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ABSTRACT

This study explored the association between one partner's attachment style and the other partner's relationship experiences (N = 305 couples). It was hypothesized that individuals would be more satisfied in their relationship when their partners were more secure (lower in attachment avoidance and anxiety), and that this association would be mediated by perceived caregiving. Results indicated that men were less satisfied when their female partners were higher in attachment anxiety, whereas women were less satisfied when their male partners were higher in avoidance. Structural equation modeling revealed that these links were partially mediated by

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perceived caregiving; individuals who were involved with insecure partners were less satisfied in part because they perceived their partners to be less effective caregivers.

KEY WORDS: attachment • caregiving • couples • dyadic analysis • felt security • relationship satisfaction • social support • trust

Establishing a supportive and caring relationship with a romantic partner is a primary goal for most individuals and an important predictor of health and well-being (Baumeister & Leary, 1995; Uchino, Cacioppo, & Keicolt-Glaser, 1996). However, cultivating mutually supportive relationships is not always easy. Partners often differ in their willingness and ability to respond to one another's needs and to provide the type of support that promotes one another's welfare and relationship satisfaction. Some individuals enter their relationships with personality characteristics that facilitate effective care and support, whereas others have characteristics that interfere with effective caregiving (Collins, Guichard, Ford, & Feeney, 2006). In the current article, we examine individual differences in adult attachment style as one important personality factor that may shape social support and caregiving processes in couples and may explain differences in relationship quality. In doing so, our primary focus is on the *interpersonal* link between one individual's attachment style and the relationship experiences of his or her partner.

It is often taken for granted that one partner's personality can affect the other partner's relationship experiences. Indeed, a number of central theories in the close relationships literature, including interdependence theory (Kelley & Thibaut, 1978) and attachment theory (Bowlby, 1973), highlight the importance of dyadic processes in which one partner's outcomes are inextricably linked to the other partner's needs, goals, and behavioral tendencies. Despite this theoretical emphasis on *interpersonal* processes, most empirical work on personality and relationships has taken an *intrapersonal* perspective in which one partner's personality is linked to his or her *own* relationship outcomes. In the current study, we address this gap by examining how individual differences in adult attachment style shape relationship outcomes not only for the individual, but for his or her romantic partner. In doing so, we argue that social support and caregiving processes play a critical role in explaining the link between attachment style and relationship satisfaction at both the intrapersonal and interpersonal levels.

Adult attachment theory and research

Adult attachment theory begins with the assumption that adults enter relationships with well-developed mental representations of self and others that regulate cognitive, affective, and behavioral response patterns in close relationships (Collins & Read, 1994). Attachment theorists refer to these cognitive-affective representations as *internal working models* of attachment,

and they are thought to be rooted, at least in part, in the quality of one's early relationships with caretakers and other important attachment figures (Bowlby, 1973). Once formed, these representations are assumed to operate automatically and unconsciously, thereby making them resistant (but certainly not impervious) to dramatic change. Thus, working models of attachment are thought to be core features of personality that play an important role in guiding how individuals interact with others and construe their social world.

This perspective on adult attachment is consistent with Mischel and Shoda's (1999) Cognitive-Affective Personality System (CAPS) theory of personality, which suggests that the basic structure of personality is organized in terms of stable cognitive-affective units that reflect both the biological and psychosocial history of the individual (Collins, Cooper, Albino, & Allard, 2002). Once developed, such processing units guide and constrain cognition, emotion, and behavior in response to specific situational cues and contexts. Working models of attachment can thus be viewed as one type of cognitive-affective-processing unit within the CAPS model of personality (Zayas, Shoda, & Auduk, 2002).

Adult attachment researchers typically conceptualize individual differences in attachment style along two continuous dimensions: Attachment-related *anxiety* and attachment-related *avoidance* (e.g., Brennan, Clark, & Shaver, 1998). The anxiety dimension reflects the degree to which an individual is worried about being rejected, abandoned, or unloved. The avoidance dimension reflects the degree to which an individual avoids (vs. approaches) intimacy and interdependence with others. Individuals with a *secure* attachment style are low in both avoidance and anxiety; they are comfortable with intimacy and confident they are loved and valued by others. In contrast, various forms of *insecure* attachment styles (*preoccupied*, *dismissing*, *or fearful*) are characterized by high levels of anxiety, avoidance, or both. Studies of adult attachment have shown moderate to high levels of stability in self-reported attachment style over intervals ranging from 1 week to 4 years (see Feeney, 1999, for a review).

Over the past 2 decades, attachment theory has become a widely used model for understanding adult romantic relationships, and a large body of research indicates that individual differences in attachment style are associated with systematic differences in relationship experiences and outcomes. Overall, secure individuals (low avoidance, low anxiety) report more favorable relationship experiences than their insecure counterparts, including greater relationship satisfaction, intimacy, commitment, and trust (for reviews see Feeney, 1999; Hazan & Shaver, 1994). Most of these studies, however, have focused on the *intrapersonal* effects of attachment style. That is, they have investigated the links between an individual's attachment style and his or her *own* relationship experiences. A small number of studies have examined the *interpersonal* effects of one partner's attachment style on the other partner's relationship experiences. In general, these studies indicate that individuals with insecure *partners* tend to report more negative relationship experiences than those with secure *partners*. Specifically,

individuals with anxious *partners* tend to report more negative relationship experiences than those with less anxious partners (Banse, 2004), although several studies have found that this association is most pronounced for men with anxious female partners (e.g., Collins & Read, 1990; Kirkpatrick & Davis, 1994; Simpson, 1990). Individuals with avoidant *partners* also tend to report more negative relationship experiences than those with less avoidant partners. There is some evidence that this effect is also moderated by gender. For example, in a longitudinal study in which attachment style was measured in late adolescence, Collins et al. (2002) found that both men and women were less satisfied with their relationship if their *partners* were high in avoidance. However, when they examined specific features of relationship functioning, they found that this negative association was more pronounced when the male partner was high in avoidance. Specifically, when male partners were high in avoidance (measured in adolescence), their female partners (approximately 5 years later) rated their relationship as low in intimacy, low in effective problem solving, and high in conflict. Avoidant men were also rated as less affectionate, more critical, more withdrawing during conflict communication, and more verbally and physically aggressive. Along similar lines, Collins and Read (1990) and Simpson (1990) found that women (but not men) with avoidant partners were less satisfied with their relationships than those with less avoidant partners. In contrast, Banse (2004) found that men (but not women) with avoidant partners were less satisfied than those with less avoidant partners.

In summary, prior studies have shown that the attachment style of one partner predicts the relationship experiences of both members of a couple, and that secure attachment is associated with more positive relationship outcomes for individuals (intrapersonal effects) and their partners (interpersonal effects). Furthermore, there is some evidence that the interpersonal effects may be qualified by gender. Specifically, a pattern appears to be emerging in which an anxious partner is most detrimental to male relationship outcomes and an avoidant partner is most damaging to female relationship outcomes.

Attachment, caregiving, and relationship experiences

As the above review makes clear, individuals are happier and more satisfied in their relationships when they and their partners are more secure (lower in anxiety and avoidance). Why might this be the case? How do secure individuals create more positive relationship environments for themselves and their partners? Although there are undoubtedly many specific mechanisms through which this occurs (Collins et al., 2002), we suggest that social support and caregiving processes may provide one important pathway through which secure individuals create more loving and secure relationships for themselves and their partners. Caregiving is an integral component of attachment bonds across the lifespan, and responsive caregiving is hypothesized to be a key factor in the development and

maintenance of secure relationships in both childhood and adulthood (Collins, Guichard, et al., 2006; Kunce & Shaver, 1994). In adult intimate relationships, responsive care and support helps individuals cope with stress, creates an overall atmosphere of goodwill between partners (Cutrona, 1996), and provides individuals with diagnostic information about their partner's commitment to them and concern for their well-being (Collins & Feeney, 2004). Through such interactions, individuals learn whether they can count on their partner to understand their needs, accept responsibility for their well-being and make themselves emotionally (and physically) available when needed. Furthermore, it is precisely because people typically need social support when they are at their weakest and most vulnerable (e.g., when they are ill or emotionally vulnerable) that support interactions offer such a critical testing ground for judging their partner's love. A partner's acceptance and nurturance under these circumstances provides diagnostic evidence of their deep investment in one's well-being (Tooby & Cosmides, 1996). These ideas are consistent with a number of other theories that identify *interpersonal responsiveness* as a key factor in the development of trust, intimacy, and felt-security in close relationships (Collins, Guichard, et al., 2006; Murray, Holmes, & Collins, 2006; Reis, Clark, & Holmes, 2004).

Consistent with these ideas, Pasch and Bradbury (1998) found that social support behavior observed during a laboratory interaction task was positively associated with current marital satisfaction and with increases in marital satisfaction over time. Likewise, Collins and Feeney (2000) found that individuals who rated their relationship as more satisfying had partners who provided more emotional support, less negative support, and showed greater responsiveness during an interaction task in which one partner disclosed an important personal worry or concern (see also Feeney, 2004). Taken together, these studies provide initial evidence of an important link between relationship satisfaction and the receipt of responsive care from one's partner.

Although social support is positively associated with relationship satisfaction, people differ in their willingness and ability to be effective caregivers to their partners. Responsive caregiving involves being sensitive to a partner's signals, providing the type and amount of support that is wanted or needed, and giving that support in a manner that promotes the partner's well-being and protects (rather than diminishes) his or her self-confidence and esteem (Collins, Guichard, et al., 2006). To accomplish these goals, caregivers must have appropriate interpersonal skills, sufficient emotional and cognitive resources, and a sense of responsibility for meeting the needs of others. In general, secure caregivers – who are confident that they are loved by others, comfortable with intimacy and interdependence, and who effectively regulate their emotions – will be better equipped to provide responsive care because they have more of the necessary skills and resources for attending to the signals of close others and responding flexibly to needs as they arise, and because their own attachment needs are less likely to interfere with their caregiving activities. As a result, secure caregivers should be better able to match their support behavior to their partner's specific needs,

which is a key component of effective social support (Cutrona, 1990). In addition, secure individuals are likely to have more adaptive beliefs and attitudes about careseeking and caregiving, which increases their sense of responsibility for the welfare of others and motivates them to utilize their resources in the service of others. For these and other reasons, secure individuals should be better able to serve as a safe haven of comfort and support for their partners in times of stress, and a secure base from which their partners can pursue (explore) personal goals (see Collins, Guichard, et al., 2006 for an extended discussion of attachment style differences in caregiving skills, resources, and motivation).

Consistent with these ideas, a number of studies provide evidence that secure individuals are more effective caregivers than insecure individuals. For example, in self-report studies, secure individuals report more responsive, less controlling, and less compulsive forms of caregiving than insecure individuals (Feeney, 1996; Feeney & Collins, 2001; Kunce & Shaver, 1994). In observational studies, secure individuals are rated by independent coders as providing more effective support to their partners than insecure individuals (e.g. Collins & Feeney, 2000; Simpson, Rholes, & Nelligan, 1992). Finally, in an experimental study in which the partner's level of need for support was experimentally manipulated, avoidant individuals were found to be less responsive to their partner's need (Feeney & Collins, 2001).

In sum, existing evidence suggests that secure individuals provide more effective social support to close others, and that effective social support is associated with relationship satisfaction. We reasoned, therefore, that caregiving quality may be one important mechanism through which one partner's attachment style shapes the other partner's relationship experiences. Specifically, we reasoned that individuals who have secure *partners* would perceive their partners to be more caring and supportive, and that these heightened feelings of care would increase their relationship satisfaction. To the best of our knowledge, no prior study has examined these specific dyadic links and mediational processes.

Proposed model and hypotheses

The primary goal of the current study was to examine the interpersonal effect of one partner's attachment style on the other partner's relationship satisfaction, and to explore whether this link is mediated by the quality of perceived care. Our full theoretical model is presented in Figure 1. With respect to interpersonal (partner) effects, we predicted that secure individuals (those low in avoidance and anxiety) would have *partners* who reported greater relationship satisfaction and would have *partners* who rated them as better caregivers. Furthermore, we predicted that the interpersonal association between one partner's attachment style and the other partner's relationship satisfaction would be (at least partially) mediated by caregiving quality. That is, individuals with secure partners should feel more satisfied with their relationships because they can count on their

partner to be caring and responsive when needed. In contrast, individuals with insecure partners (high in anxiety and/or avoidance) should feel less satisfied in part because insecure partners are perceived as less effective caregivers.

Although our primary focus in this study was on interpersonal (partner) effects, our model also included intrapersonal (actor) effects. Consistent with prior research, we predicted that secure individuals would rate their relationships as more satisfying and would also perceive their partners to be better caregivers. In addition, we expected that the link between own attachment and relationship satisfaction would be (at least partially) mediated by the perceived quality of care provided from one's partner.

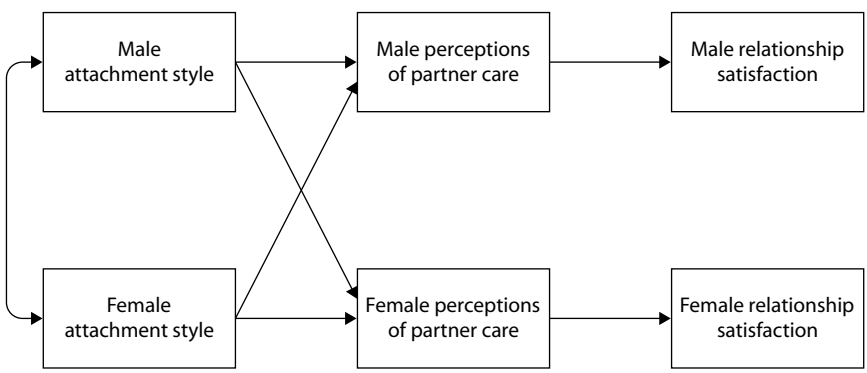
Finally, because several prior studies have uncovered some potentially important gender differences in the interpersonal effects of attachment style on relationship functioning, we explored such gender differences in the current study. However, because attachment theory provides no specific theoretical basis for expecting gender differences, and because specific gender differences have been inconsistent in prior studies, we advanced no specific predictions.

Method

Participants

To obtain a sample that was large enough to test the dyadic model, we combined samples from two studies of couples that used similar procedures and measures. Sample 1 included 103 primarily dating couples from the University of California at Santa Barbara (UCSB) campus. Sample 2 included 202 primarily dating couples from the campuses of SUNY Buffalo and UCSB. Both studies recruited participants though the Introductory Psychology participant pool and through flyers posted on campus. The combined sample contained 305 heterosexual couples. The mean age of women was 19.6 (range = 16–39) and the mean age

FIGURE 1
Conceptual model linking attachment style to relationship satisfaction as mediated by perceived caregiving quality



of men was 20.5 (range = 17–40). Mean relationship length was 17 months (range = .75–120); 66% of the couples were cohabiting and 2% were married. The racial/ethnic breakdown of Sample 1 was 67% Caucasian, 13% Asian/Pacific Islander, 9% Latino/Hispanic, and 4.5% African American. Racial/ethnic information was not available for participants in Sample 2. Participants received either small monetary compensation or course credit for their participation.

Procedures

For both samples, the data used in the current study were collected as part of a larger project designed to assess attachment and social support processes in couples. Both members of the couple came to the lab and completed a series of questionnaires, in private, assessing various background, personality, and relationship characteristics. Below we describe only those measures used in the current investigation. Because the two samples used different response scales, the raw scores were transformed to z-scores for all measures to create a common metric prior to combining the samples. All procedures in both studies were in compliance with the ethical guidelines of the American Psychological Association.

Measures

Attachment style. Participants completed a modified (shortened) version of Brennan et al.'s (1998) Experiences in Close Relationships Scale, a widely used measure of adult attachment style that contains two subscales (14 items each). The *avoidance* subscale (Sample 1: α_{male} = .87, α_{female} =.89; Sample 2: α_{male} = .89, α_{female} = .91) measures the extent to which a person is comfortable with closeness and intimacy (e.g., 'I get uncomfortable when people (*romantic partners*) want to be very close to me'). High scores reflect discomfort with closeness and avoidance of intimacy and interdependence. The *anxiety* subscale (Sample 1: α_{male} = .89, α_{female} = .89; Sample 2: α_{male} = .90, α_{female} = .88) measures the extent to which a person is worried about being rejected, abandoned, or unloved (e.g., 'I worry about being abandoned'). High scores reflect low self-worth and anxiety about being rejected by others.

The attachment measures were identical in both samples except for the use of different response scales and slightly different instructions. Participants in Sample 1 responded to each item on a 7-point scale from 'Not at all like me' to 'Exactly like me,' and participants in Sample 2 responded to each item on a 5-point scale from 'Strongly disagree' to 'Strongly agree.' There was also a small difference in the instructions used in the two samples. In Sample 1, participants were asked to respond in terms of their *general orientation toward close relationships* (including romantic relationships), and in Sample 2 they were asked to respond in terms of their *general orientation toward romantic relationships*. An inspection of the correlations between attachment style and other all other variables studied in our two samples indicated that the small difference in instructions did not systematically alter the pattern of relationships.

Perceived available support. Participants completed the perceived social support subscale (Sample 1: α_{male} = .85, α_{female} = .83; Sample 2: α_{male} = .82, α_{female} = .84) from the Quality of Relationships Inventory (QRI: Pierce, Sarason, & Sarason, 1991) designed to assess the extent to which participants perceive their partners as providing support during times of stress (e.g., 'To what extent can you turn

to your partner for advice about problems?'). Participants in Sample 1 responded to each item on a 7-point scale from 'Never' to 'Very much/always' and participants in Sample 2 responded to each item on a 5-point scale from 'Never' to 'Very much/very often'.

Responsiveness to need. Six items were created for use in both samples to measure the degree to which the partner is perceived to be a responsive and sensitive caregiver (Sample 1: $\alpha_{male} = .91$, $\alpha_{female} = .89$; Sample 2: $\alpha_{male} = .85$, $\alpha_{female} = .87$). Sample items include: 'My partner is responsive to my needs,' 'I can count on my partner to be there when I really need him/her,' 'I am quite satisfied with the support and care that my partner provides.' Participants in Sample 1 responded on a 7-point scale from 'Do not agree at all' to 'Agree completely' and participants in Sample 2 responded on a 5-point scale from 'Disagree strongly' to 'Agree strongly.'

Negative support. Participants completed a 6-item scale assessing the degree to which their partners respond negatively when providing support (based on Rini, Dunkel-Schetter, Hobel, Glynn, & Sandman, 2006; Sample 1: $\alpha_{male} = .84$, $\alpha_{female} = .79$; Sample 2: $\alpha_{male} = .74$, $\alpha_{female} = .81$). Participants were asked to think about how their partners behave when they provide help/support, and to rate how often their partners make them feel (i) helpless or inadequate, (ii) stupid, (iii) indebted or obligated to help in return, (iv) guilty, (v) unworthy of help, (vi) and like a burden. For both samples, participants responded on a 5-point scale from 'Never' to 'Always'.

Relationship satisfaction. Participants in Sample 1 completed the 6-item relationship satisfaction subscale ($\alpha_{male} = .85$, $\alpha_{female} = .90$) from the Investment Model Scale (IMS; Rusbult, Martz, & Agnew, 1998). Sample items include: 'I feel satisfied with our relationship,' 'Our relationship makes me very happy.' Participants in Sample 2 completed a similar 5-item scale ($\alpha_{male} = .92$, $\alpha_{female} = .93$) based on an earlier version of the IMS scale (Van Lange et al., 1997).

Results

Overview of data analysis

The primary goal of this study was to test the hypotheses that (i) one partner's attachment style would predict the other partner's relationship satisfaction, and (ii) that this effect would be mediated by perceptions of the partner's caregiving quality (see Figure 1). We tested these hypotheses using the Actor-Partner-Interdependence Model (APIM; Kenny, 1996; Kenny, Kashy, & Cook, 2006), which enabled us to estimate effects for both members of the couple simultaneously, while controlling for the interdependence between them. The APIM model also enabled us to test the interpersonal effects of one partner's attachment style on the other partner's experiences (a partner effect), controlling for the individual's own attachment style (an actor effect). This feature is important because partner effects could be confounded with actor effects if partners' attachment styles are correlated, as suggested by prior research (e.g., Collins et al., 2002; Collins & Read, 1990; Kirkpatrick & Davis, 1994). Finally, the APIM model enabled us to explore whether the links between attachment style, relationship satisfaction, and perceived care differed for men and women.

Prior to testing the mediational model using structural equation modeling (SEM), we began by conducting regression analyses to address the first hypothesis, that one partner's attachment style would predict the other partner's relationship satisfaction. We then conducted a confirmatory factor analysis to examine the viability of latent variables (assessing perceived partner caregiving) that would be used in the full SEM analysis. Finally, we tested the full model along with a series of nested alternative models.

Attachment style predicting relationship satisfaction

Does one partner's attachment style predict the other partner's relationship satisfaction? To address this question, we conducted hierarchical regression analyses (using the APIM model) predicting men's and women's relationship satisfaction from their own attachment style (an actor effect), and their partner's attachment style (a partner effect). We entered own avoidance and anxiety on Step 1, own anxiety × avoidance interaction on Step 2, partner's anxiety and avoidance on Step 3, and partner's anxiety × avoidance interaction on Step 4. Results are shown in Table 1.

Male relationship satisfaction. With respect to the actor effects (Steps 1 and 2), there was a significant main effect for avoidance; men who were higher in

TABLE 1
Hierarchical regression analyses predicting male and female relationship satisfaction from own and partner's attachment style

Predicting male satisfaction	**β**	**ΔR^2 (for step)**
Own attachment (actor effects)		
Step 1: M Anxiety	–.06	
Step 1: M Avoidance	–.34***	.12***
Step 2: M Anxiety × M Avoidance	.03	.00
Partner's attachment (partner effects)		
Step 3: F Anxiety	–.19**	
Step 3: F Avoidance	–.06	.04**
Step 4: F Anxiety × F Avoidance	.06	.00
Predicting female satisfaction	**β**	**ΔR^2 (for step)**
Own attachment (actor effects)		
Step 1: F Anxiety	–.18**	
Step 1: F Avoidance	–.32***	.15***
Step 2: F Anxiety × F Avoidance	.12*	.02*
Partner's attachment (partner effects)		
Step 3: M Anxiety	.00	
Step 3: M Avoidance	–.17**	.03**
Step 4: M Anxiety × M Avoidance	.02	.00

Note. N = 305 couples. M = male, F = female. β = standardized partial regression coefficients. Coefficients are shown only for the point at which they first entered the regression equation. *$p < .05$; **$p < .01$; ***$p < .001$.

avoidance reported lower relationship satisfaction. With respect to partner effects (Steps 3 and 4), there was a significant main effect for female anxiety; men reported lower relationship satisfaction when their female partners were higher in anxiety.

Female relationship satisfaction. With respect to the actor effects (Steps 1 and 2), there were significant main effects of avoidance and anxiety, and a significant anxiety × avoidance interaction. A plot of the predicted means (at 1 *SD* above/below the mean on anxiety and avoidance) indicated that women low in avoidance and anxiety (secure women) reported the highest satisfaction (M = .67) and women high in avoidance and anxiety (M = –.38) or high in avoidance and low in anxiety (M = –.28) reported the lowest levels of satisfaction. Women low in avoidance and high in anxiety (M = .06) reported moderate levels of satisfaction. Thus, relative to secure women, insecure women reported lower satisfaction. With respect to partner effects (Steps 3 and 4), there was a significant main effect of male avoidance; women reported lower satisfaction when their male partners were higher in avoidance.

Gender differences. To provide a formal test of gender differences in actor and partner effects, we used AMOS software (Arbuckle, 1997) to test the significance of the difference between dependent regression coefficients. To accomplish this goal, we tested a series of nested regression models in which we set the corresponding regression coefficients for men and women to be equal (one pair at a time) and then computed the $\Delta\chi^2$ statistic comparing the model in which the coefficients were free to vary to the nested model in which they were forced to be equal. If the coefficients differed for men and women, then the fit of the model would be significantly worse when the paths were forced to be equal than when they were free to vary. These analyses revealed only two gender differences, both of which were *partner* effects. The association between female anxiety and male satisfaction was significantly greater than the comparable association between male anxiety and female satisfaction ($\Delta\chi^2(1) = 5.2$, $p = .02$), and the association between male avoidance and female satisfaction was marginally greater than the comparable association between female avoidance and male satisfaction ($\Delta\chi^2(1) = 3.2$, $p = .07$).

Summary. Regression analyses provided evidence of significant actor and partner effects of attachment style on relationship satisfaction. With regard to actor effects, men who were highly avoidant and women who were highly avoidant and/or highly anxious, were less satisfied with their relationships. With regard to partner effects, men with highly anxious partners, and women with highly avoidant partners, reported lower levels of relationship satisfaction.

Test of the mediational model

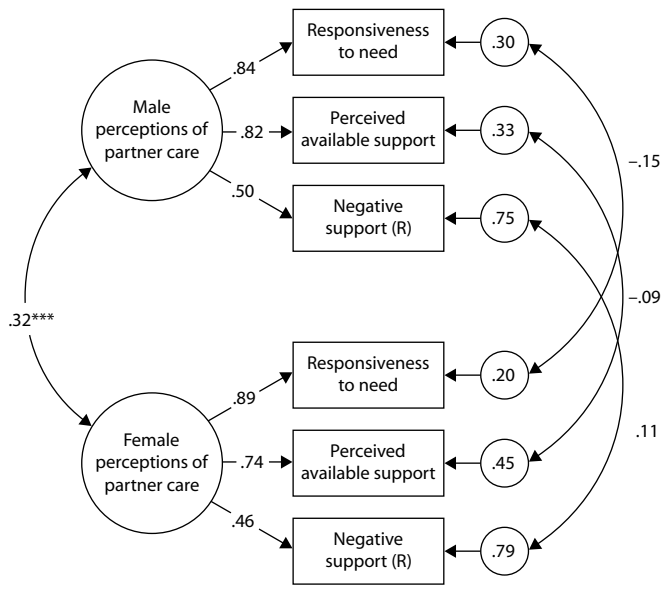
The prior analyses provide support for the link between attachment style and relationship satisfaction at both the intra- and interpersonal levels. In the next set of analyses, we tested the hypothesis that these effects would be mediated by the perceived quality of care provided by the partner (see Figure 1). We tested the model using AMOS software and maximum likelihood estimation. Model fit was assessed with a joint consideration of the χ^2 statistic, the χ^2/df ratio, the standardized root mean residual (SRMR), the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA).

Desirable model fit is evidenced by a non-significant χ^2, a χ^2/df ratio of 3 or less, an SRMR of .05 or less, a CFI of .95 or greater, and an RMSEA between .05 and .08 (Kline, 2005).

Confirmatory factor analysis. To obtain the most valid and reliable assessment of our proposed mediator – caregiving quality – we created latent variables that included our three measures of support and care, (i) perceptions of available support during times of stress (perceived social support), (ii) perceptions of the partner's overall sensitivity and responsiveness to one's needs (responsiveness to need), and (iii) perceptions of partner's unhelpful responses to support-seeking efforts (negative support), which was *reverse scored* for this analysis. In addition, to account for interdependence between partners, we included a correlation between the latent variables for each partner as well as correlations between the measurement errors for each corresponding indicator variable (Kenny et al., 2006).

The CFA model with standardized parameter estimates is shown in Figure 2. The model fit statistics indicated that the model fit the data reasonably well ($\chi^2(5, N = 305) = 13.84$, $p = .02$, $\chi^2/df = 2.77$, SRMR = .049, CFI = .98, RMSEA = .076), and a review of the factor loadings indicated that our caregiving measures formed a strong latent variable for each partner. There was a moderate positive correlation ($r = .32$, $p < .001$) between partners' perceptions

FIGURE 2
Standardized factor loadings for the confirmatory factor analysis model



Note. Error terms represent percent of unique variance. The measure of negative support was reverse coded for this analysis so that high scores represent lower levels of negative support. Fit statistics for the model $\chi^2(5, N = 305) = 13.84$, $p = .02$, $\chi^2/df = 2.77$, SRMR = .049, CFI = .98, RMSEA = .076.

of caregiving, suggesting that partners tended to be similar in the quality of care they provided to each other – good caregiving by one partner was associated with good caregiving by the other. We also tested a series of nested models in which we set each pair of factor loadings equal across partners and found that the factor loadings for men and women were equivalent. We therefore incorporated these latent variables into our larger structural model.

Testing the full model. The conceptual model shown in Figure 1 was specified as follows: Men's and women's attachment anxiety and avoidance were the exogenous variables, perceptions of partner's caregiving quality were mediating variables, and relationship satisfaction was the final outcome variable. To account for the interdependence between couple members, we included all possible correlations between the attachment dimensions for men and women, and we included correlated disturbances for perceptions of partner care and relationship satisfaction (Kenny et al., 2006). With 39 parameters and a sample size of 305 couples, we had an 7.8:1 ratio of participants to parameters, which was adequate for providing reliable parameter estimates and test statistics (Kline, 2005).[1]

A test of the hypothesized model resulted in reasonable model fit, but it was clear that the model could be improved ($\chi^2(39, N = 305) = 135.32, p < .001, \chi^2/df = 3.46$, SRMR = .057, CFI = .94, RMSEA = .09). This initial model assumed that there was full mediation, but we anticipated that there might be some remaining direct effects between attachment style and relationship satisfaction after accounting for the relationship between attachment style and perceptions of partner care. Thus, we tested a series of nested models in which we added direct effects (between the attachment dimensions and satisfaction) to the model one at a time and computed the change in chi-square statistic ($\Delta\chi^2$). A significant $\Delta\chi^2$ indicates that the addition of the direct effect significantly improved model fit (by significantly reducing the χ^2 statistic).

First, we added *actor* direct effects. The addition of the direct effect from male anxiety to male satisfaction significantly improved model fit ($\Delta\chi^2(1) = 7.93, p < .01$), as did the effect from male avoidance to male satisfaction ($\Delta\chi^2(1) = 7.56, p < 01$). The direct effect from female anxiety to female satisfaction did not improve model fit ($\Delta\chi^2(1) = 0.02$, *ns*), but the effect from female avoidance to female satisfaction did improve fit ($\Delta\chi^2(1) = 8.85, p < .01$). Next, we added *partner* direct effects. The addition of the direct effect from male anxiety to female satisfaction improved model fit ($\Delta\chi^2(1) = 7.38, p < .01$), but the effect from male avoidance to female satisfaction did not ($\Delta\chi^2(1) = 0.40$, *ns*). The direct effect from female anxiety to male satisfaction improved model fit ($\Delta\chi^2(1) = 7.08, p < .01$), but the effect from female avoidance to male satisfaction did not ($\Delta\chi^2(1) = 1.02$, *ns*).

In summary, when tested individually, we found five significant direct effects. When all of these effects were estimated simultaneously, however, the path from male anxiety to male satisfaction (an actor effect) was no longer significant. We therefore dropped this path from the model.

1. Our SEM analysis tested only the main effects of own and partner's attachment dimensions (no interaction terms) because, although our sample size was relatively large, it was not adequate for estimating a model that incorporated the full set of interaction terms – the ratio of parameters to degrees of freedom would have fallen well below the necessary level.

The fit statistics for the model that included both indirect and direct paths indicated that this model fit the data reasonably well ($\chi^2(34, N = 305) = 103.04$, $p = .001$, $\chi^2/df = 3.03$, SRMR = .049, CFI = .94, RMSEA = .08). However, an inspection of the matrix of standardized residuals revealed two large residuals, one for the association between own attachment anxiety and negative support for men, and the second for the corresponding association for women. Thus, we added correlations between attachment anxiety and the residual (measurement error) for negative support for both men and women. These correlations indicate that, in addition to the significant negative association between anxiety and the latent variable (perceived partner care), there is a unique association between anxiety and perceiving that one's partner provides negative support. Because this effect was theoretically sound and replicated for men and women, we retained these correlations in the final model.

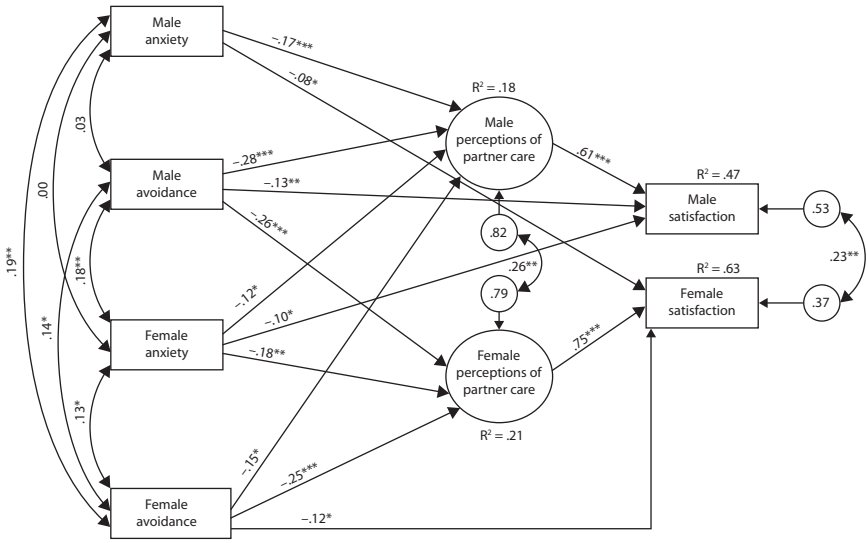
Final model. The final model with standardized parameter estimates is shown in Figure 3. The goodness-of-fit statistics indicated that this model fit the data very well [$\chi^2(33, N = 305) = 71.835$, $p < .001$, $\chi^2/df = 2.18$, SRMR = .039, CFI = .97, RMSEA = .062]. In addition, an inspection of the matrix of standardized residuals, and a review of the modification indices, indicated that there were no important associations left unexplained by the model. The model accounted for 47% of the variance in male satisfaction and 63% of the variance in female satisfaction.[2]

As shown in Figure 3, there were a number of actor effects between an individual's attachment style and his/her relationship satisfaction. Consistent with previous research, individuals lower in avoidance and/or anxiety (secure individuals) perceived their partners as more caring and supportive, and individuals were more satisfied with their relationships when they felt more supported by their partners. In addition to these indirect effects, there were significant remaining direct effects linking one's own avoidance to relationship satisfaction. Individuals higher in avoidance were less satisfied with their relationships, even after accounting for their tendency to perceive their partners as less supportive.

In addition to these actor effects, a number of interesting partner effects emerged. Individuals (both men and women) who had partners who were higher

2. All of the fit indices for our final model equaled or exceeded standard criteria for good model fit with the exception of the χ^2 statistic, which was statistically significant. The χ^2 tests the hypothesis that the observed covariance matrix is equal to the reproduced matrix. However, when sample size is large ($N > 200$), even small discrepancies between the reproduced and observed matrices will be significant and may provide too conservative a test of model fit, such that other fit indices should be relied upon (Kline, 2005). Nevertheless, at the Editor's request, we estimated a final model in which we added some exploratory links in order to reduce the χ^2 statistic. Based on an inspection of the residual matrix and modification indices, we added the following associations: (i) A correlation between male avoidance and the measurement error for male perceived support, $r = -.26$, $p < .001$ (indicating that avoidant men perceived less support from their partners); (ii) a correlation between male anxiety and the measurement error for female perceived support, $r = -.16$, $p < .01$ (indicating that avoidant men had female partners who perceived them as less supportive); and (iii) a correlation between the disturbance for male satisfaction and the disturbance for female perceptions of partner care, $r = .20$, $p < .01$ (indicating that men who were more satisfied had partners who perceived them as better caregivers). The fit statistics for this exploratory model were: $\chi^2(30, N = 305) = 42.52$, $p = .07$, $\chi^2/df = 1.42$, CFI = .99, RMSEA = .037.

FIGURE 3
Standardized parameter estimate for the final model



Note. Error terms represent percent of unexplained variance. For ease of interpretation, details of the latent variables are not shown again (see Figure 2) and two correlated residuals (actor effects) are not illustrated, a correlation between male anxiety and the residual for male perceptions of partner negative support (reverse coded, $r = –.27$***), and the corresponding correlation for women ($r = –.15$**). Fit statistics for the model: $\chi^2(33, N = 305) = 71.835$, $p < .001$, $\chi^2/df = 2.18$, SRMR = .039, CFI = .97, RMSEA = .062. *$p < .05$; **$p < .01$; ***$p < .001$.

in avoidance perceived these partners as less caring and supportive. Also, men (but not women) with highly anxious partners perceived their partners as less caring and supportive. In addition to these indirect effects, there were significant remaining direct effects linking partner anxiety to own relationship satisfaction. Specifically, both men and women with highly anxious partners were less satisfied with their relationships, even after accounting for their tendency to perceive their partners as less supportive.

Gender differences in the final model. Finally, we conducted tests of gender differences in the paths included in our final model by testing a series of nested models in which the corresponding paths for men and women were set equal, one pair at a time. The paths for men and women were very comparable, and only one significant gender difference emerged (a partner effect): the negative path from women's anxiety to men's perceived caregiving was significantly stronger than the comparable path from men's anxiety to women's perceived caregiving ($\Delta\chi^2(1) = 6.00$, $p < .05$).

Summary of all analyses

In summary, after controlling for interdependence between partners, the data provided compelling support for our hypotheses. The regression analyses tested whether attachment style predicted own satisfaction (actor effects) and partner

satisfaction (partner effects). The SEM analyses examined whether these effects were mediated by perceived quality of care from one's partner. If the regression analyses revealed a significant association between attachment style and relationship satisfaction, partial mediation was then evidenced by a remaining direct effect between attachment and relationship satisfaction in the SEM analysis after accounting for perceptions of partner. Similarly, full mediation was evidenced by no remaining direct effects in the SEM analysis after accounting for perceptions of partner care.

Actor effects. There were three significant actor effects in the regression analyses associating one's own attachment style with one's own satisfaction. Specifically, men and women who were higher in avoidance reported lower relationship satisfaction. These links were partially mediated in SEM by perceived partner care. In addition, women who were higher in anxiety reported lower relationship satisfaction, and this link was fully mediated in SEM by perceived partner care.

Partner effects. There were two partner effects in the regression analyses associating own satisfaction with partner's attachment style. First, women were less satisfied when their partners were higher in avoidance, and this association was fully mediated in SEM by perceptions of partner care. Second, men were less satisfied when their partners were higher in anxiety, and this association was partially mediated in SEM by perceived partner care.

Based on the regression analysis, there was no significant association between partner avoidance and men's relationship satisfaction, or between partner anxiety and women's relationship satisfaction. However, once perceptions of care were entered into the model, a negative direct effect from male anxiety to female satisfaction emerged, indicating a weak suppression effect.

Discussion

Much of the research on personality in close relationships, and specifically on adult attachment style, has taken an intrapersonal approach by examining the effects of an individual's attachment style on his/her own relationship satisfaction. Our goal in the current study was to extend research in this area by taking a more comprehensive approach – one that examined these important intrapersonal effects as well as interpersonal effects linking the personality of one partner to the experiences of the other partner. An additional goal was to investigate social support and caregiving dynamics as one potential pathway through which these effects may occur. We focused on caregiving quality as a potential mediator because it is presumed to be a central feature of attachment bonds that should play an important role in the development of secure and satisfying relationships across the lifespan (Collins, Guichard, et al., 2006).

Intrapersonal (actor) effects

Consistent with our hypotheses and prior research, the regression analyses revealed that secure individuals (low avoidance and low anxiety) had higher

levels of relationship satisfaction compared to insecure individuals, and the SEM analyses revealed that this association was mediated by secure individuals' perceptions of their partners as better caregivers. In addition, overall, individuals were much more satisfied with their relationships when they perceived that their partners were more caring and supportive. Moreover, there were no significant gender differences in any of these actor effects.

This study is the first to provide evidence that secure individuals may be happier in their relationships in part because they feel more supported by their partners. Why might secure individuals feel more supported by their partners? Prior research suggests that secure individuals (relative to insecure individuals) experience their relationships as more supportive in part because they are better able to cultivate mutually supportive relationships through effective support-seeking and support-provision behaviors, and because they are likely to construe their partners' support efforts in more generous ways (e.g., Collins & Feeney, 2000, 2004; Rini et al., 2006; Simpson et al., 1992).

Interpersonal (partner) effects

Consistent with our hypotheses, we found that one partner's attachment style was associated with the other partner's relationship satisfaction and perceptions of that partner's caregiving behavior. Some of these effects were similar for men and women, and some were moderated by gender. With respect to similarities, the SEM analyses indicated that both men and women perceived avoidant partners to be less caring and supportive. With respect to gender differences, the regression analyses indicated that men were less satisfied when their partners were higher in anxiety, and the SEM analysis indicated that this relationship was partially mediated by men's perceptions of their anxious partners as poor caregivers. These same effects did not emerge for women with anxious male partners. On the other hand, the regression analyses revealed that women were less satisfied when their partners were higher in avoidance, and the SEM analyses revealed that this relationship was fully mediated by women's perceptions of their avoidant partners as poor caregivers. These same effects did not emerge for men with avoidant female partners. This pattern of gender differences is consistent with several other studies of attachment processes in dating couples, which have shown that partner anxiety is a stronger predictor of satisfaction for men than women, whereas partner avoidance is a stronger predictor of satisfaction for women than men (e.g., Collins & Read, 1990; Kirkpatrick & Davis, 1994; Simpson, 1990). Because we had a large sample of couples and our pattern of findings was consistent with prior studies, we feel confident that these gender differences are reliable and worthy of further consideration and study.

Taken together, these partner findings are important for several reasons. First, although prior studies have shown that insecure individuals are less effective support providers, this is the first study to show that the *partners* of insecure individuals actually feel less supported and cared for. Second, this is the first study to demonstrate one possible mechanism – quality of

caregiving – whereby one partner's attachment style shapes the other's relationship outcomes. Third, these partner effects are independent of any actor effects of attachment style on satisfaction and perceptions of care (which were substantial), which increases our confidence that these associations are not simply cognitive biases shaped by the perceiver's own attachment style. Taken together, these data are consistent with our theoretical argument that secure individuals help create more loving and supportive environments for themselves (actor effects) as well as for their relationship partners (partner effects).

Limitations and directions for future research

This study has several limitations worth noting. First, our sample was composed primarily of young adult couples from a college community. Thus, at a minimum, it would be important to replicate these findings in older age groups and in married couples. Longitudinal research would also be useful for tracking these effects over time. Second, although our theoretical model advanced hypotheses about causal processes, our data are correlational and cannot be used to draw any unqualified conclusions about causality. Although the data were consistent with our mediational model, experimental research (perhaps using priming techniques) is necessary to draw firm conclusions about the casual paths from attachment style to relationship satisfaction and perceptions of care, or from perceptions of care to relationship satisfaction. In addition, it is possible that other personality variables that covary with attachment style are more proximal predictors of relationship processes. Fortunately, prior research has shown that attachment style predicts relationship outcomes controlling for a number of related personality constructs (e.g., Collins, Ford, Guichard, & Allard, 2006).

Understanding the role of personality in shaping relationship outcomes will also require that researchers explore the interaction of partners' personalities. In the current study, we focused on the additive (main) effects of the actor's personality and the partner's personality in predicting the actor's perceived care and relationship satisfaction. We believe that future research should further examine the *interaction* of partners' attachment styles to identify the specific relationship contexts in which individuals are most and least likely to thrive. We note, however, that research on this question will require very large samples of couples to insure adequate statistical power for detecting higher order interaction effects and to obtain adequate representation of all combinations of secure and insecure pairings in order to draw reliable inferences concerning the full range of dyadic pairings. Although such studies are complex, they are likely to provide important new insights.

Finally, with respect to gender, the overall pattern of findings was very similar for men and women; when differences did occur, they emerged in the partner effects. Why might avoidance in men be more strongly associated with poor outcomes for women, and anxiety in women be more strongly associated with poor outcomes for men? These effects may be due to a variety of factors including the differential socialization of men and

women, different needs and goals of men and women, or different ways in which anxiety and avoidance are expressed by men and women (Collins et al., 2002; Collins & Read, 1990; Cooper et al., 2006). Although the current study does not enable us to explain these gender differences, our findings point to the importance of developing a better theoretical understanding of how gender and gender-role norms might interact with attachment style to predict different outcomes for male and female partners. Future studies should also explore the ways in which anxiety and avoidance may be expressed differently in men and women, and may be perceived differently by male or female partners.

Conclusion

In conclusion, the results of this investigation highlight the importance of studying attachment dynamics from a dyadic perspective and shed light on at least one important mechanism – caregiving – through which partners affect one another's outcomes. We hope our findings will encourage other researchers to explore the intersection of personality and close relationships from a dyadic perspective, and we believe that attachment theory provides one useful framework for continuing this work. Our results also underscore the importance of studying social support and caregiving processes in intimate relationships. Our data clearly demonstrate that individuals were more satisfied with their relationships when they felt well-cared for by their partners. This finding is consistent with a small, but growing, number of studies that highlight the important and unique role of social support processes in romantic relationships (e.g., Feeney, 1996; Feeney & Collins, 2001; Pasch & Bradbury, 1998) and with theoretical models that identify *interpersonal responsiveness* as a key factor in the development of trusting and secure relationships in adulthood (e.g., Collins, Guichard, et al., 2006; Murray et al., 2006; Reis et al., 2004). We hope our findings will inspire additional empirical work on the personality and relationship dynamics that promote, or interfere with, responsive caregiving in couples.

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