe with the intent of ensuring that relationship memories would be salient in

participants' minds during the forecasting portion of the study, but the probe seems to have removed variability in attachment-dependent mood changes in the process.

Hypothesis 3. I had specific expectations for how recalling a positive or negative relationship memory would affect each attachment group's relationship forecasts. My hypotheses in this regard were the same for both RDF and PRAF forecasts, with one exception: Although I expected the dismissive group to predict generally higher levels of RDF than was typical, I expected them to predict generally lower levels of PRAF than was typical. Below, I discuss the results for both forecast variables as they related to each attachment group.

Secure group. For both PRAF and RDF, membership in the secure group forecasted lower levels than average when controlling for memory condition. Moreover, this effect remained constant regardless of whether secure individuals recalled a positive or negative relationship memory. These results support my hypotheses for secure individuals. I suspect these results are explainable by the robust and generally positive working models typical of attachment security. If secure individuals' default cognitions concerning relationship information are positive, it follows that their forecasts would remain stable between conditions: the positive memory is congruent with how they typically think, and their overwhelming positivity contextualizes the negative memory, diminishing differential effects in forecasts.

Dismissive group. The results for dismissive individuals did not uniformly support my predictions. I expected that dismissive group membership would forecast higher levels of RDF because of dismissive individuals' generally negative assessment of relationships. However, I expected that dismissive individuals' relatively low attachment anxiety (i.e., low

fears of rejection) would forecast lower levels of PRAF than average. Although I found support for hypothesis regarding RDF forecasts, I found that dismissive group membership was not a predictor of PRAF ratings. I believe attachment avoidance and the generally negative working models of romantic relationships dismissive individuals carry can explain this result. Although dismissive individuals' relatively low anxiety scores would suggest definitively low PRAF levels, the nature of their insecurity – preference for self-agency preservation – conflates with the positive outcomes of low anxiety to create an incoherent prediction. That is, although dismissive individuals are not particularly concerned with a lack of attention from their imagined future partner, they do not expect *good* outcomes from their interactions in general.

I also found the dismissive group difficult to predict concerning how their forecasts would differ between conditions. I expected that, with both forecast variables, dismissive indifference to the experimental stimulus would result in stable forecasts across conditions. Dismissive individuals' ratings of PRAF supported this hypothesis, but their RDF forecasts did not meet expectations. Instead, dismissive participants forecasted more relationship dissatisfaction after recalling a positive memory than they did after recalling a negative memory. The first meaningful revelation of this result is that it suggests dismissive individuals engaged in the experimental task more than I expected. Foundational to my prediction for dismissive individuals was the assumption that their defensive processing would remove them from meaningful cooperation with the manipulation. However, dismissive individuals' RDF forecasts differed between conditions, indicating immersion in the stimuli. It is further notable that the interaction stemmed from dismissive RDF ratings in the positive memory condition. Considering dismissive individual's engagement in the study

and their reactivity to recalling a positive relationship memory in combination, a possible explanation for this interaction could arise from the working model-incongruent nature of recalling a positive relationship memory. Dismissive individuals, by definition, do not engage in careful consideration of their past romantic relationship experiences. Doing so for a positive relationship memory is likely rarer still. It could be that the novelty of engaging in this exercise is unnerving, even threatening. Thinking of relationships in a positive light may in turn activate their attachment systems and their negative attributions of their imagined future partner. Meanwhile, the negative memory condition, although still requiring greater attention to relationship information than typical, is at least in-line with the typical valence of their disposition toward relationships.

Preoccupied group. Like the dismissive group, I found both support and opposition for my hypotheses concerning preoccupied individuals. I expected preoccupied individuals to forecast higher levels of both RDF and PRAF than the sample's average. I reasoned that preoccupied working models, defined by fearful hypervigilance and negative relationship attributions, would make generally negative forecasts for future relationships. Indeed, preoccupied individuals did forecast higher levels of PRAF than was typical. Given the centrality of partner rejection angst to preoccupied attachment, this was not surprising. However, I did not find that preoccupied forecasts of RDF differed from the average. I suspect membership in the preoccupied group was not a significant RDF predictor because of response volatility within the group. It is possible that, when controlling for condition in the regression model, preoccupied individuals did not provide coherent RDF forecasts precisely because memory condition affected their outlook in different directions.

I expected preoccupied individuals would rate RDF and PRAF in alignment with the valence of the memory they just recalled. I reasoned that preoccupied individuals' tendency toward hypervigilance and rumination with relationship information would result in correspondingly more optimistic or grim forecasts, relative to the valence of memory recalled. As expected, RDF forecasts did differ between conditions. However, it is noteworthy that the negative memory condition was the source of the interaction. That is, preoccupied individuals in the positive memory condition did not vary from the typical; instead, those in the negative memory condition were deviant from the average. This effect is likely the result of negative relationship information threatening preoccupied working models (Simpson, Rholes, & Phillips, 1996). Because relationships are a central, obsessive concern of preoccupied individuals, engaging in an exercise requiring personal and negative relationship memories is likely to activate their attachment working models. Considering preoccupied working models engage feelings of distrust and negative attributions, preoccupied RDF forecasts were more negative after recalling a painful memory than after recalling a non-threatening memory.

Although I expected PRAF ratings to differ between memory conditions in the same manner as RDF ratings, I did not find support for this hypothesis. I suspect this stability is the result of ceiling effects and demonstrative of the strength between preoccupied attachment and a forecast variable so closely resembling their core sensitivities. Fear of partner rejection angst is a definitive function of activated preoccupied working models. Memory valence was likely not strong enough to alter the centrality of this construct's effects as it was in RDF predictions.

Hypothesis 4. I expected to find within-condition differences in RDF and PRAF ratings between attachment groups.

Relationship Dissatisfaction. In the positive memory condition, I expected that the robust positivity of secure individuals would lead to lower RDF scores than both insecure groups. Further, I expected preoccupied individuals to lower RDF scores than dismissive individuals because of presentation of positive relationship information available for impressionable preoccupied individuals to consider. I found partial support for this hypothesis. I found that being in the dismissive group predicted higher RDF levels than secure and preoccupied groups did. Secure and preoccupied RDF forecasts did not differ. I expected that the positive working models of secure individuals would lead to more positive RDF forecasts than preoccupied individuals. Despite my expectations that preoccupied individuals' outlook positivity would increase from recalling a positive relationship memory, I still expected their foundationally negative relationship associations consequential enough to cause forecast discrepancy with indomitably positive secure individuals'. Instead, it seems that recalling a positive relationship memory allowed preoccupied individuals to forecast low RDF to the same degree as their secure counterparts. This result suggests that preoccupied individuals may use their own ruminative nature to their advantage. Clinging to positive relationship memories seems to alleviate their insecurity, reinforcing positive associations with romantic relationships and assumptions that future satisfaction is a likely outcome. Of course, I did not test the longevity and efficacy of this effect here.

Following recall of a negative relationship memory, I still expected secure individuals would predict more positive RDF forecasts than their insecure counterparts would. However, I hypothesized that recalling a negative relationship memory would activate preoccupied

working models and enhance their inherent negativity, resulting in their forecasts being more negative than dismissive individuals'. I found partial support for these hypotheses. Although secure individuals' relationship dissatisfaction forecasts were lower than both insecure groups, preoccupied and dismissive group forecasts did not differentiate. I suspected that making salient a negative relationship memory would lead to activation of preoccupied individuals' attachment working models, defined by negative relationship assessments. Although Hypothesis 3 results indicated this to be true, I expected this effect would be dramatic enough to differentiate their negative memory condition forecasts from dismissive individuals'. However, this result is not wholly surprising. Dismissive individuals also maintain negative sentiments toward romantic relationships. Further, even though their post-positive memory relationship dissatisfaction forecasts were uniquely high, attending to relationship information – even if working model-congruent – would not put dismissive individuals at ease. I suspect the exercise of engaging in any relationship memory was troubling for dismissive individuals, removing the possibility for unaroused dismissive forecasts. For the singularly positive relationship dissatisfaction forecasts of secure individuals, I suggest these results are indicative of the indomitable positivity of their working models. That is, I think secure individuals' categorically favorable appraisal of relationships annulled the outlying negativity of their memory in this condition.

Partner Rejection Angst. I expected that secure and dismissive individuals would predict lower PRAF scores than preoccupied individuals would. Unlike predictions of RDF, I thought the centrality of PRAF to attachment preoccupation would neutralize any considerable alleviation of PRAF fears by recalling a positive relationship memory. Because of their shared low anxiety scores, I did not expect forecast differences between secure and

dismissive individuals. I found full support for my hypotheses in this condition. Once again, these results indicate secure individuals' positive attributions for their partners and preoccupied individuals' fear of rejection, even following a positive memory prime.

I expected the same pattern of relation between the attachment groups in the negative memory condition as I did the positive memory condition. I thought the memory conditions would not be enough to alter forecasts, given the entrenchment of the concept of partner rejection angst in attachment orientations. However, dismissive individuals' PRAF scores did not differ from those of either secure or preoccupied individuals', contrary to my predictions that dismissive and preoccupied PRAF projections would continue to differentiate. In interpreting why preoccupied and dismissive PRAF forecasts did not differ, it is important to recall that membership in the dismissive group was not a significant predictor of PRAF. I would again suggest that dismissive indifference toward partner attentions, in combination with the extreme differentiation between secure and preoccupied individuals, led to incoherent dismissive PRAF forecasts, situated in the middle. However, I found support for my expectations in that preoccupied individuals forecasted higher levels of PRAF than secure individuals did after recalling a negative relationship memory.

Hypothesis 5. I expected that participants' changes in mood would explain the links between the memory conditions and forecast variables. However, no memory condition within any group of attachment membership predicted positive-negative mood balance scores. These results suggest that mood does not explain the link between a recalled emotional memory and the quality of forecast. I expected mood shifts for both secure and preoccupied individuals would be at least partially explain the relationship between memory

recall and forecasts. I will discuss these findings with detail in the General Discussion section, as these results are emblematic of broader themes concerning this study.

General Discussion

As addressed above, I framed the present study using attachment theory and investigated the effects of recalling emotional relationship memories on mood and forecasts of an imagined future relationship. I found partial support for my hypotheses, but also some surprising findings, which I will discuss in concert.

For secure individuals, I expected to find condition-congruent mood reactions that, even when negative, predicted positive forecasts of a future imagined relationship. This prediction was somewhat supported. Indeed, for both forecast variables, Relationship Dissatisfaction and Partner Rejection Angst, secure individuals reported relatively low levels that were stable between conditions. This was despite condition-congruent changes in mood that secure individuals experienced in the negative memory condition. However, secure individuals experienced no mood changes in the positive memory condition, perhaps as a function of the banality of positive relationship information to secure working models. It is notable, however, that secure individuals were the only attachment group who did not experience decreases in positive mood after recalling a positive relationship memory. I think there are two attachment-related reasons for this. If mournful nostalgia were a reason for insecure individuals' decreased positive mood, this result could indicate that secure individuals were more resilient to wistful reminiscence of their past relationship than others were. Perhaps secure individuals were able to contextualize their lost relationship better than insecure individuals could, resulting in relatively greater appreciation for the positivity of their chosen memory. Overall, I conclude that there was support for my general assumptions

concerning attachment security: the overall picture is one of adaptive stability and positive outlook.

I expected emotional indifference and broadly negative forecasts of future relationships to mark dismissive individuals' experience. This too was largely supported, but with notable exceptions. Regarding mood, dismissive individuals reported no change in negative mood in both conditions, but also attenuated positive mood regardless of condition. What is most interesting is the difference in RDF scores following dismissive individuals recalling a positive versus a negative memory. There, the incongruent content of the positive relationship memory to dismissive working models led to the highest forecasted relationship dissatisfaction among all attachment groups in both conditions. One potential implication is that it may be adaptive for dismissive individuals to incrementally expose themselves to positive relationship thoughts. This process may acclimate dismissive individuals to thinking of relationships in a positive manner, defusing the likelihood of their attachment working models responding negatively to the incongruent stimuli. Otherwise, new, positive relationship information might not be allowed to integrate into their working models because their current working models respond so negatively. Although membership in the dismissive group was not a significant predictor of PRAF (discussed above), the type of memory they recalled obviously affected this group, as evidenced by their RDF responses between conditions.

Hyperattention to relationship information and volatility in relational attributions defines preoccupied individuals. As a result, I expected preoccupied individuals to experience condition-congruent mood changes, as I did for secure individuals. However, unlike secure individuals, I expected preoccupied individuals would allow their

impressionable moods to affect their forecasts of a future romantic relationship. I again found partial support for this overarching expectation. After recalling a negative memory, preoccupied individuals did experience condition-congruent mood changes, as expected. However, recalling a positive relationship memory led to decreases in positive mood and no change in negative mood. Despite the incongruent mood changes (or lack of change at all) in the positive memory condition, RDF forecasts were condition-congruent. That is, preoccupied individuals forecasted more relationship dissatisfaction after recalling a negative memory than they did after recalling a positive memory. This result suggests that, for preoccupied individuals, focusing their ruminations on positive relationship information might lead to forecasts that are more positive and, potentially, more positive relationship experiences. Partner rejection angst ratings, in contrast, did not differ between conditions but were generally higher than those of secure and dismissive individuals.

Considering the results together, pervasive themes arise. One notable theme is the discrepancy of the accuracy of my predictions between the positive and negative memory conditions. With few exceptions, my expectations for attachment-predicted mood and forecast scores were coherent in the negative memory condition. In contrast, I found less frequent support for my hypotheses for mood and forecasts following recall of a positive relationship memory. I believe this trend occurred for a number of reasons. First, it is possible that participants became wistful or pensive after recalling a positive memory from a relationship they were no longer in. This could explain the occasionally unexpected mood changes observed in the positive memory condition: the memory could simply not be wholly positive, in context. Secondly, I think the difficult predictability of the positive memory condition outcomes could harken back to the generally lower importance and salience of

positive emotions and events. Isolating the underlying causes of some of my results in the positive memory condition is more difficult if positivity is not impactful as it allows for greater possibility that other, unquantified variables were in effect. Finally, I think that the trend of unsupported hypotheses in the positive memory condition could be indicative of the foundationally negative framing of adult attachment. Attachment researchers do not define attachment security by the presence of adaptive and healthy relationship thoughts, moods, and behaviors, but rather by the absence of maladaptive and unhealthy ones. This orientation is important as it focuses on how individuals reckon with stressful relationship information, but it may nonetheless lead to the clearest elucidation of predictions when framed in negative contexts.

Another noteworthy theme concerns the inconsistent and somewhat incoherent role of state emotion and the revelation that mood does not mediate the relationship between memory recalled and forecast for any attachment group. Because there were differences between conditions for forecasts not reconciled by mood, I take this to mean that other constructs unmeasured in this study informed participant forecasts. Perhaps measures of state general anxiety (Mohr, Crook-Lyon, & Kolchakian, 2010), stress (Simpson & Rholes, 2012), or vividness of the recalled memory (Gaesser & Schacter, 2014) would explain the link between memory valence and forecasts more clearly. However, recalling a positive or negative relationship memory may not need a mediator. It may be that engaging in the recall exercise activates internal working models informing forecasts on their own, perhaps by virtue of shared brain structures (Gaesser et al., 2013), without a meaningful or observable mediator.

I also find it noteworthy, even surprising, that the quantitative aspects of memory narratives did not differ by attachment. Although I designed the memory probe to be maximally affective, with little room for variation (e.g., explicit instructions on the valence of memory recalled, forced time to consider a memory, a minimum amount of time spent writing about the memory), prior research suggests that narratives would present attachment-based differences (Edelstein, 2006; Gentzler & Kerns, 2006; Mikulincer & Orbach, 1995; Pietromonaco & Barrett, 1997). However, attachment group membership did not predict differences in narrative length, usage of positive or negative words, or participants' own ratings of their memory's positivity and negativity. Perhaps qualitative analyses of narrative themes (Nosko, Tieu, Lawford, & Pratt) would elucidate attachment-related differences, but it may simply be the case that the narrative probe was even stricter than I hoped.

Limitations

Readers should consider several limitations when assessing the importance of my findings. First, the relatively low number of individuals participating in this experiment left my study statistically underpowered. With a larger sample size, I suspect that some of my more ambiguous or unexpected findings would have been clarified. Indeed, many of my unsupported hypotheses were not the result of unexpected significant results, but rather non-significant results.

Additionally, I think it is worth noting that, although defensible for my questions and data, a categorical treatment of adult attachment orientations is not ideal. As with any categorical approach, attachment classification reduces measurement precision and power. Although most modern attachment research considers attachment as a continuous variable,

discussions on the topic are ongoing (Fraley & Roisman, 2014; Fraley & Spieker, 2003; Roisman, Fraley, & Belsky, 2007).

Methodologically, I recommend a repeated measures approach to collecting forecast data in related future studies. By only measuring participants' data following implementation of the stimulus materials, I could not isolate the effects of the stimulus. Instead, measuring forecasts before (perhaps discreetly) and after the manipulation would account for all of the extraneous variables a participant brings into the lab, increasing internal validity. Further, this study could have benefited from having some manner of control condition or conditions. In my study, I cannot entirely attribute the effects to the fact that memories were emotional, or that they concerned an autobiographical relationship memory. Conditions with non-emotional and non-relationship-related probes might further contextualize findings. I also believe that an alternative statistical approach to analyzing mood as a mediator between memory valence and forecast could yield interesting results. Instead of the traditional Baron and Kenny (1986) approach to mediation, these data could be analyzed using multilevel structural equation modeling (MSEM) as outlined by Preacher, 2011.

Conclusion

This study reveals patterns supporting the hypothesis that forecasts for future relationships differentiate by attachment style and, to a lesser degree, are susceptible to the influences of recalling an emotionally powerful romantic relationship memory. No other research to my knowledge investigates memory as an antecedent of romantic relationship forecasts, and none does so in an attachment framework, either.

In general, my results align with adult attachment theory (e.g., Hazan & Shaver, 1987; Simpson, 1990) and previous work independently investigating attachment's role in

memory (e.g., Mikulincer & Orbach, 1995; Philippe, Lecours, Beaulieu-Pelletier, 2009) and forecasts (Carnelley & Janoff-Bulman, 1992; Collins, 1996; Mohr, Crook-Lyon, & Kolchakian, 2010). However, this work does not examine the veracity of participants' relationship forecasts, nor does it measure the power which recalling an emotional relationship memory influences behavior in a real world setting. Attachment theory proposes that internal working models and the styles that define them should inform future relevant thoughts, emotions, and behaviors into adulthood. However, research investigating this hypothesis is only recently developing maturity and reveals somewhat mixed results (Conger et al., 2000; Dinero et al., 2009; Miga, Hare, Allen, & Manning, 2010; Fraley et al., 2013; Holland, Fraley, & Roisman, 2011; Parade, Supple, & Helms, 2012; Simpson, 1990). Future research will have to investigate the specific role of attachment-delineated relationship forecasts predicting tangible relationship outcomes. Should convincing links arise indicating the predictive validity of relationship forecasts, understanding how these forecasts might differentiate by attachment and be subsequently altered – perhaps through attention to selected relationship memories – could be of value in developing treatment programs and interventions.

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Figure 1

Attachment Clusters Demarcated by Participant Locations on Anxiety and Avoidance

Dimensions

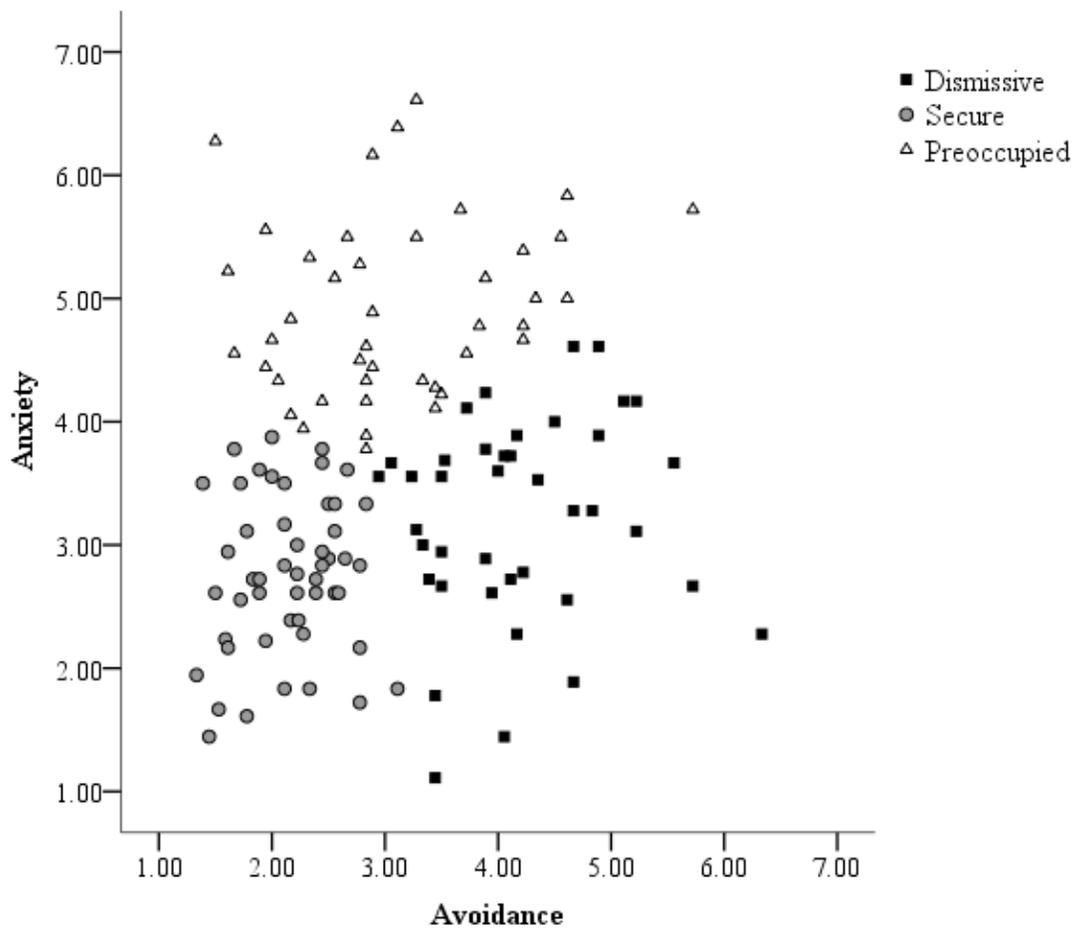
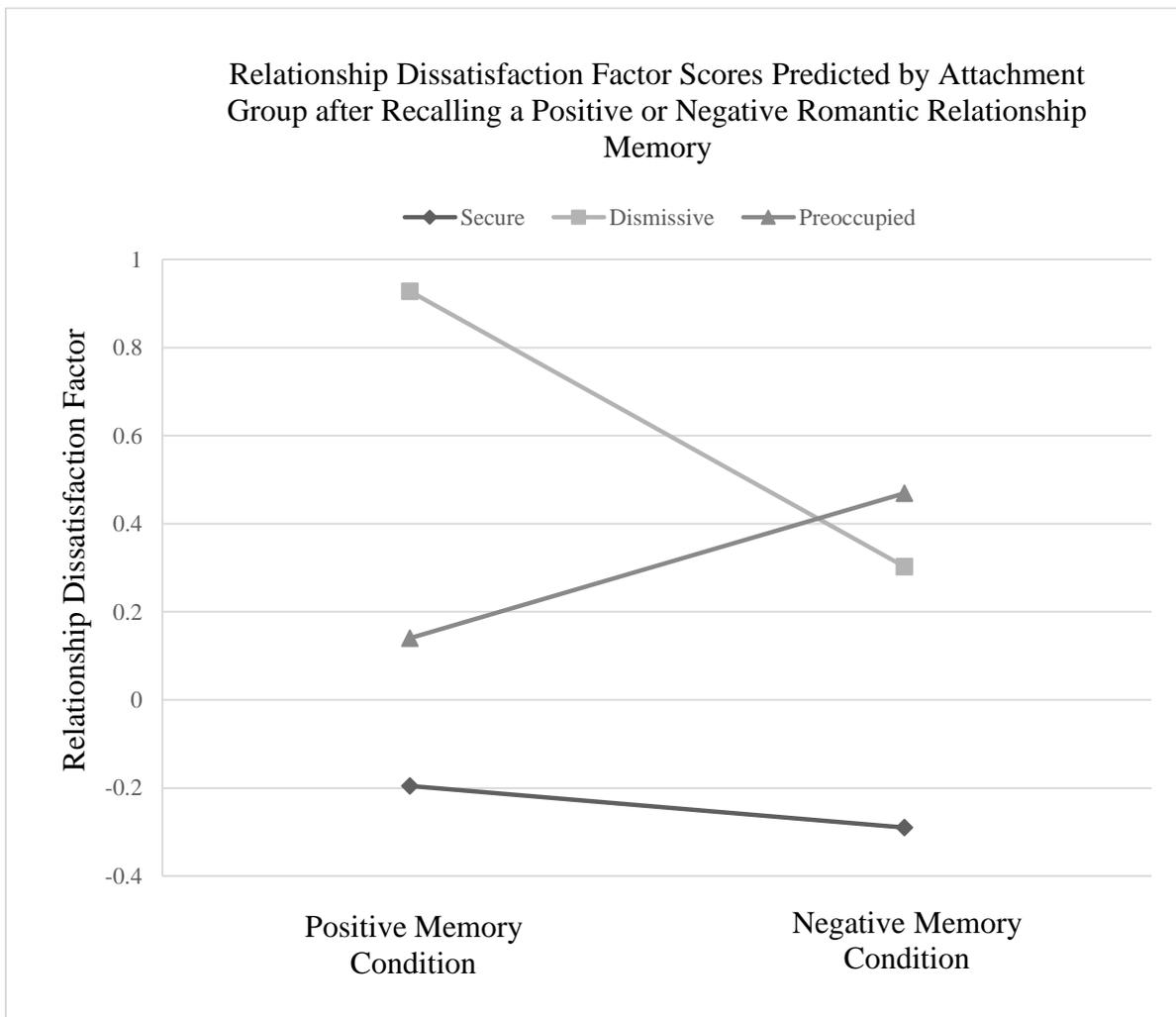
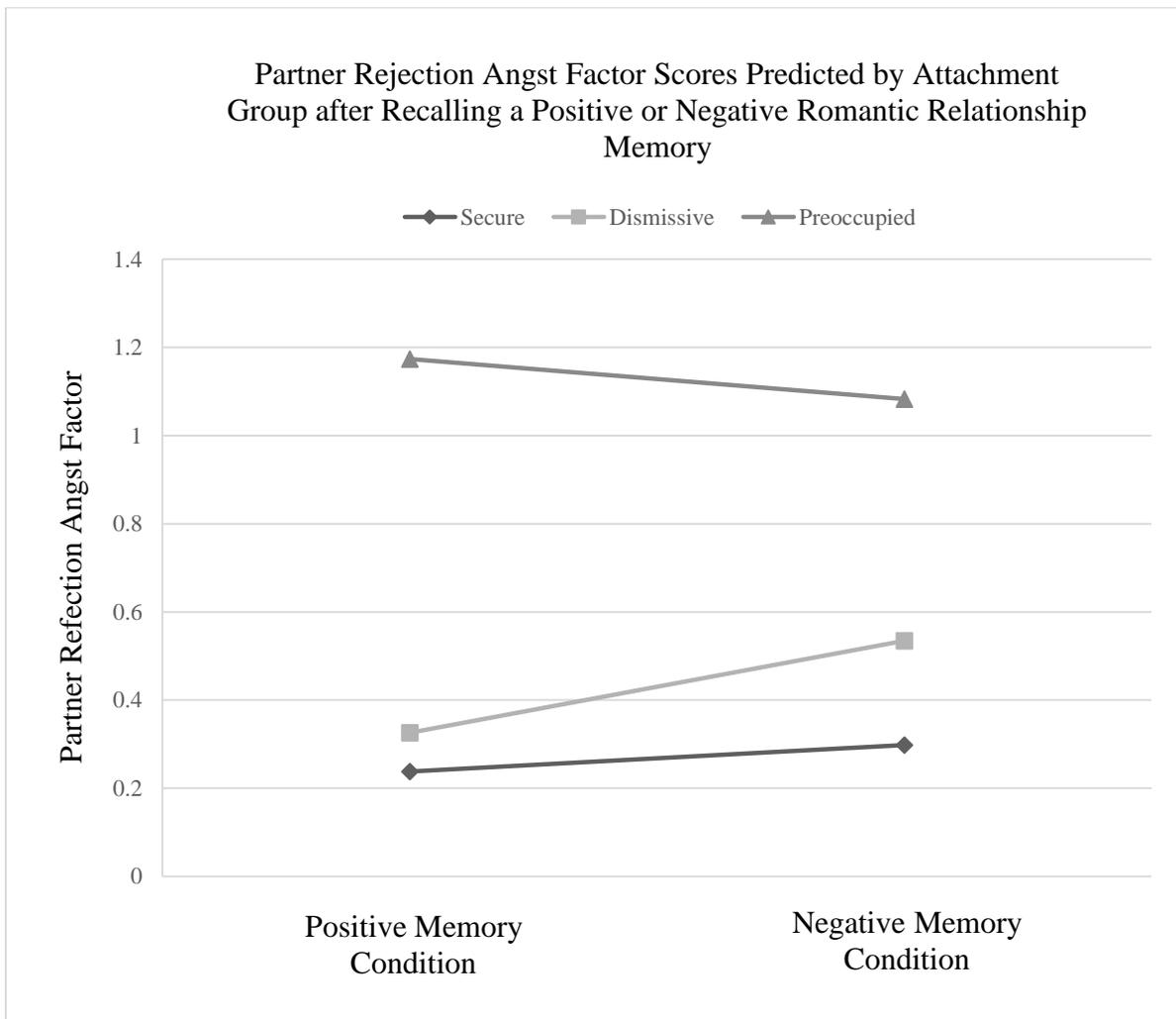


Figure 2



Note: Relationship Dissatisfaction Factor was created from standardized variables.

Figure 3



Note: Partner Rejection Angst Factor was created from standardized variables.

Table 1

Descriptive Statistics for Attachment Clusters

Statistic	Attachment Cluster		
	Secure	Dismissive	Preoccupied
<i>M (SD)</i> for Anxiety	2.76 (.63)	3.22 (.83)	4.92 (1.18)
<i>M (SD)</i> for Avoidance	2.15 (.44)	4.19 (.78)	3.07 (.95)
<i>n</i>	50	40	43
% of <i>N</i>	37.6%	30.1%	32.3%

Note: Participants rated items on 7-point Likert scales.

Table 2

Factor Pattern (and Structure) Coefficients of Positive and Negative Mood

Item	Factor		Item	Factor	
	Negative Mood	Positive Mood		Negative Mood	Positive Mood
Upset	.791 (.791)	.001 (-.299)	Enthusiastic	-.047 (-.351)	.803 (.821)
Dissatisfied with self	.747 (.772)	-.066 (-.349)	Bold	.060 (-.244)	.803 (.781)
Afraid	.725 (.645)	.210 (-.064)	Excited	.015 (-.286)	.795 (.790)
Angry at self	.713 (.721)	-.022 (-.291)	Energetic	-.112 (-.412)	.793 (.835)
Disgusted	.710 (.695)	.039 (-.229)	Joyful	-.120 (-.412)	.773 (.818)
Ashamed	.704 (.730)	-.069 (-.335)	Inspired	.147 (-.138)	.755 (.700)
Irritable	.695 (.673)	.057 (-.206)	Delighted	-.117 (-.395)	.733 (.778)
Angry	.690 (.711)	-.055 (-.317)	Lively	-.139 (-.413)	.724 (.777)
Alone	.689 (.726)	-.097 (-.358)	Interested	.102 (-.169)	.716 (.678)
Scared	.684 (.654)	.077 (-.181)	Cheerful	-.107 (-.377)	.713 (.754)
Downhearted	.683 (.732)	-.129 (-.388)	Alert	.233 (-.035)	.706 (.618)
Lonely	.670 (.727)	-.151 (-.405)	Happy	-.137 (-.403)	.705 (.756)
Blue	.665 (.689)	-.065 (-.316)	Proud	.134 (-.127)	.688 (.637)
Scornful	.664 (.603)	.163 (-.088)	Daring	.202 (-.058)	.686 (.610)
Sad	.655 (.706)	-.135 (-.383)	Attentive	.058 (-.195)	.670 (.648)
Frightened	.651 (.569)	.218 (-.028)	Strong	.043 (-.208)	.662 (.646)
Distressed	.643 (.647)	-.009 (-.253)	Determined	.091 (-.150)	.636 (.601)
Nervous	.642 (.575)	.178 (-.065)	Active	-.096 (-.335)	.631 (.668)
Blameworthy	.640 (.647)	-.018 (-.261)	Fearless	.143 (-.084)	.600 (.546)
Guilty	.608 (.592)	.044 (-.186)	Confident	-.243 (-.457)	.566 (.658)
Disgusted with self	.591 (.608)	-.046 (-.270)			
Shaky	.515 (.453)	.165 (-.030)			
Loathing	.513 (.571)	-.151 (-.345)			
Hostile	.512 (.553)	-.107 (-.301)			
Jittery	.469 (.347)	.322 (.144)			

Note: Uses principal component analysis with promax rotation. Bold numbers indicate item groupings by factor.

Table 3

Factor Pattern (and Structure) Coefficients of Forecasted Relationship Qualities

Scale / Item	Factor	
	Relationship Dissatisfaction	Partner Rejection Angst
Discussion communication	-.776 (-.732)	.190 (.014)
Communication avoidance	.632 (.658)	.115 (.259)
Aversive communication	.669 (.690)	.095 (.247)
Relationship satisfaction	-.767 (-.742)	.110 (-.064)
Negativity of partner's attributed thoughts following an argument	.771 (.789)	.077 (.252)
Negativity of participant's attributed thoughts following an argument	.697 (.709)	.054 (.213)
Forecasted attachment avoidance	.813 (.786)	-.121 (.064)
Likelihood of breakup	.649 (.648)	-.003 (.144)
Partner infidelity	.601 (.616)	.064 (.201)
Participant infidelity	.470 (.461)	-.040 (.066)
Conflict expectations resulting from partner wanting to spend an evening by himself/herself	.313 (.369)	.244 (.315)
Conflict expectation resulting from partner leaving participant standing alone at a party	-.145 (-.005)	.615 (.582)
Distress from partner not responding when participant wants to cuddle	-.055 (.125)	.792 (.780)
Distress from partner not comforting participant when participant is feeling down	-.149 (.019)	.738 (.704)
Distress from partner wanting to spend an evening by himself/herself	.176 (.308)	.581 (.621)
Distress from partner leaving participant standing alone at a party	.013 (.186)	.762 (.765)
Forecasted attachment anxiety	.217 (.371)	.678 (.727)

Note: Uses principal component analysis with promax rotation. Bold numbers indicate

item groupings by factor. Participants rated each item/scale while imagining they were in a committed romantic relationship five years into the future and one year into the relationship.

Table 4

Unstandardized Regression Coefficients and Zero-order Correlations Predicting Linguistic Content Narrative Variables

Predictor		Word Count		Positive Word Usage		Negative Word Usage	
		Unstandardized coefficient	Zero-order correlation	Unstandardized coefficient	Zero-order correlation	Unstandardized coefficient	Zero-order correlation
Main effects	Memory Condition	39.29	.10	-1.86***	-.52***	1.46***	.55***
	Secure cluster	3.55	.01	.18	.08	.01	.00
	Dismissive cluster	-27.14	-.09	-.05	.01	.15	.05
	Preoccupied cluster	21.12	.08	-.16	-.09	-.15	-.05
Interaction terms	Secure X condition	3.77	-.01	.20	-.17	.20	.30***
	Dismissive X condition	11.74	-.01	-.43	-.26**	.02	.27**
	Preoccupied X condition	56.83	.15	.17	-.26**	-.25	.16

Note: R^2 from final model for Word Count = .03. R^2 from final model for Positive Word Usage = .28. R^2 from final model for Negative Word Usage = .31. Regression coefficients computed from effect-coded attachment variables and mean-centered condition variables. Regression coefficients extracted from first model in which predictor was entered. Zero-order correlations computed from dummy-coded attachment variables and mean-centered condition variables. * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Table 5

Unstandardized Regression Coefficients and Zero-order Correlations Predicting Participant Ratings of Memory Positivity and Negativity

Predictor		Participant Ratings of Memory Positivity		Participant Ratings of Memory Negativity	
		Unstandardized coefficient	Zero-order correlation	Unstandardized coefficient	Zero-order correlation
Main effects	Memory Condition	-4.79***	-.88***	4.36***	.82***
	Secure cluster	-.06	-.01	-.18	-.06
	Dismissive cluster	.03	-.03	-.14	-.06
	Preoccupied cluster	.04	-.03	.34	.12
Interaction terms	Secure X condition	-.18	-.44***	-.44	.31***
	Dismissive X condition	.24	-.33***	.19	.32***
	Preoccupied X condition	-.01	-.39***	.33	.45***

Note: R^2 from final model for Participant Ratings of Memory Positivity = .77. R^2 from final model for Participant Ratings of Memory Negativity = .69. Regression coefficients computed from effect-coded attachment variables and mean-centered condition variables. Regression coefficients extracted from first model in which predictor was entered. Zero-order correlations computed from dummy-coded attachment variables and mean-centered condition variables. * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Table 6

Means (and Standard Deviations) for Memory Narrative Variables for Full Sample and Attachment Clusters in Both Memory Conditions

Sample	Positive Memory Condition				
	Word Count	Positive Emotion Words	Negative Emotion Words	Participant Ratings of Memory Positivity	Participant Ratings of Memory Negativity
Full Sample	278 (170)	3.89 (1.93)	.95 (.88)	6.59 (.98)	1.52 (1.35)
Secure	312 (238)	3.96 (2.01)	.86 (.88)	6.63 (.88)	1.50 (1.56)
Dismissive	245 (112)	4.04 (1.92)	1.09 (.93)	6.50 (.61)	1.30 (.73)
Preoccupied	268 (104)	3.63 (1.93)	.94 (.88)	6.63 (1.38)	1.68 (1.60)
Sample	Negative Memory Condition				
	Word Count	Positive Emotion Words	Negative Emotion Words	Participant Ratings of Memory Positivity	Participant Ratings of Memory Negativity
Full Sample	319 (232)	2.02 (1.12)	2.40 (1.29)	1.80 (1.55)	5.90 (1.64)
Secure	294 (133)	2.30 (1.22)	2.52 (1.45)	1.65 (1.57)	5.50 (1.92)
Dismissive	296 (149)	1.75 (1.01)	2.57 (1.48)	1.95 (1.61)	5.85 (1.53)
Preoccupied	364 (346)	1.93 (1.07)	2.15 (.92)	1.83 (1.52)	6.38 (1.31)

Note: Participants rated the positivity and negativity of their memories on a 7-point Likert scale.

Table 7

*Repeated-measures ANOVA Results for Positive and Negative Mood in Positive Memory**Condition by Sample*

Sample	Mood	Pre- manipulation <i>M (SD)</i>	Post- manipulation <i>M (SD)</i>	<i>F</i>	Wilk's λ	<i>p</i>	Partial η^2
Total	Positive	2.95 (.61)	2.72 (.62)	12.29	.835	.001**	.165
Sample (<i>N</i> = 63)	Negative	1.60 (.48)	1.61 (.66)	.03	1.00	.866	.000
Secure (<i>N</i> = 24)	Positive	2.99 (.71)	2.90 (.64)	.96	.960	.338	.040
	Negative	1.47 (.49)	1.34 (.47)	4.91	.824	.037†	.176
Dismissive (<i>N</i> = 20)	Positive	2.88 (.53)	2.62 (.62)	9.63	.664	.006*	.336
	Negative	1.58 (.40)	1.63 (.72)	.228	.988	.639	.012
Preoccupied (<i>N</i> = 19)	Positive	2.98 (.57)	2.58 (.57)	5.74	.758	.028*	.242
	Negative	1.79 (.49)	1.93 (.67)	.89	.953	.357	.047

Note: † = $p < .10$, * = $p < .05$, ** = $p < .01$, *** = $p < .001$ after Benjamini-Hochberg

correction for false discovery rate. Variables discriminate more the closer Wilk's λ is to zero.

Table 8

*Repeated-measures ANOVA Results for Positive and Negative Mood in Negative Memory**Condition by Sample*

Sample	Mood	Pre- manipulation <i>M (SD)</i>	Post- manipulation <i>M (SD)</i>	<i>F</i>	Wilk's λ	<i>p</i>	Partial η^2
Total Sample (<i>N</i> = 70)	Positive	3.02 (.68)	2.47 (.93)	66.46	.509	<.001***	.491
	Negative	1.58 (.56)	1.86 (.68)	21.64	.761	<.001***	.239
Secure (<i>N</i> = 26)	Positive	3.28 (.71)	2.72 (1.01)	24.87	.501	<.001***	.499
	Negative	1.44 (.41)	1.69 (.53)	10.50	.704	.003**	.296
Dismissive (<i>N</i> = 20)	Positive	2.72 (.63)	2.31 (.88)	12.43	.605	.002**	.395
	Negative	1.50 (.55)	1.65 (.59)	1.59	.923	.223	.077
Preoccupied (<i>N</i> = 24)	Positive	2.98 (.59)	2.35 (.74)	29.57	.438	<.001***	.562
	Negative	1.79 (.66)	2.22 (.76)	13.16	.636	.001**	.364

Note: † = $p < .10$, * = $p < .05$, ** = $p < .01$, *** = $p < .001$ after Benjamini-Hochberg

correction for false discovery rate. Variables discriminate more the closer Wilk's λ is to zero.

Table 9

*Unstandardized Regression Coefficients and Zero-order Correlations for Variables**Predicting Levels of Forecasted Relationship Dissatisfaction and Partner Rejection Angst*

		Relationship Dissatisfaction Factor		Partner Rejection Angst Factor	
Predictor		Unstandardized coefficient	Zero-order correlation	Unstandardized coefficient	Zero-order correlation
Main effects	Memory Condition	-.12	-.08	.05	.05
	Secure cluster	-.44***	-.46***	-.33***	-.30**
	Dismissive cluster	.41***	.36***	-.17	-.13
	Preoccupied cluster	.06	.12	.53***	.43***
Interaction terms	Secure X condition	.02	.02	.01	-.01
	Dismissive X condition	-.51**	-.24**	.16	.06
	Preoccupied X condition	.45**	.22*	-.16	-.05

Note: R^2 from final model for Relationship Dissatisfaction Factor = .31. R^2 from final model for Partner Rejection Angst Factor = .20. Regression coefficients computed from effect-coded attachment variables and mean-centered condition variables. Regression coefficients extracted from first model in which predictor was entered. Zero-order correlations computed from dummy-coded attachment variables and mean-centered condition variables. * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Table 10

Descriptive Statistics for Forecasts of Relationship Dissatisfaction Factor and Partner

Rejection Angst Factor for each Attachment Cluster in Both Memory Conditions

Cluster	Dependent Variable	Positive Memory Condition		Negative Memory Condition	
		<i>N</i>	<i>M (SD)</i>	<i>N</i>	<i>M (SD)</i>
Secure	Relationship Dissatisfaction	23	-.20 (.34)	25	-.30 (.46)
	Partner Rejection Angst	24	.24 (.73)	26	.30 (.82)
Dismissive	Relationship Dissatisfaction	19	.93 (1.00)	20	.30 (.52)
	Partner Rejection Angst	20	.33 (.89)	20	.53 (.81)
Preoccupied	Relationship Dissatisfaction	19	.14 (.54)	24	.47 (.73)
	Partner Rejection Angst	19	1.19 (.77)	24	1.08 (.69)

Note: Relationship Dissatisfaction Factor and Partner Rejection Angst Factor are created from standardized variables.