The impact of adult attachment on partner and self-attributions and relationship quality

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Abstract

This study tested the relationships between mental the models of attachment, the attributions romantic couples make for their own and their partners’ behaviors, and relationship quality. Participants (\(n = 352\)) who were currently involved in a romantic relationship completed multiple measures of attachment, attributions, and relationship quality. Results revealed that secure people reported less maladaptive attributions than insecure people. In addition, structural model analyses indicated that attachment model of the self (but not the model of others) had both a direct and an indirect effect, mediated by attributions made for negative partner behavior, on relationship satisfaction. Attributions made for self- and partner behaviors overlapped to a great extent, implying an attribu-
tional style underlying this unique response pattern. These findings suggest that a positive model of self is a valuable personal resource that enhances adaptive attributions, and hence, leads to high levels of relationship quality.

Attachment and attribution theories offer two different perspectives from which to understand the dynamics of close relationships. The attachment perspective (e.g., Collins & Allard, 2001) seeks to understand how “mental models”, which are based on early interactions with significant others, exert an influence on the ways adults behave, think, and feel in their intimate relationships. The attribution perspective, on the other hand, seeks to understand how the attributions partners make for relationship events influence satisfaction in their relationships (e.g., Fincham, 2001). The current study sought to integrate these two lines of research by examining the inter-
play between the mental models of attachment and the attributions individuals make for their own and their romantic partners’ behavior in predicting relationship satisfaction.

Bowlby (1973) argued that the quality of repeated interactions with caregivers results in the formation of internal working models or mental models. Responsive and sensitive parenting may lead to the formation of positive mental models of the self as lovable and competent, and others as trustworthy and warm. Repeated inconsistent, rejecting, and intrusive parenting, however, may lead to the formation of negative mental models of the self as unlovable and incompetent, and of others as untrustworthy and cold (Cassidy, 1999). Once these expectations about the self and others are formed and crystallized, mental models are thought to be relatively resistant to change (Collins & Allard, 2001).

Bartholomew and Horowitz (1991) developed a prototype model which postulates that four attachment styles may exist in adults. In this formulation, attachment styles are defined in terms of the intersection of
two underlying dimensions: mental models of the self and others. Dichotomizing each dimension as positive or negative generates four attachment patterns. Secure individuals (who have positive models of the self and others) experience the self as worthy (lovable) and believe that others are trustworthy and responsive. Individuals with the preoccupied attachment pattern (characterized by a negative model of self and a positive model of others) experience a sense of personal unworthiness or unloveness combined with a tendency to seek self-validation in and engage in excessive preoccupation with intimate relationships. Those with a fearful attachment style (two negative mental models) have a desire for social contact that is inhibited by a fear of rejection. The dismissing pattern (positive model of self but negative model of others) is characterized by a sense of personal worthiness combined with a defensive denial of the need or desire for intimate contact (Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998). Subsequent research using the Bartholomew and Horowitz’s measure has provided evidence of its validity (e.g., Griffin & Bartholomew, 1994). In addition, others interested in measurement issues have described two general dimensions (e.g., anxiety over relationships and avoidance from others) underlying attachment styles that are compatible with the dimensions suggested by the four-category model (e.g., Brennan et al., 1998).

Mental models as cognitive-affective structures are believed to direct expectations, beliefs, and attitudes about the self and others, and to regulate affect in relationships (Pietromonaco & Barrett, 2000; Collins & Allard, 2001). Given that mental models overlap with common conceptualizations of “social schemas”, increasing numbers of studies have conceptualized attachment patterns and mental models as relational schemas (e.g., Baldwin, 1992) and have found these domain-specific schemas have effects on the processing of information concerning relationships and significant others (e.g., Collins, 1996; Cozzarelli, Hoekstra, & Bylsma, 2000). Conceptualizing mental models as schemas also implies that people with different mental models of attachment will systematically differ in the way they make attributions for their own and their partners’ behavior.

In their reviews, Bradbury and Fincham (1990) and Fincham (2001) concluded that the attributions that partners make for relationship events are one of the most widely studied cognitive aspects of close relationships. Reviewed studies have typically been focused on the association between attribution patterns and relationship quality (especially relationship satisfaction) or distress. In general, researchers have focused on two general attribution dimensions: causal and responsibility attributions. Traditionally, causal attributions are comprised of the locus (internal versus external), stability, globality, and the perceived controllability of the cause. Responsibility attributions assess the extent to which the partner’s contribution to a relationship event is seen as intentional, reflects the partner’s selfish motivation, and is blameworthy (see Bradbury & Fincham, 1990).

Past studies have consistently shown that, as compared with members of happy/nondistressed couples, members of unhappy/distressed couples are more likely to see the cause of negative relationship events as stable, global, uncontrollable, and located in their partners, and they also view their partners’ behavior as intentional, selfishly motivated, and blameworthy. The pattern is reversed for positive events (see Bradbury & Fincham, 1990; Fincham, 2001). In other words, dissatisfied couples have been found to make “distress-maintaining attributions” that minimize the favorable implications of positive partner behavior but accentuate the undesirable implications of negative partner behaviors.

Although attribution researchers have extensively studied the effects of attributions made for partner behaviors on relationship quality, they have largely ignored the effects of the attributions that a person makes for his or her own behavior. According to Newman (1981), close relationship attributions should include both “one’s
perceptions of self in regard to partner” (e.g., “you criticize your partner”) and “one’s perception of one’s partner in regard to self” (e.g., “your partner criticizes you”). Overall, the few studies that have examined the self–other distinction in attributions have tended to find that while satisfied couples make either similar attributions for both self- and partner behaviors or display a tendency toward partner-enhancing and self-effacing attributions, dissatisfied couples display a tendency toward partner-effacing and self-enhancing attributions (Fincham, Beach, & Baucom, 1987; Bradbury & Fincham, 1990).

Researchers studying cognitive processes in close relationships have proposed an integrative “contextual model” to better understand the nature of the associations between attributions and relationship functioning, and to determine the factors that give rise to attributions in close relations (e.g., Bradbury & Fincham, 1991). Among these factors are those such as personality and temperament, expectations, beliefs about relationships, and mental representations of relationships that create a generalized tendency to make certain types of attributions (e.g., Bradbury & Fincham, 1988). Given that mental models shape expectations, beliefs, and attitudes about the self and others by systematically filtering individuals’ perceptions and emotional appraisals (see Collins & Allard, 2001), conceptually, they would be expected to be among the factors that predispose individuals to make specific attributions about self- and partner behavior in close relationships.

As has been suggested by previous researchers, to maintain and verify their beliefs and feelings about themselves, persons interpret, explain, and make attributions about their own and others’ behaviors in ways that confirm their expectations about themselves and others (e.g., Berscheid & Ammazzalorso, 2001), even if those expectations are negative (Swann, Hixon, & La Ronde, 1992). Accordingly, we assumed that individuals would make attributions both for their own and for their partners’ negative behaviors in ways that confirm their mental models.

Furthermore, similar to the documented association between attribution patterns and relationship satisfaction, extensive research findings have shown that positivity of mental models or attachment security is also positively related to a variety of measures of relationship quality, satisfaction, and happiness in both dating (e.g., Simpson, 1990; Collins, 1996) and married couples (see Feeney, 1999 for a review on this issue). Therefore, mental models are expected to have a direct effect on both attributions and relationship satisfaction.

A few studies have investigated the relation between attachment styles and attribution patterns. For example, using dating partners, Collins (1996) found that as compared with anxious-ambivalent and avoidant individuals, secures made less negative attributions for their partners’ behaviors. In a more recent study on married couples, Gallo and Smith (2001) used the anxiety and close/depend dimensions of Collins and Read’s (1990) attachment measure and demonstrated that both wives’ and husbands’ anxious attachment and husbands’ avoidant attachment were associated with negative attributions for partners’ behavior. In a series of regression analyses, they also tested whether these negative attributions mediated the effects of anxious and avoidant attachment style separately on marital conflict and support. They found that both husbands’ and wives’ negative attributions for partner behavior are potential mediators of attachment styles (especially anxious attachment) on marital conflict and support. However, Gallo and Smith did not directly examine whether these negative attributions mediated the effects of both attachment mental models of the self and others together on the relationship satisfaction. Similarly, using the same measures employed in Gallo and Smith’s study on dating partners, Whisman and Allan (1996) found that attachment anxiety was significantly associated with women’s responsibility attribution and men’s causal attributions for negative partner behaviors and these attributions were negatively correlated with partners’ dyadic
adjustment. However, they did not test whether negative attributions mediate the link between attachment styles and relationship quality.

Taken as a whole, previous studies using the three-category model of attachment point to the conclusion that attachment styles affect attribution processes in relationships and attributions for partner behavior mediate the separate effects of anxious and avoidant attachment (or depend and close dimensions of attachment) on different aspects of relationship functioning. However, these studies did not examine the effects of mental models of self and others on the attributions made for both self- and partner behaviors in a single mediated model using latent variables. Furthermore, previous studies did not examine the role of attachment styles or dimensions on the attributions made for partners’ own negative behavior and the potential mediational effect of these self- and partner-attributions on relationship quality. Specifically, this study aimed at exploring and clarifying the potentially diverging roles of the mental models of attachment on relationship attributions and the mediating role of negative partner as well as self-attributions between attachment mental models and relationship satisfaction by using latent variable models.

Specific Predictions

We expected that those with a negative mental model of others (dismissings and fearfuls) would make more negative attributions for their partners’ behavior than those with a positive model of others (secures and preoccupieds). With regard to the attributions made for one’s own behavior, those with a negative model of the self (fearfuls and preoccupieds) were hypothesized to make more negative attributions than those with a positive model of the self (secures and dismissings) in response to negative self-behaviors. Combining the patterns suggested for partner and self-behaviors yields an attribution pattern specific to each of the four attachment styles. Consistent with Bradbury and Fincham’s (1990) conceptualization of an enhancing or effacing attribution pattern, we expected that secures would be characterized by both self- and partner-enhancing attribution patterns and fearfuls would be characterized by both self- and partner-effacing attribution patterns. While dismissings were assumed to be typified by a self-enhancing but a partner-effacing attribution pattern, preoccupieds were expected to be typified by a self-effacing but a partner-enhancing attribution pattern.

Links Between Mental Models of Attachment, Attributions, and Relationship Quality

To examine the hypothesized links between mental models, attributions, and relationship satisfaction, we proposed a mediational model in which the effects of mental models on relationship satisfaction are partially mediated by attributions. Specifically, mental models were expected to have both a direct effect and an indirect effect, via attributions, on relationship satisfaction. However, the predictive power of each type of mental model on attributions was assumed to vary depending on the target of the attributions under consideration. Specifically, the model of self was expected to strongly predict attributions for self-behaviors and the model of others was expected to strongly predict attributions for partner behaviors. The links between model of the self- and partner attributions and model of others and self-attributions were both expected to be weak or nonsignificant.

The traditional strategy among attachment researchers has been to investigate the associations between single measures of attachment style and various outcome
variables. Unfortunately, when constructs are measured by single indicators in this fashion, correlations between variables may be exaggerated by common-method variance or attenuated by random error of measurement (Bartholomew, 1994). The current study sought to minimize these problems by using structural equation modeling (SEM) with multiple indicators for each construct.

Consistent with the rationale of the four-category model, we expected the interaction between the models of self and others to predict attributions. An interaction between the two types of mental models in predicting relationship satisfaction is also theoretically plausible. We examined these interactions via moderated regression because such interactions cannot be tested via SEM.

Method

Participants

Kansas State University students (n = 352) who were in a romantic relationship participated in the study for course credit. The sample consisted of 93 (26%) males and 259 (74%) females, with a mean age of 19.81 years (SD = 6.82). Twenty participants (6%) were married and 332 (94%) were unmarried. Participants' relationships ranged in duration from 2 months to 12 years (M = 20.14 months; SD = 27.05). The sample was predominantly White (90%).

Procedure

Participants completed the questionnaires (containing multiple measures of each major variable and demographic information) administered by first author in group sessions containing up to 20 individuals. Three different random orders of the questionnaire set were utilized to counterbalance the measures. Confidentiality of responses was assured, and following completion of the questionnaire set, participants were completely debriefed.

Instruments

Measures of attachment styles/mental model

Relationship questionnaire. The relationship questionnaire (RQ) (Bartholomew & Horowitz, 1991) consists of four short paragraphs, one describing each of Bartholomew’s four attachment prototypes (secure, preoccupied, fearful, and dismissing). Participants were asked to indicate how well they feel each prototype describes them on separate 7-point scales ranging from “not at all like me” to “very much like me.” The four continuous attachment ratings were used to compute scores for the model of self and model of others dimensions by following the procedures outlined by Griffin and Bartholomew (1994). To compute scores for the model of self, the sum of each individual’s ratings on the fearful and preoccupied items are subtracted from the sum of their ratings on the secure and dismissing items. To compute scores on the model of others, the sum of each individual’s ratings on the dismissing and fearful items are subtracted from the sum of their ratings on the secure and dismissing items. Scores on the mental models could range from –12 to 12, with “0” as the midpoint on both measures and higher scores reflecting more positive mental models.

Relationship scale questionnaire. Participants also completed 17-item relationship scale questionnaire (RSQ) (Griffin & Bartholomew, 1994) measuring the four attachment prototypes. Respondents rated the extent to which each item described them and their typical style in close relationships on 7-point scales ranging from “not at all like me” to “very much like me.” Five items represent the secure and dismissing patterns and four items represent the preoccupied and fearful patterns (one item is used in both preoccupied and dismissing prototypes by reversing the item score). The continuous scores for the four attachment patterns were derived by computing the mean of the items representing each pattern. Once these scores were created, scores for mental models were computed by employing
a procedure identical to that described for the RQ above.

Relatively low internal consistency scores (Cronbach’s alphas ranging from 0.41 to 0.71) have been reported elsewhere for the RSQ subscales (Griffin & Bartholomew, 1994; Scharfe & Bartholomew, 1994). However, alphas for the RSQ subscales can be expected to be low because two dimensions are being combined in each subscale. In the current study, the alpha coefficients for the RSQ subscales varied between 0.29 and 0.73. However, despite their low alpha values, the RSQ subscales have been found to have high test–retest reliability (Scharfe & Bartholomew, 1994) and mental models scores derived from both the RSQ and the RQ had satisfying convergent and discriminant validity (Griffin & Bartholomew, 1994).

**Attribution measures**

Two measures of attributions for behaviors that commonly occur in romantic relationships were administered. One tapped the attributions made for hypothetical partner and self-behaviors and the other tapped the attributions made for real-life behaviors.

**Relationship attribution measure.**

Attributions for partner behaviors were assessed by Fincham and Bradbury’s (1992) relationship attribution measure (RAM) measuring attributions made for eight hypothetical partner behaviors. Six of these behaviors are negative (e.g., “your husband criticizes something you do”) and two of them are positive (e.g., “your husband treats you more lovingly”). Participants responded to all eight items, however, only attributions for negative events were examined in this study. Thus, positive events were used as filler items. The RAM was originally designed for married couples. However, considering the characteristics of the sample in the present study, the stimulus events were reworded so as to be appropriate for dating couples.

For each hypothetical partner behavior, respondents were asked to rate the extent of their agreement with six statements on 7-point scales ranging from “disagree strongly” to “agree strongly.” Of the six statements, one statement was used to assess each of the three types of causal attribution dimensions (locus, stability, and globality), and one statement was used to assess each of the three types of responsibility attribution dimensions (intent, motivation, and blame). An overall causal attribution index for negative partner behavior (RAM-C) was computed based on the mean responses to 18 items [three dimensions (locus, stability, and globality) × six negative stimulus events]. A responsibility attribution index (RAM-R) was computed in a similar fashion. The scores on these attribution measures could range from 1 to 7, with higher scores reflecting more negative relationship attributions. The Cronbach’s alpha for the RAM-C and RAM-R composite indices were satisfactory (0.86 and 0.92, respectively).

**Attributions for self-behaviors.**

The present study also requires the assessment of attributions made for negative self-behaviors. Therefore, a second form of the RAM was created in which the stimulus events were reworded such that the self was described as the cause of the behavior (e.g., “You criticize something your partner does.”). Scores on the RAM-C and RAM-R composite indices were computed as described for the partner version of these measures. The self-version of the RAM-C and RAM-R demonstrated adequate alphas (0.85 and 0.87, respectively).

**Areas of difficulty questionnaire.**

Attributions for partner behaviors on the basis of real-life events were assessed by using a modified version of Fincham’s (1985) areas of difficulty questionnaire (ADQ). This measure is identical to the RAM in terms of the attribution dimensions that are assessed, and it has been widely employed in attribution studies. In its original form, the ADQ asks individuals to identify two important difficulties or problems they have recently experienced in their relationship from a prepared list of common relationship problems (e.g.,
communication problems and unrealistic expectations of the relationship). We added 10 extra problem areas that are more likely to be experienced by dating couples to the original scale (e.g., “My partner is cool and distant some of the time.”). Participants could also add problem areas to the list. Respondents were first asked to choose the two statements which reflected the most common relationship problems they experienced due to their partners or to write down their own two problem areas if they were not included on the list. Next, they were asked to rate their two chosen statements on the basis of the six attribution dimensions used in the RAM. The ADQ causal and responsibility indices were created by following procedures identical to those that were described above for the RAM.

**Attributions for self-behaviors.** To assess the attributions made for own behavior occurs in real-life situations, a second form of the ADQ was created in which the statements for partner behaviors were reworded such that the self was described as the cause of the behavior (e.g., “I have unrealistic expectations concerning my relationship.”). The rest of the procedure was identical to that described above for the partner version of this questionnaire. The use of only two stimulus events in the ADQ resulted in slightly lower alphas than those that were obtained for the RAM for both partner and self-behaviors (Cronbach’s alphas ranged from 0.65 to 0.80).

**Measures of relationship quality**

**Dyadic adjustment scale (DAS).** Spanier’s (1976) DAS is a widely used measure of marital and close relationship adjustment that consists of 32 items assessing dyadic satisfaction, cohesion, consensus, and affectional expression (e.g., “making major decisions”). Participants indicated the extent of their agreement with each statement on 6-point scales ranging from “always agree” to “always disagree.” Scores on all 32 items were then averaged (Cronbach’s alpha = 0.90).

**Quality of marriage index (QMI).** Norton’s (1983) QMI is composed of six questions. Five questions ask participants to rate different aspects of their marital satisfaction on 7-point scales, and one item asks them to rate their overall happiness with their marriage. The items were reworded so as to be appropriate also for dating couples (e.g., “Overall, how satisfied are you with your relationship?”). (Cronbach’s alpha = 0.95).

**Relationship happiness scale (RHS).** The RHS was developed by Fletcher, Fitness, and Blampied (1990) and was specifically designed for dating couples. The scale includes six items measuring perceptions of love, happiness, general satisfaction, relationship stability, seriousness of problems, and commitment (e.g., “My relationship with my partner makes me happy.”). Items were rated on 7-point scales ranging from “strongly disagree” to “strongly agree” (alpha = 0.86).

**Results**

As summarized in Table 1, mental models of self and others were weakly correlated on both the RSQ- and RQ-based measures. The correlations between partner and self-attributions for both attribution measures were relatively high, suggesting that participants tended to make similar attributions for their partners’ and their own behaviors. With the exception of the model of others measured by the RQ, all of the measures of mental models of attachment were significantly and negatively correlated with measures of attributions for both partner and own behavior. As expected, all of the measures of mental models were significantly and positively correlated with the measures of relationship satisfaction.

**Testing the proposed mediated model**

Following Anderson and Gerbing’s (1988) suggestions, first, a measurement model was tested, and then, a series of structural models including the hypothesized model was
## Table 1. Correlations Among the Observed Variables

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<tbody>
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<td><strong>RQ model of self</strong></td>
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<td></td>
<td>0.61***</td>
<td>–</td>
<td>0.17**</td>
<td>0.21**</td>
<td>–0.24**</td>
<td>–0.19**</td>
<td>–0.26**</td>
<td>–0.23**</td>
<td>0.27**</td>
<td>0.32**</td>
<td>0.30**</td>
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<td><strong>RSQ model of self</strong></td>
<td></td>
<td>0.04</td>
<td>0.17**</td>
<td>–0.21**</td>
<td>–0.16**</td>
<td>–0.23**</td>
<td>–0.18**</td>
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<td><strong>RQ model of others</strong></td>
<td></td>
<td></td>
<td>0.73**</td>
<td>–0.06</td>
<td>–0.04</td>
<td>–0.10</td>
<td>0.02</td>
<td>0.28**</td>
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<tr>
<td><strong>RSQ model of others</strong></td>
<td></td>
<td>0.21**</td>
<td>0.18**</td>
<td>0.73**</td>
<td>–0.12**</td>
<td>–0.10**</td>
<td>–0.22**</td>
<td>–0.11**</td>
<td>0.32**</td>
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<td>0.24**</td>
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<tr>
<td><strong>RAM partner attributions</strong></td>
<td>–0.25**</td>
<td>–0.20**</td>
<td>–0.08</td>
<td>–0.14**</td>
<td>–</td>
<td>0.58**</td>
<td>0.60**</td>
<td>0.54**</td>
<td>–0.48**</td>
<td>–0.39**</td>
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<td><strong>ADQ partner attributions</strong></td>
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<td>–0.14**</td>
<td>–0.05</td>
<td>–0.12**</td>
<td>0.58**</td>
<td>–</td>
<td>0.44**</td>
<td>0.51**</td>
<td>–0.42**</td>
<td>–0.41**</td>
<td>–0.47**</td>
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<td><strong>RAM self-attributions</strong></td>
<td>–0.24**</td>
<td>–0.21**</td>
<td>–0.09</td>
<td>–0.20**</td>
<td>0.58**</td>
<td>0.44**</td>
<td>–</td>
<td>0.57**</td>
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<td>–0.16**</td>
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<td>0.55**</td>
<td>0.52**</td>
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<td><strong>DAS</strong></td>
<td>0.24**</td>
<td>0.20**</td>
<td>0.25**</td>
<td>0.31**</td>
<td>–0.40**</td>
<td>–0.42**</td>
<td>–0.35**</td>
<td>–0.34**</td>
<td>–</td>
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<td>0.20**</td>
<td>–0.42**</td>
<td>–0.42**</td>
<td>–0.30**</td>
<td>–0.34**</td>
<td>0.63**</td>
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<td>0.81**</td>
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<td><strong>RHS</strong></td>
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<td>0.15**</td>
<td>0.19**</td>
<td>0.23**</td>
<td>–0.48**</td>
<td>–0.47**</td>
<td>–0.38**</td>
<td>–0.41**</td>
<td>0.66**</td>
<td>0.81**</td>
<td>–</td>
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<tr>
<td><strong>Mean</strong></td>
<td>0.77</td>
<td>0.93</td>
<td>0.12</td>
<td>0.82</td>
<td>3.70</td>
<td>4.18</td>
<td>3.93</td>
<td>3.96</td>
<td>3.70</td>
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<tr>
<td><strong>SD</strong></td>
<td>4.11</td>
<td>2.24</td>
<td>4.17</td>
<td>2.73</td>
<td>1.03</td>
<td>1.19</td>
<td>0.94</td>
<td>1.17</td>
<td>0.54</td>
<td>1.27</td>
<td>0.97</td>
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</table>

*Note.* Numbers below the diagonal are correlations and above the diagonal are partial correlations controlling for sex of the participants and the duration of their relationships. ADQ, areas of difficulty questionnaire; DAS, dyadic adjustment scale; QMI, quality of marriage index; RAM, relationship attribution measure; RHS, relationship happiness scale; RQ, relationship questionnaire; RSQ, relationship scale questionnaire.

* *p < 0.05, **p < 0.01.*
tested utilizing LISREL 8.3 (Jöreskog & Sörbom, 1993). A partial correlation matrix (controlling for sex of the participants and duration of their relationships) was used as input (see Table 1).

Measurement model. As shown in Figure 1, the measurement model consists of five latent constructs, which are represented in the figure by rectangles with curved edges. Inspection of the figure reveals that all of the observed variables loaded significantly on the appropriate latent variables (loadings ranged from 0.66 for the RSQ self-model to 0.99 for the RSQ others model). The modification indices suggested no significant correlated errors. Using the conventional cut-off criteria (e.g., Hu & Bentler, 1999), the measurement model provided a good fit to the data \(\chi^2(34, n = 322) = 87.39, p < 0.001, \text{RMSEA} = 0.07, \text{GFI} = 0.95, \text{AGFI} = 0.91, \text{NNFI} = 0.95, \text{CFI} = 0.97\). Although the \(\chi^2\) statistic indicates significant differences between the observed and estimated matrices, the \(\chi^2\) : d.f. ratio is well below the suggested 5 : 1 ratio (Bollen, 1989), indicating that all of the latent variables were reliably measured by the observed variables. Examination of the correlations among the latent variables indicates that, as expected, latent variables for the two mental models were moderately correlated \((r = 0.24)\). The correlation between the latent variables representing partner and self-attributions was very high \((r = 0.91)\), suggesting that participants tended to have similar attribution patterns for both their own and their partners’ behaviors. Both mental models were significantly and negatively correlated with both types of attribution latent variables, and significantly and positively correlated with the relationship satisfaction latent variable. However, the model of the self had higher structural correlations with both self- and partner attributions \((r = –0.36 \text{ and } –0.32, \text{respectively})\) as compared with the model of others \((r = –0.22 \text{ and } –0.14, \text{respectively})\). Finally, confirming the well-documented

![Figure 1](attachment-and-attributes.png)

Figure 1. Measurement model of the associations among mental models, attributions, and relationship satisfaction. Note: All of the structural correlations indicated by double-headed arrows are significant. The correlation –0.14 is significant at \(p < 0.05\) and others are significant at \(p < 0.01\).
relationship between attributions and relationship satisfaction, both partner and self-behavior attributions were negatively correlated with relationship satisfaction \((r = -0.65\) and \(-0.54,\) respectively).

The structural model. The measurement model indicated that the latent variables necessary for testing the proposed model were estimated successfully from the observed variables. In testing the fully saturated structural model, the initial test yielded a poor fit to the data \(\chi^2(36, n = 322) = 248.91,\ p < 0.001,\ \text{RMSEA} = 0.13,\ \text{GFI} = 0.89,\ \text{AGFI} = 0.79,\ \text{NNFI} = 0.80,\ \text{CFI} = 0.87\). However, investigation of the modification indices suggested that adding an error covariance between the latent variables reflecting partner and self-behavior attributions would significantly improve the model. A significant error variance between two variables indicates that these variables overlap to a great extent or represent the same construct. Thus, a correlated error term \((0.78)\) was added between the two attribution latent variables. After adding the correlated error term, the fully saturated model provided a good fit to the data \(\chi^2(35, n = 322) = 89.79,\ p < 0.001,\ \text{RMSEA} = 0.07,\ \text{GFI} = 0.95,\ \text{AGFI} = 0.91,\ \text{NNFI} = 0.95,\ \text{CFI} = 0.97\). Examination of the hypothesized model with and without the correlated error indicated that the \(\chi^2\) was significantly reduced when the correlated error between the two attribution variables was added \([\chi^2\Delta(1,\ n = 322) = 159.12,\ p < 0.001]\).

Investigation of the structural path parameters indicated that the paths from the model of others to both of the attributions and the path from the self-attribute to relationship satisfaction were not significant. The model was modified by deleting these nonsignificant paths and was rerun. The revised model with three omitted paths yielded a very good fit to the data \(\chi^2(37,\ n = 322) = 93.33,\ p < 0.001,\ \text{RMSEA} = 0.07,\ \text{GFI} = 0.95,\ \text{AGFI} = 0.91,\ \text{NNFI} = 0.95,\ \text{CFI} = 0.97\). Furthermore, the difference between the fully saturated and revised model was not significant \([\chi^2\Delta(3,\ n = 322) = 3.54]\), suggesting that the omitted paths did not contribute to the model. As shown in Figure 2, the revised model indicated that model of self had a significant direct effect both on self-attributions and partner attributions. Although

\[ 
\begin{align*}
\text{Model of self} & \rightarrow \text{Self-attributions} \\
\text{Model of others} & \rightarrow \text{Partner attributions} \\
\text{Self-attributions} & \rightarrow \text{Relationship satisfaction} \\
\text{Partner attributions} & \rightarrow \text{Relationship satisfaction}
\end{align*}
\]

**Figure 2.** Parameter estimates of the proposed mediational structural model. *\(p < 0.05\).* **\(p < 0.01\).
both mental models showed significant direct effects on relationship satisfaction, only the model of self (but not the model of others) also had a significant indirect effect, via partner attributions (indirect effect size = 0.18, p < 0.05).

To confirm the mediational role of partner attribution, we removed the path from partner attribution to relationship satisfaction, and then compared the fit of the models with and without this path. As expected, the model with the mediating path was significantly better than the one with this path removed (χ²Δ(1, n = 322) = 64.31, p < 0.001). Also, consistent with Baron and Kenny’s (1986) criteria for demonstrating a mediation effect, the path coefficient from the model of self to relationship satisfaction was substantially reduced (from 0.37 to 0.13) when partner attributions was entered as a mediating variable. Finally, after the addition of the correlated error term between the self- and partner attributions, partner attributions, but not self-attributions, strongly predicted relationship satisfaction (path = −0.56, p < 0.001). The attachment and attribution variables together accounted for 45% of the total variance in relationship satisfaction.

Tests of interactions between the mental model variables. Finally, given the nature of the four-category model of attachment, it is imperative to test whether the interaction between mental models of the self and others predicts attributions and relationship satisfaction. These interactions were tested separately using moderated regression (Aiken & West, 1991). In order to obtain a single score for each variable, each indicator of that variable was multiplied by its factor loading (shown in the measurement model described above), and subsequently, all indicators of the same construct were summed. This procedure generated a weighed average of the indicators assessing each variable. Moderated regression analyses revealed that the interaction between the two mental models significantly predicted partner attributions (β = −0.15, p < 0.01), but not self-attributions or relationship satisfaction. This significant interaction was plotted by creating two simple regression lines illustrating the effect of mental model of others on partner attributions for participants with high and low scores on the model of self-variable. In other words, a “high” score reflects a positive model of self and a “low” score reflects a negative model of self.

As shown in Figure 3, the effect of the model of others on partner attributions varied depending on whether an individual had a positive or negative model of self. For those with a positive model of self, as the positivity of the model of others increased, negative partner attributions decreased (simple slope = −0.24, t(327) = 2.93, p < 0.01). Thus, those with positive models of both self and others (i.e., secures) reported significantly less negative partner attributions than those with a positive model of self but a negative model of others (i.e., dismissings). As indicated by a nonsignificant slope, those with a negative model of self (i.e., fearfuls and preoccupieds) reported high levels of negative partner attributions regardless of the positivity of their model of others (simple slope = 0.09, p = not significant). Thus, those with positive models of both self and others had lower levels of negative partner attributions.

![Figure 3. Interaction between mental models in predicting negative partner attributions.](image-url)
attributions than those with at least one negative mental model.\(^2\)

**Discussion**

On the basis of the dimensional analysis using SEM, the results provided partial support for the originally proposed mediated model. As predicted, the model of self had a significant direct effect on both self-attributions and relationship satisfaction, and an indirect effect (via attributions) on relationship satisfaction. The model of others had only a significant direct effect on relationship satisfaction. Contrary to what was predicted, however, the model of self had a moderately strong direct effect on partner attributions and the model of others did not have a significant direct effect on partner attributions or an indirect effect on relationship satisfaction. These findings suggest that: (1) a more positive model of self is associated with a lower level of negative attributions, which in turn contribute to a higher level of relationship satisfaction; (2) the models of self and others contribute to relationship satisfaction above and beyond attributions; and (3) only model of self predicts both self- and partner attributions with equal strength.\(^3\) These results clearly underscore the strong role that the model of self plays in shaping both attributions and relationship satisfaction.

The findings of this study suggest that the model of self has a strong effect on the processing of information about negative self- and partner behaviors and on the perception of satisfaction within a relationship. A positive model of self that may have been attained via early attachment experiences with responsive caregivers appears to promote a tendency to perceive relationship events in an adaptive fashion. In contrast, a negative model of self appears to predispose individuals to make maladaptive attributions by creating a tendency for a negative interpretive (decoding) bias (Magai, 1999). Given that the model of self largely overlaps with the dimension of attachment anxiety (e.g., Collins, 1996; Brennan et al., 1998), these results are also consistent with the previous findings indicating that anxiety experienced in relationships, more than avoidance of others, predicts attributions and explanations in intimate relationships (Collins, 1996; Gallo & Smith, 2001).

In addition to the effects of the model of self on attributions, the results of the moderated regression analysis indicated that the model of others had an effect on attributions via its interaction with the model of self. Supporting the recent conceptualizations on working models (e.g., Pietromonaco & Barrett, 2000), the result of this study clearly suggested that the model of self should be evaluated in interaction with the model of others.

It is also plausible that the levels of measurement of attachment mental models may

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\(^2\) Given that each attachment group was expected to be characterized by a specific combination of self-enhancing/effacing and partner-enhancing/effacing attribution patterns, we also tested attachment style differences on the partner and self-attributions using MANCOVA with sex and duration of the relationship as covariates. For example, results of the MANCOVA on the RAM indices were similar to interaction analyzes with regression, indicating that the combined attribution indices were significantly affected by attachment style [Wilks’s Lambda \(F\) approx. \(12,852 = 2.09, p < 0.01, \text{Eta}^2 = 0.10\)]. Univariate \(F\)-tests revealed a significant effect of attachment style on all of the attribution indices \([F^3,329 = 5.72, p < 0.001 \text{ for the RAM-C partner-version}; \ F^3,329 = 4.68, p < 0.01 \text{ for the RAM-R partner-version}; \ F^3,329 = 4.07, p < 0.01 \text{ for the RAM C self-version}; \text{ and } F^3,329 = 5.69, p < 0.001 \text{ for the RAM-R self-version})]. Post-hoc analyzes using the Neuman-Keuls test revealed a perfect secure vs. insecure split on all of the attribution dimensions. There were no significant differences among the insecure attachment groups on any of the attribution indices suggesting that as compared to the members of the three insecure attachment groups, individuals with a secure attachment style made less maladaptive causal and responsibility attributions.

\(^3\) Although past studies demonstrated that all sorts of attachment insecurity is negatively related to relationship satisfaction, several studies also suggest that the link between attachment style and relationship satisfaction is moderated by gender. Overall, past studies showed that men’s avoidance and women’s attachment anxiety is strongly related to relationship dissatisfaction than vice versa (see Kirkpatrick, 1998, for a review on this issue).
be associated with our finding indicating that the model of others directly predicted neither partner nor self-attributions. Cozzarelli et al. (2000) found that the measurement of attachment mental models specific to relationships was more predictive of behavioral outcomes than the measurement of generalized styles. Partners can hold different mental models for different significant others, and therefore, measurement of mental models specific to the relationship may influence the predictive power of these models. Given that, in the present study, only generalized models of attachment were measured, and as argued by Pietromonaco and Barrett (2000), the generalized model of self can easily be incorporated into the relational self (e.g., “I’m a supportive partner.”) rather than the generalized model of others, the model of self might be more predictive of relationship satisfaction than the model of others. Future research should investigate whether relationship-specific measurements of the model of others are predictive of partner and self-attributions.

The results of the moderated regression analysis also indicated that those with both positive model of self and others (i.e., secure) made more partner enhancing attributions than all of the other combinations. This finding was also confirmed by the categorical level of analysis with attachment styles. These findings suggest that overall securely attached individuals make relationship-enhancing attributions for their own and partners’ negative behaviors, consequently, minimizing the potential harmful effects of these behaviors for their relationships. Our findings also suggest that insecure’s negative expectations can lead to the generation of negative attributions. Consistent with this line of reasoning, Mikulincer (1998) found that both anxious and avoidant people made more hostile intent attributions for their partners’ behavior than did secure people.

Previous studies in this area have mainly employed the three-category model of attachment (rather than the four-category model used in the present study) and found the similar secure/insecure split on partner attributions. For example, Collins (1996, study 1) found that those with a secure attachment style made more benign attributions for their partners’ behaviors than those exhibiting anxious or avoidant attachment. Overall, both past research and the current study have shown that although the underlying factors that give rise to the negative expectations and beliefs about romantic relationships experienced by each of the insecure groups differ, each of these groups possesses negative attitudes and expectations about relationships and other people, and they all are dissatisfied with their relationships. In sum, it is plausible to argue that having at least one negative mental model leads insecure individuals to have negative beliefs and expectations about intimate relationships and that these beliefs and expectations, in turn, generate negative attributions.

We had anticipated that both self- and partner attributions would relate to relationship satisfaction. Our results suggested that partner attributions had a stronger effect in this regard than self-attributions. The effect of self-attributions was only marginally significant. This suggests that individuals’ negative attributions for their partners’ behaviors have a more detrimental effect on their satisfaction within a relationship than the attributions they make for their own behaviors. An “actor–observer bias” (Jones & Nisbett, 1971) may be playing a role in the observed differential effects of self- and partner attributions on relationship satisfaction. When making attributions for their own negative behavior, partners may explain or rationalize these attributions with some specific “hedonistic” reasons by taking the observer’s point of view. However, when they make attributions for their partners’ (actors’) negative behaviors, they may see them internally motivated, and hence, these behaviors may be perceived as closely linked to their unhappiness. Supporting this argument, Fiedler, Semin, Finkenauer, and Berkel (1995) demonstrated that actor–observer differences play a significant
role in the differential attributions for partner and self-behaviors via the language they use. Partners appeared to use more abstract dispositional adjectives when they make attributions while they used more concrete terms when they make attributions for their own behaviors. Furthermore, these authors found that readiness for negative attributions for partner behavior is reduced greatly for the later stages of the relationships, suggesting that partner attributions are more critical in the initial stages of the relationships. Given that the majority of the participants in our study were dating couples with relatively short-term relationships, as compared with self-attributions, partner attributions may indicate more dispositional tendencies, and hence, are more predictive of relationship satisfaction. Although self-attributions did not predict relationship satisfaction, the strong overlap between the two types of attributions suggest that individuals may be using an attribution style, rather than giving a unique response to a specific partner or self-behavior in explaining relationship events. This result may have also at least partially resulted from characteristics of the current sample. While this study used dating individuals with relatively little experience in romantic relationships, other studies have usually relied on distressed and nondistressed married couples who were selected on the basis of their marital satisfaction scores. Examination of the studies that have investigated partner and self-attributions simultaneously reveals that distressed and nondistressed people exhibit different patterns of self- and partner attributions (Fincham et al., 1987). While nondistressed couples tend either to make similar causal attributions for self- and partner behaviors or more benign attributions for their partners' behavior than for their own behavior, distressed couples tend to make attributions that cast their own behavior (but not their partners') in a positive light. Overall, the attribution pattern obtained in this study was similar to the pattern typically obtained for nondistressed couples. This similarity is not surprising given that the mean satisfaction score for this sample was relatively high.

Some limitations should be considered in evaluating the findings of this study. The first limitation concerns the conceptualization and the measurement of attachment styles and mental models. In this study, we employed two different measures of attachment styles (which were available when the data of this study were collected). Although the measures of mental models that are derived from these attachment measures have been found to have satisfactory construct validity (Griffin & Bartholomew, 1994), researchers have proposed some newer continuous measures of the dimensions underlying attachment styles, such as anxiety and avoidance (e.g., Brennan et al., 1998). Moreover, the assumptions of the four-category model that preoccupied individuals have a positive model of others and dismissing individuals have a positive model of self seem to be questionable both theoretically (Fraley & Shaver, 2000; Pietromonaco & Barrett, 2000) and empirically (e.g., Carver, 1997; Feeney, Noller, & Hanrahan, 1994). For example, Feeney et al. (1994) provided evidence suggesting that preoccupieds lack confidence in others and dismissings are moderately preoccupied with relationships. Furthermore, recent studies have demonstrated that dimensional analyses are much more appropriate and explanatory than the categorical models in studying romantic attachment (Fraley & Waller, 1998). Future studies should benefit from the advantages of the recent comprehensive and dimensional measures.

Second, because only self-report measures were used to assess all of the variables in this study, common-method variance may be a measurement problem in explaining the obtained links. SEM is one of the best methods for testing such mediational models and in dealing with the problem of attenuation or overestimation of the relationships between variables (Hoyle, 1995). However, SEM cannot fully overcome with the limitations of cross-sectional data in which some other alternative models may also fit the data equally well. Longitudinal
design using couples should be employed in future studies to clarify our findings and to make safe causal statements.

Third, our participants included mostly white undergraduates who had been dating for at least 2 months. Some of these undergraduates probably had limited experience with romantic relationships and were not committed to their relationships enough to have stable expectations about their partners or their relationships. Furthermore, the dominant effect of the model of self might be unique to this, presumably individualist white sample. Future studies should investigate whether the model of others functions as the critical agent in determining both attributions and relationship satisfaction in more collectivist cultures (e.g., Soon & Malley-Morrison, 2000; Sümer & Güngör, 1999). Fourth, there were more females (74%) than males (26%) and the average length of participants’ relationships was highly variable in our sample. Although these demographic variables were controlled for in all of the major analyses, future studies should specifically investigate whether gender or duration of relationship interact with any of the attachment variables in predicting attributions and relationship satisfaction.

Despite these limitations, the results of the present study have important implications for our understanding of mechanisms linking attachment mental models to relationship quality. Our results highlight the critical role of attributions made for negative partner behaviors (rather than the attributions for negative own behavior) as the carriers of attachment insecurity onto relationship dissatisfaction and the importance of the negativity of the model of self (rather than the model of others) as the fundamental activating agent in this process. This study also contributes to the research on close relationships by combining the attachment and attribution perspectives and by demonstrating that the assumed association between these perspectives is consistent with the general framework of the contextual model of close relationships (Bradbury & Fincham, 1991). Specifically, it can be argued that attachment variables represent elements of the distal context in the contextual model, and thereby, create a general tendency to make certain types of attributions.

References


