
Direct and indirect pathways between adult attachment style and marital satisfaction

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Abstract

We explored direct, mediated, and moderated associations between adult attachment style and marital satisfaction using a community-based sample of 73 married women. Continuous ratings of secure, avoidant, and ambivalent attachment styles were related to levels of marital satisfaction. However, psychological distress mediated the association between secure attachment and marital satisfaction, and social support mediated the relation between avoidant attachment and marital satisfaction. In addition, psychological distress moderated the relation between both secure and avoidant attachment styles and marital satisfaction.

The ways in which adults think, feel, and interact in the context of their romantic relationships has been shown to vary with their attachment styles. Hazan and Shaver (1987) first argued that attachment styles reflect fundamental distinctions in adults' mental representations of romantic love. Securely attached married, co-habiting, dating, divorced, and widowed adults rated their love experiences as happy and trusting, and emphasized being supportive and accepting of their partners. In contrast, avoidantly attached adults described their love experiences as characterized by fears of intimacy. Furthermore, ambivalently attached adults characterized their love experiences as obsessive, involving jealousy and extreme sexual attraction to their partners.

Beyond differences in perceptions of romantic love, attachment styles have been

related to husbands' and wives' self-reported marital satisfaction (Brennan & Shaver, 1995; Feeney, 1994, 1996; Feeney, Noller, & Callan, 1994; Fuller & Fincham, 1995; Lussier, Sabourin, & Turgeon, 1997). These researchers have documented positive correlations between secure attachment and marital satisfaction and inverse associations between insecure attachment styles and marital satisfaction for both married men and women.

Although the direct relation between attachment style and relationship satisfaction has been well-documented, the mechanism of this association remains unclear. In this study, we assessed how and when these two constructs relate to each other. More specifically, we explored whether psychological distress and social support, two overarching psychological and interpersonal correlates of adult attachment style (Davis, Morris, & Kraus, 1998; Mikulincer & Florian, 1998), mediate or moderate the relation between adult attachment style and marital satisfaction. This approach underscores the need to consider the broader context of adult attachment when evaluating ways in which it may be associated with marital functioning.

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Indirect pathways between adult attachment style and marital satisfaction

Relatively few investigators have examined those factors that mediate or moderate the relation between adult attachment styles and marital satisfaction. Moreover, with only one exception (Davila, Bradbury, & Fincham, 1998), researchers have solely assessed whether proximal factors (i.e., spouses' immediate thoughts, feelings, or subjective state before interacting with their partner; cf. Bradbury & Fincham, 1988) serve in this capacity. For instance, Feeney (1994) reported that communication variables mediated the association between attachment style and wives' marital satisfaction. Similarly, Keelan, Dion, and Dion (1998) reported that, in a sample of college students, aspects of self-disclosure mediated this relation. Adults' emotional expressiveness toward their spouses (Feeney, 1999), affiliative and controlling interactions within the marriage (Morrison, Urquiza, & Goodlin-Jones, 1997), and coping strategy preferences in response to marital conflict (Lussier et al., 1997) have also been shown to mediate or moderate the association between attachment styles and marital satisfaction. Notably, all of these variables are situation-specific and focus on adults' functioning solely in the context of their romantic relationships.

Expanding the focus beyond such proximal factors, we decided to explore whether relatively stable, global, and distal factors mediated or moderated the relation between adult attachment style and marital satisfaction. Two factors that have not been examined as mediators or moderators in this area are psychological distress and social support. We chose to evaluate these two variables for two reasons. First, adult attachment styles connote differences in terms of how individuals perceive themselves and relate to others (Collins & Read, 1990; Feeney & Noller, 1990). These differences have been suggested to be particularly pervasive and enduring because they reflect fundamental characteristics of individuals' internal working models (Bartholomew, 1990; Bowlby, 1988). As such, we decided to include measures that would be

sensitive to both the psychological and interpersonal sequelae of these internalized representations when investigating indirect pathways between adult attachment and marital satisfaction. Furthermore, one aim of the present investigation was to integrate past research regarding the correlates and predictors of marital satisfaction; both social support and psychological symptomatology have been the focus of previous bivariate studies in this regard (cf. Carnelley, Pietromonaco, & Jaffe, 1994; Mikulincer & Florian, 1998).

Psychological distress as a mediator. Secure attachment has been proposed to be an inner resource associated with effective coping and greater psychological well-being, whereas avoidant and ambivalent attachment may place adults at a higher risk for maladaptive coping and psychological distress (Mikulincer & Florian, 1998). In support of this reasoning, researchers have documented links between adult attachment style and coping strategies, self-esteem, and psychological distress.

First, insecurely attached adults generally use less adaptive coping strategies to deal with stressful experiences than securely attached adults (Lussier et al., 1997). Whereas securely attached adults have a greater likelihood of using problem-focused strategies or support seeking to manage stress and anxiety, insecurely attached adults tend to rely on self-blaming defenses, distancing, or passive, emotion-focused strategies (Feeney, 1998; Meyers, 1998; Mikulincer & Florian, 1998). Second, adult attachment styles have been related to differences in individuals' self-concepts. Securely attached adults generally have a more positive view of themselves and report higher levels of self-esteem in comparison to avoidantly and ambivalently attached individuals (Collins & Read, 1990; Feeney & Noller, 1990). Third, the likelihood of experiencing or expressing negative affect varies among attachment style classifications. For instance, adults who differ in attachment style also vary in terms of their level of experienced hostility and anger (Bookwala & Zdaniuk, 1998; Mikulincer, 1998). Furthermore, adult attachment style has been associated with differing levels of internalizing

symptomatology. For example, Carnelley et al. (1994) reported that women with mild depression were more likely to endorse preoccupied and fearful avoidant attachment styles than nondepressed women. Likewise, Hammen et al. (1995) found associations between levels of anxiety and depression and underlying dimensions of attachment, including comfort with closeness, ability to depend on others, and fears of abandonment.

In turn, the association between psychological distress and marital dissatisfaction has been documented in married patients who experience a wide range of psychological problems. Among the major psychological disorders, depression has been studied most extensively and has been shown to have a strong link with marital distress. For instance, Gotlib and Whiffen (1989) found that community control couples reported significantly higher rates of marital satisfaction than depressed, psychiatric inpatients and their spouses. Researchers have also documented an association between anxiety disorders and marital distress (e.g., Emmelkamp, de Haan, & Hoogduin, 1990; McLeod, 1994). However, it remains uncertain whether there is a causal relation between psychological distress and marital distress. Much of the support for this relation has been derived indirectly. For example, individual psychotherapy for the remediation of anxiety disorders has been found to simultaneously enhance marital satisfaction (Emmelkamp et al., 1992).

Social support as a mediator. Securely attached adults tend to seek and receive more social support than those who are categorized as ambivalently or avoidantly attached. First, the likelihood that an individual will seek support from a romantic partner has been associated with adult attachment style. Simpson, Rholes, and Nelligan (1992) reported that situationally induced anxiety resulted in greater support seeking among securely attached women, whereas avoidantly attached women tended to seek less support under this condition. Second, adult attachment style has been associated with social support derived from sources other than romantic partners. Securely attached men and women

use social support as a general coping mechanism significantly more often than insecurely attached adults (e.g., Davis et al., 1998). This trend has been documented for a diverse array of stressors including war (Mikulincer, Florian, & Weller, 1993), separations from a romantic partner (Feeney, 1998), and raising mentally or physically handicapped children (Mikulincer & Florian, 1998). Finally, research has demonstrated a link between attachment style and characteristics of support networks. Davis et al. (1998) found that individuals with insecure attachment styles experienced lower levels of global support, family support, friend support, and romantic partner support compared to those with a secure attachment style.

Women's perceptions of social support, in turn, appear to be related to their marital satisfaction. Past research has generally documented positive associations between levels of spousal support and marital adjustment. Piña and Bengston (1993) found that wives who were satisfied with the support received from their husbands also endorsed relatively higher levels of positive interaction, closeness, and affirmation in their marriages and lower levels of negative sentiment and conflict than wives who were dissatisfied with their husbands' supportiveness. Similarly, McGonagle, Kessler, and Schilling (1992) reported that wives' perceptions of social support from their spouses predicted fewer marital disagreements. When spousal support is perceived as deficient, extramarital support from extended family and friends may become especially salient. For example, Julien and Markman (1991) found that levels of marital distress were inversely related to the extent to which individuals relied on friends and family members for companionship and support.

Psychological distress and social support as moderators. Most extant literature is consistent with the rationale for expecting mediated relations; nevertheless, there is also a basis for hypothesizing that psychological distress and social support may moderate the association between adult attachment style and marital satisfaction. More specifically, Bowlby

emphasized that attachment patterns interact with individuals' current circumstances to produce differences in adaptation and functioning (Bowlby, 1988; Weinfield, Sroufe, Egeland, & Carlson, 1999). Thus, secure and insecure attachment styles are probabilistically related to distinct outcomes, such as levels of marital satisfaction; these associations can be influenced by environmental challenges and supports. As such, it is necessary to evaluate how these variables operate in concert when predicting couples' satisfaction.

The rationale for expecting moderation is also supported by research on risk and protective factors (cf. Cummings, Davies, & Campbell, 2000). From a diathesis-stress perspective, insecure attachment styles may predispose individuals toward a greater likelihood for experiencing relationship difficulties; however, this association may be contingent on the presence of a contemporaneous stressor (such as psychological distress or social isolation). Thus, high levels of psychological distress or the absence of social support may potentiate the relation between insecure attachment styles and marital difficulties. Conversely, emotional health or high levels of support may counteract the deleterious association between insecure attachment and marital dissatisfaction.

Furthermore, the selection of psychological distress and social support as moderators in this regard is congruent with findings that psychological distress or symptomatology may compound the effects of stress on marital functioning (Gotlib & Beach, 1995). It is also consistent with a relatively extensive body of literature documenting that social support may buffer the harmful effects of life stress on a variety of psychosocial outcomes (Cohen & Wills, 1985).

Aim of the current investigation

In this cross-sectional study, we empirically explored the direct and indirect associations between three continuously rated adult attachment styles (secure, avoidant, and ambivalent) and marital satisfaction. First,

we examined whether selected psychological and social characteristics mediate the relation between adult attachment and marital satisfaction. In mediation, the independent variable (i.e., adult attachment style) is significantly associated with an intervening variable (i.e., psychological distress or social support). The intervening variable is also significantly related to the outcome variable (i.e., marital satisfaction). Mediation is established when a previously significant association between the independent and dependent variable is no longer statistically significant after the influence of the intervening variable is controlled (Baron & Kenny, 1986).

Second, we assessed if psychological distress and social support moderate the association between adult attachment styles and marital satisfaction. In moderation, the strength of the association between two variables is dependent on other psychological or social factors. Thus, moderators specify when the association between adult attachment and marital satisfaction will be most notable, whereas mediators specify how these variables will relate to each other. For instance, social support may serve as a moderator in this regard by buffering the relation between insecure attachment ratings and marital satisfaction. In other words, insecure attachment may be significantly associated with marital dissatisfaction when individuals are socially isolated; however, this relation may be attenuated when adults experience high levels of support from their friends and family.

In this study we adopted a multivariate framework to explicitly and simultaneously examine relations among attachment style, social support, psychological symptomatology, and relationship satisfaction; this builds on the work of previous investigators who have predominantly focused on subsets of these factors (e.g., Carnelley et al., 1994; Mikulincer & Florian, 1998). Moreover, we used a community-based sample of married women to determine the ways in which adult attachment style related to satisfaction in long-term intimate relationships in contrast to past research that has frequently relied on samples of college undergraduates (e.g.,

Bookwala & Zdaniuk, 1998; Brennan & Shaver, 1995).

Method

Participants

Seventy-three married women comprised the sample for this study. Participants ranged in age from 25 to 48 years ($M = 35.32$ years, $SD = 4.55$) and in education from partial high school to graduate school ($M = 16.03$ years, $SD = 2.72$). Socioeconomic status was calculated using the 1980 Nam-Powers score, which combines education, income, and occupation in a multi-item index (Miller, 1991). Respondents were generally categorized as middle class, but there was considerable variability within the sample (mean Nam-Powers family socioeconomic index score = 62.56, $SD = 17.48$). Ninety-five percent of the women were European American.

Participants were recruited for this research and a larger study through an advertisement distributed to children enrolled in the kindergarten and first-grade classes of several school districts located in the metropolitan area of a medium-sized midwestern city. The advertisement briefly explained the goals of the study and requested that interested mothers of children eligible for the study to contact the investigator (the mothers were required to be presently married to the fathers of the eligible children). Participants were mailed a packet of questionnaires, a consent form, and a postage-paid return envelope. Of the 131 women who requested questionnaire packets, 73 completed all the necessary information. As compensation for participation, women were offered either \$15 or admission to a single-session parent education workshop conducted by one of the investigators. In addition to the questionnaires described below, participants completed additional measures as part of a study focusing on family relations (Meyers, 1999). This larger study explored how characteristics of parents (i.e., maternal depression and attachment to parents), children (i.e., child temperament), and the social context (i.e., social support and marital satisfaction) were

related to the quality of participants' interactions with their young children.

Instruments

Demographic information. The women provided information regarding the age, education, marital status, nature of employment, and racial and ethnic background for themselves and their spouses.

Adult Attachment Style Questionnaire. Hazan and Shaver's (1987) rating-scale measure of attachment style contains paragraph-long descriptions of the secure, avoidant, and anxious-ambivalent prototypes. Respondents indicated how self-descriptive each style was, using a 7-point scale ranging from *strongly disagree* (1) to *strongly agree* (7). The continuous ratings of the three attachment styles were used in this study; these measures provide information about relative degrees of security, avoidance, and ambivalence among participants rather than a single categorical classification (Brennan & Shaver, 1995). Brennan and Shaver documented test-retest correlation coefficients for the three attachment scales ranging from .49 to .67 across an 8-month period. Similarly, Kirkpatrick and Hazan (1994) reported that attachment style classifications were highly stable over a four-year period. A more detailed review of the psychometric properties of the Adult Attachment Style Questionnaire is provided by Shaver and Hazan (1993).

Brief Symptom Inventory (BSI). Psychological distress was assessed using the global severity index of the Brief Symptom Inventory (Derogatis, 1993). The BSI is a 53-item self-report questionnaire that assesses several psychological symptom patterns for both psychiatric and community respondents. Respondents are asked how much they have been distressed by a wide range of psychological symptoms such as "nervous or shakiness inside," "feeling lonely," and "temper outbursts" during the past 7 days. Participants respond to each item on a 5-point continuum ranging from *not at all* (0) to *extremely* (4). The global severity index (GSI) combines information about the number of symptoms that respondents experience and

the intensity of their distress. To calculate the GSI, the sum of the responses to all items is divided by the total number of responses (i.e., 53 when there are no missing items). Derogatis reported a mean GSI score of .30 ($SD = .31$) in the adult nonpatient standardizing sample.

Derogatis (1993) observed internal consistency coefficients ranging between .71 and .85 for the nine symptom dimensions of the BSI. Cronbach's alpha for the global severity index for the present sample was .95. BSI scale scores have displayed convergent validity with the SCL-90-R and the MMPI, and the instrument has been used to assess psychological distress and symptomatology in more than 200 published reports (Derogatis, 1993).

Perceived Social Support Scale (PSSS). The Perceived Social Support Scale (Procidano & Heller, 1983) measures the extent to which respondents feel that their needs for support, information, and feedback are fulfilled by friends and family. The first 20 items of the questionnaire are completed with respect to family, and the second 20 items are answered with respect to support provided by friends. Sample items include "My friends enjoy hearing about what I think" and "My family gives me the moral support I need." Items are answered *Yes* (1), *No* (0), or *Don't know* (0); possible scores range from 0 to 40.

Whereas Procidano and Heller (1983) observed an internal reliability coefficient of .89 in their standardizing sample, Cronbach's alpha for the social support scale in the present study was .92. Procidano & Heller also found PSSS scores to be negatively correlated with

psychological symptomatology and directly associated with the amount of disclosing behavior exhibited with friends.

Dyadic Adjustment Scale (DAS). The Dyadic Adjustment Scale (Spanier, 1976) is a brief, 32-item scale that provides reliable and valid measures of global and specific indices of marital satisfaction. Sample items include "How often do you and your mate work together on a project?" and "How often do you kiss your mate?" The scale has a theoretical range of 0 to 151; Spanier reported a mean global Dyadic Adjustment score of 114.8 in his sample of married adults.

In addition, Spanier (1976) established a Cronbach's alpha for the global Dyadic Adjustment index of .96. Cronbach's alpha in the present investigation was .95. DAS scores have been found to correlate highly with other self-report marital satisfaction instruments, and have successfully discriminated between divorced and married respondents.

Results

We present the means and standard deviations for study variables as well as their intercorrelations in Table 1. Mean ratings of the three continuously measured attachment styles generally approximated values reported by previous investigators when transformed to a common metric (Davis et al., 1998; Levy & Davis, 1988); our participants' mean scores on instruments such as the BSI and DAS also were similar to those obtained by the authors of these questionnaires (Derogatis, 1993;

Table 1. Means, standard deviations, and correlations among study variables

Variable	1	2	3	4	5	<i>M</i>	<i>SD</i>
1. Secure attachment style	—					5.18	2.01
2. Avoidant attachment style	-.55**	—				2.45	1.81
3. Ambivalent attachment style	-.22	.28*	—			2.11	1.68
4. Marital satisfaction	.28*	-.35**	-.26*	—		108.73	19.58
5. Social support	.33**	-.38**	-.20	.44**	—	29.95	8.27
6. Psychological distress	-.46**	.27*	.16	-.41**	-.47**	0.56	0.44

Note. * $p < .05$. ** $p < .01$.

Spanier, 1976). We used a square root transformation on indices of secure attachment, avoidant attachment, ambivalent attachment, social support, and marital satisfaction because of their mild to moderate skew and then standardized all variables.

Bivariate correlations confirmed a direct relation between each attachment style and marital satisfaction. Marital satisfaction was significantly associated with levels of secure ($r = .28, p < .05$), avoidant ($r = -.35, p < .01$), and ambivalent attachment ($r = -.26, p < .05$).

To test for mediation, we conducted three regression analyses for each attachment style. For each attachment style, mediation would be indicated by (a) significant unique associations between attachment style ratings and the intervening variables, (b) significant unique associations between the intervening variables and marital satisfaction, and (c) the loss of significance of a previously significant bivariate relation between attachment style and marital satisfaction when controlling for the two paths described above (cf. Baron & Kenny, 1986). Thus, in the initial equations we regressed psychological distress and social support on each attachment style rating. This process sought to establish the link between attachment style and the two mediators (i.e., psychological distress and social support). Simultaneously examining psychological dis-

tress and social support in these initial equations removed the significant amount of shared variance between these variables. In the next set of equations, we entered attachment style ratings, psychological distress, and social support to predict marital satisfaction.

We summarize the results from these regression equations in graphic form. Figure 1 presents data for the analyses focusing on secure attachment, Figure 2 summarizes findings regarding avoidant attachment, and Figure 3 presents results pertaining to ambivalent attachment. Numbers displayed are standardized regression coefficients (β s) from each analysis. The curved, bidirectional arrow between social support and psychological distress represents shared variance between these variables that was removed in the analyses. Solid arrows present results regarding mediated pathways, dashed arrows summarize results pertaining to moderation (see below).

Results indicated that psychological distress significantly mediated the relation between secure attachment and marital satisfaction. Whereas secure attachment ratings displayed a bivariate correlation of .28 with marital satisfaction, the beta value was .01 when other variables were controlled. In addition, social support significantly mediated the association between avoidant attachment and marital satisfaction. The beta representing

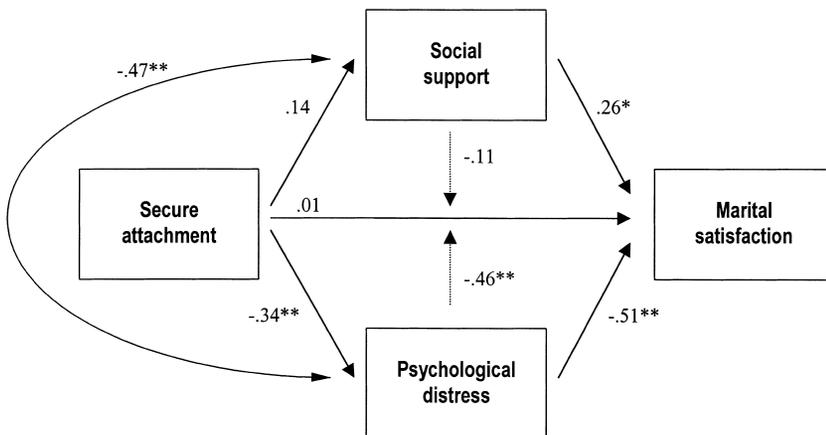


Figure 1. Summary of the regression analyses testing mediated and moderated relations between secure attachment and marital satisfaction. (* $p < .05$. ** $p < .01$.)

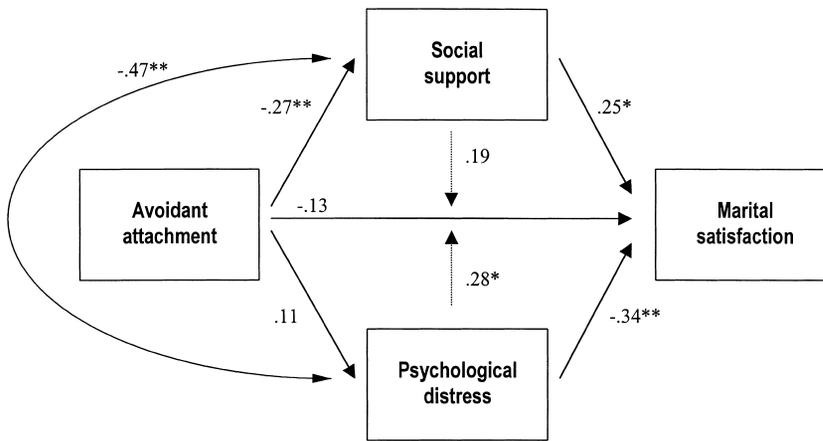


Figure 2. Summary of the regression analyses testing mediated and moderated relations between avoidant attachment and marital satisfaction. ($*p < .05$. $**p < .01$.)

the unique association between avoidant attachment style and marital satisfaction was $-.13$, which was not statistically significant, compared to the bivariate correlation of $-.35$. Mediation did not occur in the analyses examining ambivalent attachment style.

To test for moderated relations, we created six interaction terms by multiplying each of the three attachment style variables by psychological distress and social support. Next, we conducted separate regression analyses predicting marital satisfaction for each of the three attachment styles. In the first step of each regression, we entered the main effects:

attachment style, psychological distress, and social support. (Note that this step of the analysis is the same as that used to detect mediation.) In a new second step of these regressions, we entered the two interaction terms (Attachment style \times Psychological distress; Attachment style \times Social support). Moderation would be indicated by the significant effect of an interaction term on marital satisfaction while controlling for main effects (Baron & Kenny, 1986).

Results regarding moderation are also summarized in Figures 1, 2, and 3 with dashed arrow. Our findings indicated that psycholo-

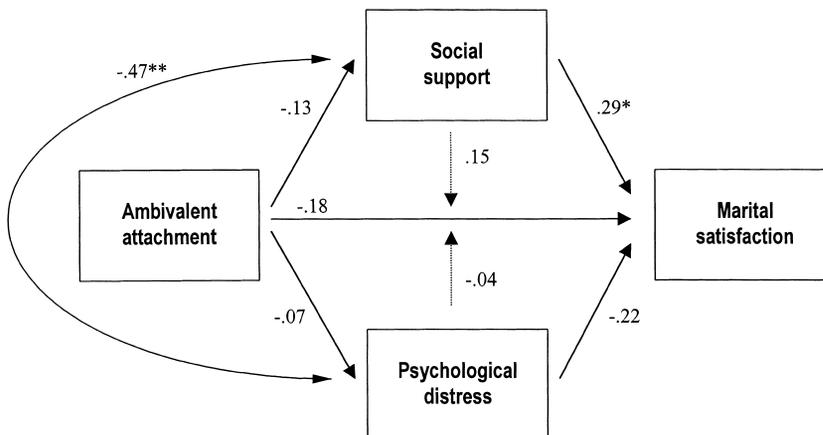


Figure 3. Summary of the regression analyses testing mediated and moderated relations between ambivalent attachment and marital satisfaction. ($*p < .05$. $**p < .01$.)

gical distress moderated the association between secure attachment and marital satisfaction, $\beta = -.46$, $t(67) = -3.55$, $p < .01$. Inclusion of the interaction terms in the second step of this regression produced an R^2 change of .12, $p < .01$. The nature of this moderated relation was clarified by categorizing participants into two groups on the basis of a median split: low psychological distress ($n = 38$) versus high psychological distress ($n = 35$). We computed the correlation between secure attachment style ratings and marital satisfaction separately for each group. This analysis indicated that psychological distress attenuated the association between ratings of secure attachment and marital satisfaction ($r = .29$ and $r = .04$ for the low and high psychological distress groups, respectively).

Psychological distress also moderated the relation between avoidant attachment and marital satisfaction, $\beta = .28$, $t(67) = 2.28$, $p < .05$. Adding the interaction terms into that regression equation was associated with an R^2 change of .05, $p = .07$. The nature of this moderated association was clarified using the procedure described above. Psychological distress potentiated the inverse relation between avoidant attachment style ratings and marital satisfaction ($r = -.28$ and $r = -.37$ for the low and high psychological distress groups, respectively).

Psychological distress did not moderate the relation between ambivalent attachment and marital satisfaction, nor did social support emerge as a significant moderator in any of the analyses.

Overall, results from these regressions indicated that attachment style, psychological distress, social support, and the interaction terms had a significant collective association with marital satisfaction. The three predictor variables and two interaction terms as a set accounted for 37% of the variance associated with marital satisfaction in the equation that included secure attachment style, $F(3, 69) = 7.99$, $p < .01$; 33% of the variance in the equation that included avoidant attachment style, $F(3, 69) = 6.71$, $p < .01$; and 30% of the variance in the equation that included ambivalent attachment style, $F(3, 69) = 5.88$, $p < .01$. Power analyses confirmed the use of a

sufficient number of cases for all regression analyses and indicated large sample effect sizes, $ES = .59$, $.49$, and $.43$, respectively.

Discussion

Our results confirmed a direct association between adult attachment style and marital satisfaction in a community-based sample of married women. Continuous ratings of secure attachment are significantly and positively correlated with levels of marital satisfaction, whereas continuous ratings of both avoidant and ambivalent attachment have significant inverse relations with marital satisfaction. These findings are consistent with many prior studies that used college undergraduates who either reflected on their past romances or were involved in dating relationships (e.g., Feeney & Noller, 1990, 1991; Sharpsteen & Kirkpatrick, 1997) and the smaller number of previous investigations that included married respondents (e.g., Feeney, 1994, 1996).

Second, we found that individuals' levels of psychological distress and their perceptions of support received from others are important mediators of this relation. Our results indicated that psychological distress mediates the association between secure attachment and marital satisfaction. That is, secure adult attachment is associated with a lower likelihood of experiencing psychological symptoms. A sense of psychological well-being is also related to greater marital satisfaction. Controlling for variation in levels of psychological distress consequently eliminated the significance of the direct relation. To extrapolate, secure attachment may provide adults with an inner resource that shields them from psychological distress and therefore may enhance their marital quality. This also suggests that the emotional health associated with secure attachment is a more important correlate of marital satisfaction than the attachment style itself.

Furthermore, our results document that social support mediates the relation between avoidant attachment and marital satisfaction. This indicates that the overarching social isolation attendant to avoidant attachment is truly associated with marital dissatisfaction

rather than with attributes of the attachment style per se. Moreover, avoidant attachment connotes lower levels of assistance and reassurance from friends and all family members rather than solely implying withdrawal from marital relationships.

Third, we found that psychological distress serves as a moderator that affects the direction and strength of the relation between both secure and avoidant attachment style ratings and levels of marital satisfaction. The presence of psychological distress completely erased the positive relation between secure attachment and marital satisfaction. In addition, psychological distress potentiated the inverse association between avoidant attachment and marital satisfaction.

Psychological distress may act as a moderator because it poses a challenge to adults' attachment system and internal working models. Certain psychological symptoms likely threaten or distort individuals' self-perceptions (Mickelson, Kessler, & Shaver, 1997). This stress may amplify the weaknesses that have been ascribed to the avoidant attachment style and increase the probability that avoidant attachment will be associated with marital dissatisfaction (Mikulincer & Florian, 1998). Similarly, the inner resources that stem from secure attachment may be insufficient to safeguard high levels of marital satisfaction when individuals experience psychological distress.

Moreover, psychological distress may be a salient moderator for those attachment styles that are predicated on a strong sense of self. Specifically, individuals who endorse secure attachment styles typically have high self-esteem and express feelings of personal competence (Meyers, 1998). Avoidantly attached adults (especially those with a dismissing-avoidant style; Bartholomew & Horowitz, 1991) are characterized by their exclusive self-reliance, emphasis on autonomy, and denial of distress (Mikulincer & Florian, 1998; Shaver & Hazan, 1993). Challenges to these individuals' positive self-perceptions may in fact be more disruptive to interpersonal functioning relative to ambivalently attached adults, who generally have more negative abstract images of the self (Bartholomew & Horowitz, 1991).

Participants' perception of social support was not a significant moderator in our analyses. Although social support was correlated with marital satisfaction, it did not reduce the relational distress associated with avoidant or ambivalent attachment styles. Similarly, social support did not enhance levels of marital satisfaction related to secure attachment. It is possible that attachment processes are more easily disrupted (by factors such as psychological distress) than bolstered by supportive experiences. Alternatively, low levels of social support may not activate the attachment system and its attendant relationship sequelae. More specifically, certain situations (such as experiencing fear or interpersonal conflict) may be particularly potent stimuli that release prototypical attachment behaviors (Kobak & Duemmler, 1994; Rholes, Simpson, & Stevens, 1998). Perhaps measures of related constructs (e.g., social betrayal, interpersonal loss) would be more salient environmental releasers or moderators in this regard.

Contrary to our expectations, few significant indirect relations emerged in the multivariate analyses that examined ambivalent attachment style ratings and marital satisfaction. Although most previous research has documented associations between ambivalent attachment and both psychological symptomatology (e.g., Carnelley et al., 1994; Hammen et al., 1995) and reduced social support (Davis et al., 1998; Mikulincer et al., 1993), null or conflicting results regarding ambivalent attachment have been documented as well (Carnelley et al., 1994; Feeney, 1994; Mikulincer & Florian, 1998). For instance, Simpson et al. (1992) reported that ambivalently attached adults sought out the same amount of support in an anxiety-producing situation as securely attached individuals. They conjectured that ambivalently attached individuals' level of social support essentially reflects a balance of their desire for close relationships but an inability to maintain them.

Several other explanations for these null results exist as well. First, the outcome measure that we used may not have provided adequate differentiation to assess ambivalence in the context of marital relationships. More

specifically, Fincham and Linfield (1997) indicated that commonly used summary indices of marital satisfaction fail to discriminate between the separate positive and negative dimensions of marital quality. They further reported that “ambivalent spouses” may score high in terms of both positive and negative dimensions of marital quality. It is possible that ambivalently attached adults would similarly display ambivalence in their appraisals of their marriage. However, unidimensional measures of marital satisfaction, such as the DAS, yield only an overall moderate score for these respondents without this additional qualification. Second, the direct and indirect associations between participants’ ambivalent attachment and marital satisfaction may be uniquely contingent on their husbands’ attachment styles. More specifically, Feeney (1994) reported that wives’ anxiety over relationships was associated with marital dissatisfaction only when their husbands also endorsed a low level of comfort with closeness. Notably, no other partner-related interactions emerged in her analyses. Thus, we may have been unable to detect significant relations involving ambivalent attachment ratings because of this qualifying effect. Finally, our participants’ ambivalent attachment style ratings had a slightly lower mean value and were characterized by less variance than those in other investigations utilizing samples with different demographic traits. In a large, nationally representative sample, Mickelson et al. (1997) found that women whose demographic characteristics mirror those of our sample (i.e., well-educated, middle class, Caucasian, married women who live in the Midwest) are less likely to be classified as ambivalently attached in comparison to other groups of people. Thus, the reduced range of variance in our participants’ ambivalent attachment scores may have attenuated the associations involving this variable.

Future research may assess whether our findings are generalizable using more heterogeneous samples. For instance, participants recruited for this study were women; it is possible that different patterns of significant associations may emerge for married men. Although previous research has generally

documented many more similarities than differences in such findings across gender groups (e.g., Davila et al., 1998; Lussier et al., 1997), certain distinctions have been noted. For example, ambivalent attachment style ratings or the attachment dimension of anxiety have stronger associations with men’s marital satisfaction than women’s (Feeney, 1999; Simpson, 1990). This suggests that significant indirect pathways between ambivalent attachment and marital satisfaction for husbands may also exist. Furthermore, the study of the personality and interpersonal correlates of adult attachment style could be advanced by the systematic consideration of individuals’ racial, ethnic, and socioeconomic characteristics (Cooper, Shaver, & Collins, 1998).

Issues pertaining to our methodology also provide suggestions for future research. For instance, measuring adult attachment using multiple-item ratings (e.g., Brennan, Clark, & Shaver, 1998) may enhance the robustness of these findings. Because our exclusive use of self-report instruments gathered from the same source may have contained common sources of error variation, future researchers may also wish to cross-reference partners’ perceptions of relationship functioning or use behavioral observations to increase measurement validity. Furthermore, we recommend assessing constructs of interest using multiple indicators to ensure that results are not specific to the particular instruments used in the investigation.

To summarize, this study provides several important conceptual and methodological advances to our understanding of attachment in marriage. Our findings indicate that the indirect associations between adult attachment style and romantic relationship quality are generally more salient than the well-documented direct relation between these constructs. Furthermore, we delineated how and when psychological distress and social support affect this association; notably, the roles of these two variables differ. Whereas the pathway emanating from secure attachment is channeled through individuals’ psychological well-being, avoidant attachment is associated with marital quality through relatively broader isolation in social relationships. In addition, the finding that psychological distress both mediates and

moderates the relation between attachment and marital satisfaction suggests a particularly complex role for this variable.

Moreover, our results are consistent with those researchers who promote the use of a contextual or ecological framework to analyze marital and family functioning (Bradbury & Fincham, 1988). This approach underscores the need to use multivariate frameworks when examining interpersonal relationships and advocates evaluating the broader topography of adult attachment style when determining how it may relate to marital satisfaction. Because adult attachment style is intimately connected with how individuals view themselves and others, it may have wide-reaching relations with aspects of individuals' functioning. Furthermore, our results support the notion that the association between attachment

style and marital quality is probabilistic and is related to adults' overarching social and emotional functioning. Although our cross-sectional data preclude the determination of cause and effect, it is likely that bidirectional relations exist among these constructs. The presence and specified direction of the pathways in our analyses were determined on the basis of theoretical interest. Thus, the sequelae of adult attachment on marital functioning are possibly accomplished by, and contingent upon, contextual influences. However, it is also likely that marital distress may produce psychological symptomatology or social alienation. Such profound stress may challenge the stability of adults' internal working models and their attachment styles. Regardless, our results provide additional insight into the dynamic mechanism of these associations.

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