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# Attachment Style, Excessive Reassurance Seeking, Relationship Processes, and Depression

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*The authors examined the association between excessive reassurance seeking (ERS) in couple relationships and depression, hypothesizing that this association can be explained by attachment anxiety. In Study 1, 72 couples completed questionnaires about ERS, depression, attachment style, and relationship quality. In Study 2, 61 couples completed the same measures in addition to completing daily diary assessments for 14 days. In both studies, ERS was related to depression, but only because of its association with attachment anxiety. The association between attachment anxiety and depression was not mediated by either partner's relationship quality, even though partners noticed each other's ERS. Instead, relationship quality was related primarily to avoidant attachment. These findings were replicated at a daily level of analysis, where interesting details of the underlying processes were revealed. At least in young unmarried couples, depression is associated with attachment anxiety—and one of its facets, ERS—mostly for intrapsychic reasons.*

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**Keywords:** attachment style; reassurance seeking; depression; relationship quality

In a 1999 target article summarizing studies of depression and relationship dissolution, Joiner, Metalsky, Katz, and Beach described the phenomenon of excessive reassurance seeking (ERS) as “the relatively stable tendency to excessively and persistently seek assurances from others that one is lovable and worthy, regardless of whether such assurance has already been provided” (p. 270). In a number of studies, ERS has been linked both concurrently and prospectively with depression. According to Coyne (1976), whose ideas provided a foundation for Joiner et al.'s (1999) research, nondepressed but mildly dysphoric individuals tend to doubt their own worth and ask their relationship partner for reassurance. Any reas-

surance that follows is then discounted or doubted, leading to further dysphoria and partner frustration, which initiates a potentially vicious cycle that can lead to depression in the reassurance seeker and further dissatisfaction on the part of the reassurance provider. Based on this theory and associated studies, Joiner et al. (1999) argued that ERS is a cause of depression and is involved in generating negative interpersonal outcomes, such as relationship disruptions and contagious depression (depression that is “caught” by a previously nondepressed partner).

In all of the samples studied by Joiner's research group (including college students: Joiner, 1994; Joiner, Alfano, & Metalsky, 1992, 1993; Joiner & Metalsky, 1995; Potthoff, Holahan, & Joiner, 1995; air force cadets: Joiner & Schmidt, 1998; adolescent inpatients: Joiner & Metalsky, 1998; and dating women: Katz & Beach, 1997), a significant correlation between ERS and depression was found. Using Air Force cadets undergoing basic training, Joiner and Schmidt (1998) found that baseline levels of ERS were significantly predictive of increases from baseline to follow-up in depressive symptoms. Using a diathesis-stress approach to the relation between ERS and depression, Joiner and Metalsky (1998) showed that when faced with the stress of a low grade on an exam, high reassurance-seeking college students exhibited depression, whereas low reassurance-seeking students did not. Similarly, Joiner and Metalsky (1998) found that high reassurance-seeking students paired

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with a roommate who viewed them negatively experienced increases in depression, whereas low reassurance-seeking students did not. Katz, Beach, and Joiner (1998) found the same pattern of results among dating women in relationships with men who viewed them negatively: High reassurance-seeking women reported increases in depression; low reassurance-seeking women did not.

Joiner et al. (1999) suggested that the association between ERS and depression arises because high reassurance seekers become demoralized as their ERS fails to produce hoped-for results. A second suggestion offered by Joiner et al. (1999), drawing on ideas propounded by Coyne (1976), is that as depression mounts, ERS becomes difficult for significant others to tolerate, causing them to withdraw from or reject the reassurance seeker, which worsens the seeker's depression, thereby producing a vicious cycle.

If Coyne's (1976) analysis is correct, ERS should have a negative impact on relationship partners. In a study of women involved in dating relationships, Katz and Beach (1997) found that women with depressive symptoms were negatively evaluated by their partners only if they exhibited ERS. Similarly, Joiner and Metalsky (1995) showed that depressed students were negatively evaluated by their roommates only if they engaged in ERS. Examining the phenomenon of contagious depression (one person's depression inducing symptoms in another person; Joiner et al., 1999), Katz et al. (1998) found that romantic partners of college students who reported high ERS and depressive symptoms were likely to report depression themselves. As Joiner et al. (1999) point out, research on interpersonal rejection and contagious depression suggests that the joint operation of depressive symptoms and ERS disaffects significant others, causing relationship termination at worst and emotional unavailability of one's partner at best.

In a commentary on Joiner et al.'s (1999) target article, Brennan and Carnelley (1999) suggested that the tendency to engage in ERS originates in experiences with inconsistent attachment figures and is part of what attachment researchers (for reviews, see Cassidy & Shaver, 1999; Mikulincer & Shaver, 2003) call an anxious attachment style. Hazan and Shaver (1987) proposed that Bowlby's (1982) attachment theory, originally designed to explain normative and individual-difference aspects of infant-parent emotional bonding in terms compatible with ethology and evolutionary biology, could be extended to romantic relationships. Since then, hundreds of studies have shown that "attachment styles," as the individual-difference categories came to be called, are related to motives, feelings, and behavior in romantic relationships.

Although both the conceptualization and measurement of attachment style have varied across studies

(Crowell, Fraley, & Shaver, 1999), most investigators who use self-report measures of adult attachment style agree that two primary dimensions are involved (e.g., Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998). The first dimension, attachment anxiety, concerns worries about rejection and abandonment; the second dimension, attachment avoidance, concerns the degree to which a person feels lack of comfort depending on and being emotionally close to others. According to Mikulincer and Shaver (2003), these two dimensions represent different ways of regulating the distress and insecurities resulting from a failure to find external or internalized sources of comfort and support. On one hand, people scoring high on measures of attachment anxiety tend to rely on hyperactivating strategies—energetic persistence in seeking comfort, reassurance, and support from relationship partners. These strategies also involve vigilance for signs of partner unavailability, overdependence on relationship partners, and rumination on worries and vulnerabilities. On the other hand, people scoring high on measures of attachment avoidance tend to rely on deactivating strategies—downplaying of intimacy and dependence and denial of the need for a partner's support. These strategies also involve amplification of one's own sense of competence, value, and invulnerability (see Mikulincer & Shaver, 2003, for an extensive review of these strategies).

Following Mikulincer and Shaver's (2003) conceptualization of the two dimensions underlying attachment styles, we hypothesize that excessive reassurance seeking results from the hyperactivating strategy associated with anxious attachment and hence is likely to occur most intensely when an attachment-anxious person feels vulnerable to rejection or abandonment (e.g., following interpersonal conflicts interpreted as steps on the road to relationship dissolution). Although this process might involve the kinds of relational dynamics postulated by Joiner et al. (1999), it is also possible that it occurs mostly in the anxious person's mind, almost regardless of a partner's actual feelings or behavior. Collins (1996) showed, for example, that attachment-anxious individuals tend to jump to negative conclusions about their partners' feelings and loyalty even when the evidence for disinterest or disloyalty is ambiguous or nonexistent.

It seems likely that people who score high on attachment anxiety are overrepresented among excessive reassurance seekers. In fact, the four-item ERS scale used by Joiner and Metalsky (1998) contains items almost identical to ones included in measures of anxious attachment. For example, one anxious-attachment item on the Experiences in Close Relationships scale (ECR; Brennan et al., 1998) reads as follows: "I need a lot of reassurance that I am loved by my partner." Another reads, "Some-

times I feel that I force my partner to show more feeling and commitment." The following are two of the four ERS items: "Do you find yourself often asking your partner how he or she truly feels about you?" and "Do you frequently seek reassurance from your partner as to whether he or she really cares about you?"

Not surprisingly, attachment anxiety is associated with depression (e.g., Bifulco, Moran, Ball, & Bernazzani, 2002; Carnelley, Pietromonaco, & Jaffe, 1994; Mickelson, Kessler, & Shaver, 1997; Wayment & Vierthaler, 2002). Hypothesized explanations for the association between attachment-related anxiety and depression include anxious people's negative models of self (e.g., believing they are unlovable; Bartholomew & Horowitz, 1991), low self-esteem (Griffin & Bartholomew, 1994), self-criticism (Murphy & Bates, 1997), and dysfunctional attributions about partners' behavior that increase the likelihood of jealousy and separation anxiety (Collins, 1996). In contrast, people high in avoidance are generally less invested in relationships, less upset when they end, and relatively low in commitment and relationship satisfaction (Mikulincer & Shaver, 2003).

If excessive reassurance seeking (ERS) is an aspect of anxious attachment, it would be beneficial to fold this construct into the more extensive literature on attachment processes rather than create a separate theory about it. This would result in increased parsimony and a richer network of research questions about the nature and development of ERS. To date, only one study has examined a possible link between attachment style and ERS. Using two samples of college students, Davila (2001) found that attachment anxiety accounted for part but not all of the association between ERS and depression, suggesting that ERS might be a distinct construct. In those studies, however, ERS was measured across all kinds of relationships, not just romantic ones; many of the participants were not involved in a romantic relationship at the time; and one of the samples was selected because its members showed "early signs of romantic dysfunction and psychopathology." Moreover, Davila did not study both members of couples, which is the focus of the studies we report here.

We surveyed members of university-student couples to see how their ERS and attachment anxiety were related to each other and how these variables correlated with a standard measure of depression. We also included measures of relationship quality to see whether either partner's ERS was correlated with either partner's dissatisfaction, as suggested by Joiner et al.'s (1999) theory. As well, we assessed each partner's perceptions of the other partner's ERS to determine whether self-reported ERS is noticed by the partner, as would seem to be required by the hypothesis that one partner's ERS causes dissatisfac-

tion in the other. We also included a measure of avoidant attachment because (as explained above) the construct of attachment style is defined in terms of two dimensions, anxiety and avoidance, and previous research (summarized by Mikulincer & Shaver, 2003) suggests that some of the constructs involved in Coyne's and Joiner et al.'s analysis of ERS, such as relationship quality, are more related to avoidance than anxiety. Conducting regression analyses in which the two dimensions are considered simultaneously allows us to see which dimension is primarily associated with psychological and relational variables when the other dimension is statistically controlled.

Because our first study provided no detailed information about the workings of attachment anxiety, avoidance, and ERS in the daily processes involved in couple relationships, in our second study we employed a daily diary procedure to get a closer look at emotional and social processes. In particular, we examined the effect of the two attachment dimensions and daily conflicts on day-to-day changes in ERS, dysphoria, and relationship quality.

The following hypotheses were addressed in both studies:

*Hypothesis 1:* In line with Joiner et al. (1999), we expected ERS to be a real, observable phenomenon that can be corroborated by the other partner's observations. Hence, we expected self-reported and partner-reported ERS to be highly correlated, although we did not expect this correspondence to require that a reassurance seeker's depression would stem mainly from partner reactions to ERS.

*Hypothesis 2:* Based on Brennan and Carnelley's (1999) analysis, we expected ERS and attachment anxiety to be highly correlated.

*Hypothesis 3:* Based on both theoretical analyses and prior research, we expected that ERS and attachment anxiety would be associated with depression.

*Hypothesis 4:* When scores on both ERS and attachment anxiety were entered into a regression equation predicting depression, we expected that the inclusion of attachment anxiety would eliminate the predictive power of ERS, indicating that ERS is a facet or aspect of anxious attachment.

*Hypothesis 5:* Based on recent adult attachment studies (e.g., Frei & Shaver, 2002), we expected that poor relationship quality would be more strongly associated with avoidant attachment than with anxious attachment or ERS.

Beyond testing these hypotheses, we also asked exploratory research questions about social and emotional processes related to ERS and depression. The first question concerns mediation of the associations between attachment anxiety, ERS, and depression. Are the effects of

attachment anxiety and ERS on depression mediated by either partner's relationship quality, as Joiner et al.'s (1999) analysis suggests? Or is the association unmediated by relational variables, being generated instead mostly in the anxious person's mind (by unwarranted worries, faulty attributions, and rumination)? The second question concerns whether one partner's depression and ERS affect the other partner's relationship quality or depression, as studies by Katz and Beach (1997) and Joiner and Metalsky (1995) suggest. The third question concerns gender differences in the associations between attachment style, ERS, depression, and relationship quality. In both studies, we analyzed data for men and women separately, which reduced the problem of nonindependent data points and allowed us to detect gender differences.

#### STUDY 1

Study 1 was designed to address the first set of hypotheses and questions in a preliminary, cross-sectional way based on single-time assessments of both members of 72 premarital couples. Each person independently completed questionnaires about ERS, depression, attachment style, and relationship quality.

#### Method

*Participants.* Both members of 72 heterosexual couples, one of whom was a student in an introductory class at a large research university, independently completed packets of questionnaires in exchange for one partner's extra credit in the class. Participants' ages ranged from 17 to 32, with a median of 20. Of the 144 participants, 65 (45%) were Caucasian (European American), 51 (35%) were Asian or Asian American, 10 (7%) were Hispanic American, and 18 (13%) were other. These characteristics accurately reflect those of the student body at the university. The couple members had been together for periods ranging from 3 weeks to 5 years, with a median of 15 months. Thus, although not married, most of the participants were involved in stable, long-term relationships.

*Materials and procedure.* Class members who opted to participate in the study received two questionnaire packets in opaque envelopes, one for themselves and one for their partner. The questionnaires were completed independently and each was then sealed in its own envelope to assure anonymity. Each questionnaire included five self-report scales that were randomly ordered for each participant.

Attachment anxiety and avoidance were assessed by the Experiences in Close Relationships scale (ECR; Brennan et al., 1998), which contains 36 statements (18 assessing anxious attachment and 18 assessing avoidant

attachment) about feelings and experiences in romantic relationships. Participants were asked to indicate their agreement with each statement based on their experiences in their current relationship. Agreement was assessed with a 7-point scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). (Reliability coefficients for this and the other measures are shown in Table 2.) Two scores were computed for each participant by averaging the relevant items; higher scores indicate higher anxiety and avoidance.

Excessive reassurance seeking was assessed with the four-item Excessive Reassurance Seeking Scale (ERSS; Joiner & Metalsky, 1998). The first two items asked directly about a participant's tendency to engage in reassurance seeking (e.g., "Do you find yourself often asking your partner how he/she truly feels about you?"), whereas the second two inquired about the partner's reaction (e.g., "Does your partner sometimes become irritated with you for seeking reassurance about whether he/she really cares about you?"). Participants answered the questions based on their current relationship, indicating frequency of ERS on 7-point scales ranging from 1 (*not at all*) to 7 (*extremely often*). An average score was computed for each participant.

Perception of partner's ERS was assessed by a modified version of Joiner and Metalsky's (1998) ERSS. This version, which we created for the present study, contained altered versions of the four items in the ERSS, reworded to refer to each participant's partner rather than to himself or herself. The revised versions of the two items mentioned previously were, "Does your partner often ask you how you truly feel about him/her?" and "Do you sometimes become irritated with your partner for seeking reassurance about whether you really care about him/her?" Again, items were answered on a 7-point scale ranging from 1 (*not at all*) to 7 (*extremely often*). This modified version of the ERSS was included to determine whether ERS is an actual phenomenon noticed by a person's relationship partner. A total score was computed for each participant by averaging the four items.

Depression was assessed by the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1997), a 20-item inventory designed to measure depression in community samples. Items include the following: "I felt that everything I did was an effort" and "I felt hopeful about the future" (reverse-scored). Participants answered the items with reference to their moods during the past week using a 4-point scale ranging from 1 (*rarely or none of the time—less than 1 day*) to 4 (*most or all of the time—5 to 7 days*). A depression score was computed for each participant by averaging scores on the 20 items.

Relationship quality was assessed by the Perceived Relationship Quality Component Inventory (PRQC;

**TABLE 1: Means and Standard Deviations for Attachment Variables, ERS, Depression, and Relationship Quality in Study 1, Reported Separately for Each Gender**

Variable	M		SD	
	Men	Women	Men	Women
Attachment anxiety	3.57	3.55	1.00	1.10
Attachment avoidance	2.05	2.03	.79	.72
ERS	2.93	3.04	1.92	1.46
Perceived partner's ERS	2.58	2.42	1.19	1.34
Depression	1.65	1.70	.42	.49
Relationship quality	6.12	6.12	.72	.70

NOTE: ERS = excessive reassurance seeking.

**TABLE 2: Cronbach's Alpha Coefficients for Attachment Variables, ERS, Depression, and Relationship Quality According to Gender and Study**

Variable	Study 1 (N = 72 couples)		Study 2 (N = 61 couples)	
	Men	Women	Men	Women
Attachment anxiety	.88	.90	.92	.92
Attachment avoidance	.91	.86	.78	.90
ERS	.81	.83	.82	.86
Perceived partner's ERS	.79	.87	.80	.88
Depression	.85	.89	.88	.87
Relationship quality	.91	.92	.95	.93

NOTE: ERS = excessive reassurance seeking.

**TABLE 3: Pearson Correlations Between Attachment Variables, Depression, ERS, and Relationship Quality According to Gender and Study**

Variable	1	2	3	4	5	6	7
Study 1 (N = 72 couples)							
1. Attachment anxiety		.16	.68**	.40**	.53**	-.06	-.08
2. Attachment avoidance	.13		.08	.04	.16	-.71**	-.37**
3. ERS	.59**	-.07		.60**	.43**	-.08	-.09
4. Partner perception of one's ERS	.46**	.06	.56**		-.42**	.00	-.12
5. Depression	.62**	.21	.32**	.18		-.14	-.25*
6. Own quality	-.22	-.76**	.08	-.07	-.32**		.42**
7. Partner's quality	-.33**	-.42**	-.32**	-.49**	-.19	.42**	
Study 2 (N = 61 couples)							
1. Attachment anxiety		.28*	.61**	.37**	.61**	-.21	-.27*
2. Attachment avoidance	.15		.22	.05	.22	-.70**	-.55**
3. ERS	.64**	-.05		.57**	.45**	-.21	-.21
4. Partner perception of one's ERS	.64**	.22	.56**		-.27*	-.01	-.01
5. Depression	.31*	.21	.14	.23		-.11	-.20
6. Own quality	-.18	-.69**	-.05	-.25	-.18		.70**
7. Partner's quality	-.34**	-.56**	-.10	-.40**	-.19	.70**	

NOTE: Correlation coefficients for women are above the diagonal; for men, below the diagonal. ERS = excessive reassurance seeking. \* $p < .05$ . \*\* $p < .01$ .

Fletcher, Simpson, & Thomas, 2001). This carefully designed and well-validated 18-item measure assesses current romantic relationship quality. Participants rated their levels of satisfaction, devotion, intimacy, trust, passion, and love for their current partner on a 7-point scale ranging from 1 (*not at all*) to 7 (*extremely*). A total score was computed by averaging scores for the 18 items.

*Results and Discussion*

Descriptive statistics for the measures used in Study 1 are summarized in Table 1. As can be seen, the statistics were highly similar for men and women. Scale reliabilities for both sexes are displayed in Table 2. All of the scales exhibited adequate internal consistency whether completed by men or women. As can be seen in Table 3, the correlations were similar for men and women (in fact, the correlation between the two sets of correlation coefficients was .97), and there were no significant scale-score sex differences (based on tests not

shown in the table). The correlations are reported separately for men and women because each man in the sample is paired with one of the women in the sample, rendering their scores nonindependent.

*The association between self-reports and partner-reports of ERS.* Our first hypothesis concerns the expected correlation between one partner's ERS score and the other partner's perceived ERS score. In the analysis where men's ERS scores were correlated with women's perceptions of the men's ERS behavior, the correlation coefficient was .56. In the complementary analysis where women's ERS scores were correlated with men's perceptions of the women's ERS behavior, the correlation coefficient was .60. The coefficients are similarly high, indicating that ERS behavior is real and observable by both men and women.

*The association between attachment anxiety and ERS.* Our second hypothesis was that ERS would be highly corre-

lated with attachment anxiety, supporting the possibility that ERS is an aspect of attachment system hyperactivation. As shown in Table 3, the correlation between the two scores was .68 for women and .59 for men. Although not as high as the two scales' reliabilities (probably because attachment anxiety involves more than ERS), these associations are quite strong. In contrast, the correlation between attachment avoidance and ERS was not significant for men or women (see the upper panel of Table 3), an indication of attachment anxiety's discriminant validity with respect to ERS.

*The contribution of attachment anxiety and ERS to depression.* Our third and fourth hypotheses were that both attachment anxiety and ERS would be associated with depression but ERS would become insignificant as a predictor of depression once attachment anxiety was statistically controlled. As can be seen in Table 3, both attachment anxiety and ERS were significantly associated with depression among men and women, again unlike attachment avoidance. The significant correlations between ERS and depression replicate Joiner et al.'s (1999) findings. The ones between attachment anxiety and depression fit with previous findings in the attachment literature.

To examine our fourth hypothesis, we conducted two regression analyses, one for each sex, in which depression was regressed on ERS and attachment anxiety and avoidance.<sup>1</sup> For men, the beta for ERS was not significant after controlling for attachment scores ( $-.04$ ), whereas the beta for attachment anxiety was  $.63$  ( $p < .001$ ). (The beta for attachment avoidance was  $.12$ , *ns*.) The results for women were similar. The beta for ERS was not significant ( $.14$ ); the beta for attachment anxiety was  $.42$  ( $p < .01$ ) and the beta for attachment avoidance was  $.08$  (*ns*). These findings support the hypothesis that ERS is associated with depression by virtue of being an aspect of anxious attachment, which suggests that it would be worthwhile to conceptualize ERS and its effects within the purview of attachment theory rather than creating a separate theory about ERS.

*ERS, attachment style, and relationship quality.* Our fifth hypothesis was that poor relationship quality or satisfaction would be more associated with attachment avoidance than with attachment anxiety or ERS. The findings were consistent with this hypothesis. First, Pearson correlations revealed that only attachment avoidance, but not attachment anxiety or ERS, was significantly associated with the participant's own ratings of relationship quality (see Table 3). Second, the simultaneous introduction of ERS, attachment anxiety, and attachment avoidance as predictors of a participant's own relationship quality in a regression analysis revealed that only attachment avoidance made a significant unique contribution ( $\beta = -.72$ ,

$p < .001$ , for women,  $\beta = -.72$ ,  $p < .001$ , for men). Neither ERS nor attachment anxiety significantly added to the explained variance in relationship quality for either sex. Third, parallel analyses examining the contribution of a partner's attachment scores and ERS to a participant's ratings of relationship quality revealed that only partner's avoidance, not ERS or anxiety, predicted relationship quality ( $\beta = -.42$ ,  $p < .001$ , for women,  $\beta = -.37$ ,  $p < .01$ , for men). ERS and attachment anxiety did not make significant unique contributions.

An additional regression analysis was conducted to examine the contributions of partner variables (attachment scores, ERS) and participant's perception of his or her partner's ERS to participant's own rating of relationship quality. For women, only men's avoidance ( $\beta = -.39$ ,  $p < .001$ ) and their perceptions of their partner's ERS ( $\beta = -.40$ ,  $p < .001$ ), not the male partner's ERS or anxiety scores, significantly predicted women's relationship quality. Of interest, when women's own avoidance also was entered into the equation, the beta for perceived partner's ERS fell to  $-.28$  ( $p < .01$ ) and the beta for avoidance was  $-.62$  ( $p < .001$ ). This effect was partly explained by a correlation of  $.35$  ( $p < .01$ ) between women's avoidance and their perception of partner's ERS. That is, women's perceptions of partner's ERS depended substantially on women's avoidance.

In the parallel set of analyses for the men, only women's avoidance significantly predicted the men's relationship quality ( $\beta = -.37$ ,  $p < .01$ ). Partner's self-reported ERS and attachment anxiety were not significant predictors of men's relationship quality, and neither were men's perceptions of their partner's ERS.

Thus, relationship quality depended mostly on the self's and the partner's attachment avoidance rather than ERS or attachment anxiety, but for women, especially avoidant women, perception of the partner's ERS (independent of the partner's own reported level of ERS) also was important. Interpreted in terms of gender-role expectations, the results suggest that avoidant women are especially bothered by what they perceive to be their male partner's excessive reassurance seeking.

*The mediation of relationship processes.* Next, we asked about the degree to which relations among ERS, attachment anxiety, and depression are mediated by either partner's reported relationship quality. In our sample, a person's own relationship quality was not related to his or her own attachment anxiety or ERS (as can be seen in Table 3), therefore ruling out the possibility of mediation of the anxiety-depression or ERS-depression association by one's own relationship quality. Moreover, men's relationship quality was not related to women's attachment anxiety or ERS, which also rules out the possibility of mediation of women's anxiety-depression or

ERS-depression association by partner's relationship quality (see Table 3). Only in the case of men's anxiety-depression or ERS-depression association did it seem possible that women's relationship quality might serve as a mediator because men's anxiety and ERS were significantly correlated with women's relationship quality ( $r = -.33$  and  $-.32$ , respectively). However, this possibility was ruled out by the lack of a significant correlation between women's relationship quality and men's depression. Thus, there was no support for the idea that relationship quality serves as a mediator.

*The interaction of own depression and own ERS as predictors of partner's relationship quality.* Because some previous studies (Joiner & Metalsky, 1995; Katz & Beach, 1997) suggested that the interaction between one partner's depression and ERS affects the other partner's relationship quality, we examined that possibility as well. The regression analysis predicting men's relationship quality from women's depression, ERS, and the interaction between women's depression and ERS was not significant,  $F(3, 67) = 1.86, p = .15$ . The corresponding analysis predicting women's relationship quality from men's depression, ERS, and the interaction of men's depression and ERS was significant,  $F(3, 67) = 3.23, p < .05$ , but only because, as already reported, women's relationship quality was predicted by men's ERS (and especially by women's perceptions of this ERS). The interaction between men's depression and ERS was not significant ( $\beta = .14, p = .24$ ). Moreover, when women's attachment avoidance was added to the equation as a predictor, men's ERS failed to have a significant independent effect. Thus, the interaction of one partner's ERS and depression did not seem to determine the other partner's perception of relationship quality.

*Conclusions.* Taken together, the results suggest that, at least in relatively young, unmarried couples, men's depression is associated with their own anxious attachment rather than with processes running through either partner's relationship quality. Moreover, although men's ERS is related to men's depression, this occurs only because ERS is associated with attachment anxiety, which is even more highly related to depression. The results further indicate that men's sense of relationship quality is adversely affected mainly by their own and their partners' attachment avoidance. Women's depression is associated with their own anxious attachment and ERS and the effect of ERS is due to its being an aspect of anxious attachment. Their relationship quality is adversely affected by their partner's ERS, but mainly as this behavior gets filtered through women's perception of it, and the perceptual filter is attributable partly to some women's attachment-related avoidance. The women's sense of relationship quality is not, however, a significant

determinant of their male partners' depression. Thus, overall, even though several interesting and complex associations between variables and across partners were detected, there was little support for the notion that one partner's depression is mediated by the other partner's dissatisfaction with the relationship.

Although based on attachment theory and a large body of research on attachment styles (summarized by Mikulincer & Shaver, 2003) we tend to interpret our findings causally, imagining that attachment style comes first and then has effects on relationship quality and depression, we obviously cannot make strong causal inferences when all of the variables in Study 1 were measured at a single point in time. We therefore designed a second study in which couples were assessed daily for 2 weeks after completing an initial battery of questionnaire measures. Each day for 2 weeks, couple members completed more specific measures of reassurance seeking, mood, and relationship quality. Because we were interested in discovering some of the contextual events that might account for daily ERS and changes in feelings about self and relationship, we also included a daily measure of relationship conflict.

## STUDY 2

The main goals of Study 2 were (a) to see whether the findings of Study 1 replicated in a new sample; (b) to extend the focus of Study 1 to include daily variations in relationship events and mood, which should reveal more about underlying processes than could be gleaned from a single-time, cross-sectional study; and (c) to explore the possibility that reassurance seeking is sometimes a behavioral strategy used to cope with doubts and fears about relationship stability, a strategy used mainly by anxiously attached individuals. This last goal was achieved by examining whether the association between attachment anxiety and reassurance seeking on a given day was stronger for anxious individuals following dyadic conflicts on the previous day.

Study 2 required two kinds of measures: (a) the global measures of attachment anxiety and avoidance, ERS, depression, and relationship quality used in Study 1 and (b) daily diary measures of dyadic conflict, one's own and one's partner's reassurance seeking, dysphoric mood, and relationship quality. The main hypotheses and questions were the same as those explored in Study 1. We expected, again, that (a) global and daily reassurance seeking behaviors would be observable by partners, (b) global and daily reassurance seeking would be strongly associated with attachment anxiety, (c) attachment anxiety and global and daily reassurance seeking would be associated with daily variations in negative mood, but only attachment anxiety would make a

unique contribution, and (d) daily variations in relationship quality would be mostly a function of global avoidance rather than global or daily reassurance seeking. We also thought that if daily reassurance seeking were related to attachment anxiety, it might be especially so following events such as conflicts and arguments that arouse fears of separation.

### Method

**Participants.** Both members of 61 heterosexual couples, one of whom was a student in an introductory psychology class, independently completed questionnaires in exchange for one couple member's extra credit in the course. (Eleven additional couples were originally included in the study but they did not complete the 2 weeks of data collection and so could not be used in the analyses reported here.) Participants' ages ranged from 17 to 28, with a median of 20. Of the 122 participants, 46 (38%) were Caucasian (European American), 53 (43%) were Asian or Asian American, 8 (7%) were Hispanic American, and 14 (11%) were other. These demographic characteristics were similar to those of the participants in Study 1. The couple members had been together for periods ranging from 4 weeks to 6 years, with a median of 12 months.

**Materials and procedure.** Class members who opted to participate in the study received two questionnaire packets, each in an opaque envelope, one to fill out themselves and one to give to their partner. The questionnaires included the five self-report scales described in Study 1 (ECR anxiety and avoidance scales, ERSS, CES-D, perception of partner's ERS, and PRQC). As can be seen in Table 2, all of the scales were internally consistent for members of both sexes.

Study 2 also contained an online diary component. For 14 consecutive days, participants individually and independently logged onto a Web site and answered the same set of five questions about (a) daily disagreements and arguments with partner, (b) daily reassurance seeking, (c) partner's daily reassurance seeking, (d) daily affect or mood, and (e) relationship quality. The daily diary questions consisted of the following: (a) How much did you ask your partner for reassurance today? (Notice that we did not use the term "excessive," which would seem to require more than 1 day's evidence.) (b) Did your partner ask you for reassurance today? (c) Did you and your partner get into any arguments or fights today? (d) How would you describe the quality of your relationship with your partner today? The first three questions were answered on a scale ranging from 0 (*not at all*) to 3 (*a lot*). The fourth question was answered on a scale ranging from 1 (*poor*) to 4 (*excellent*). The fifth question, about daily mood, included a list of eight ad-

jectives (*distressed, happy, irritable, cheerful, upset, upbeat, unhappy, and optimistic*). Participants rated the extent to which each adjective applied to them that day using a scale ranging from 0 (*not at all*) to 3 (*a lot*). We computed a total dysphoric mood score by averaging the eight adjectives after reverse-scoring the positive ones. (Coefficient alpha for this scale was .81.) Of interest, Pearson correlations revealed significant associations between global reports of ERS and the averaged score of daily reassurance seeking across the 14 days,  $r_s$  of .24 for women and .27 for men,  $p_s < .05$ .

### Results and Discussion

Before examining the diary data, we checked to see whether the observed associations between global reports of ERS, attachment style, depression, and relationship quality replicated the findings of Study 1. Overall, the findings were quite similar. First, global ERS self-reports and partner's global perceptions of this behavior were significantly associated in the two sexes (see Table 3). Second, whereas attachment anxiety was strongly associated with global ERS in both sexes, attachment avoidance was not significantly associated with ERS in either sex (see Table 3). Third, both attachment anxiety and ERS were significantly associated with depression among women (see Table 3). For men, only anxiety was significantly associated with depression (see Table 3). Fourth, the simultaneous introduction of global attachment scores and ERS in a regression analysis predicting depression showed that only attachment anxiety contributed uniquely to depression in men,  $\beta = .33$ ,  $p < .05$ , and women,  $\beta = .66$ ,  $p < .01$ . The beta coefficients for global ERS and attachment avoidance were not significant (ranging from  $-.01$  to  $.14$ ).

Fifth, a person's relatively poor global relationship quality was significantly associated with attachment avoidance but not with global ERS or attachment anxiety (see Table 3). Moreover, the simultaneous introduction into a regression analysis of ERS, attachment anxiety, and attachment avoidance as predictors of one's own relationship quality revealed that only attachment avoidance made a significant unique contribution in both sexes ( $\beta = -.78$ ,  $p < .01$ , for men,  $\beta = -.68$ ,  $p < .01$ , for women). As in Study 1, gender differences were observed when partner's ERS scores, the participant's own perception of that ERS, and the partner's attachment scores were introduced into the regression as additional predictors of a person's reported relationship quality. For men, only their own avoidant attachment and the partner's avoidant attachment contributed negatively to relationship quality ( $\beta$  of  $-.66$  and  $-.31$ ,  $p_s < .01$ ). For women, three variables were found to make significant and unique contributions to relationship quality: their own avoidant attachment ( $\beta = -.57$ ,  $p < .01$ ),

partner's avoidant attachment ( $\beta = -.32, p < .01$ ), and their perception of their partner's ERS ( $\beta = -.24, p < .05$ ). Again, as in Study 1, a significant association was found between women's attachment avoidance and their perception of their partner's ERS ( $r = .38, p < .01$ ).

Sixth, global reports of relationship quality did not mediate the associations between global reports of attachment anxiety or ERS and depression. In fact, participant's own and partner's relationship quality scores were not significantly associated with either depression or ERS for men or women (see Table 3). Furthermore, when we simultaneously introduced ERS, attachment scores, and either or both partner's relationship quality into hierarchical regression analyses predicting depression, we found that relationship quality did not contribute significantly to depression and did not notably change the significant unique contribution of attachment anxiety to depression. For women, the beta coefficients for anxiety, after either or both relationship quality variables were introduced, ranged from .59 to .64, not much different from the beta for anxiety before these variables were introduced (.67). For men, the parallel betas for anxiety ranged from .26 to .31 with either or both relationship quality variables included in the equation, not much different from the beta coefficients before the quality variables were introduced (.31). Seventh, regression analyses predicting global ratings of relationship quality from the interaction between a partner's global depression and ERS revealed no significant interactions for either sex.

*Association between self-reported and partner-perceived daily reassurance seeking.* The examination of daily reports of reassurance seeking (RS) revealed that the average correlations for couples across days were high: .59 ( $r$ s ranging from .39 to .82) for the association between men's self-reported daily RS and women's daily perception of this behavior; .62 ( $r$ s ranging from .38 to .85) for the association between women's self-reported daily RS and men's daily perceptions of this behavior. Thus, reassurance seeking was observable on a daily basis.

*The association between attachment anxiety and daily reassurance seeking.* In examining the association between attachment anxiety and RS at the daily level, we considered not only the simple association between the two variables but also the possible strategic use of daily RS as a reaction to relationship worries, such as those aroused by dyadic conflict. Specifically, we examined the main and interactive effects on daily RS of dispositional factors (attachment anxiety and avoidance) and a situational factor (daily reports of dyadic conflict). Because these variables reside at two levels, global and daily, their associations were examined using hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992).

At the lower of the two levels we included daily variations in dyadic conflict and reassurance seeking, variables nested within individuals. Specifically, we looked at the contribution of a participant's dyadic conflict and RS on a particular day to his or her reassurance seeking the next day. We included RS on the previous day so that we could assess the unique contribution of dyadic conflict to RS the following day. In other words, we assessed the effect of dyadic conflict on one day to changes in RS from that day to the next.

At the upper level of the two-level model we included attachment anxiety and avoidance. At this level, we examined the contribution of attachment style to variations in (a) daily reports of RS and (b) day-level associations between dyadic conflict on one day and changes in RS from that day to the next. To facilitate interpretation of the results, variables at the upper, or global, level (attachment anxiety and avoidance) were transformed into z scores and variables at the lower, or daily, level were centered, for each participant, around their means.

In hierarchical linear modeling, the two levels of the analysis are addressed simultaneously in a hierarchically nested data set, which in our case nested day-level variables within persons. This procedure provides independent coefficients for the associations among constructs at the lower level (e.g., within-person associations between dyadic conflict on a given day and changes in RS from that day to the next) and models them at the upper level (between-persons effects of attachment orientation) using maximum likelihood estimation. These analyses were performed separately for men and women because couple members' scores could not be considered independent.

The day-level (lower level) analysis predicted RS on a specific day from RS and dyadic conflict the previous day using the following equation:

$$RS_{ij} = b_{0j} + b_{1j} RS_{i-1j} + b_{2j} DC_{i-1j} + e_{ij} \quad (1)$$

where  $RS_{ij}$  refers to an individual's report of RS on a given day (i.e., the  $i$ th day for the  $j$ th participant);  $b_{0j}$  refers to that individual's average RS across all the assessment days;  $RS_{i-1j}$  and  $DC_{i-1j}$  refers to the reports of RS and dyadic conflict by that individual on the previous day (the  $i$ th day minus 1);  $b_{1j}$  and  $b_{2j}$  are regression coefficients indicating the degree of change in RS on a given day produced by a one-unit change in RS and dyadic conflict the previous day; and  $e_{ij}$  is error.

In examining global- or person-level (upper level) effects, we computed constant ( $b_{0j}$ ) and slope terms ( $b_{1j}$ ,  $b_{2j}$ ) for each participant. The constant term (or intercept) for each participant,  $b_{0j}$ , is represented as follows:

$$b_{0j} = a_0 + a_1 \text{ANX}_j + a_2 \text{AVO}_j + u_{0j} \quad (2)$$

where  $a_0$  refers to the sample-wide mean RS score across all the assessment days;  $\text{ANX}_j$  and  $\text{AVO}_j$  are a participant's attachment anxiety and avoidance scores;  $a_1$  and  $a_2$  are regression coefficients indicating the degree of change in a participant's mean RS (across all the assessment days) produced by a one-unit change in that person's attachment anxiety or avoidance; and  $u_{0j}$  is error.

The slope of the association between RS on a given day and RS the next day for each group,  $b_{1j}$ , is as follows:

$$b_{1j} = c_0 + c_1 \text{ANX}_j + c_2 \text{AVO}_j + u_{1j} \quad (3a)$$

where  $c_0$  represents the average effect of RS on a given day on RS the next day for the entire sample (across participants);  $\text{ANX}_j$  and  $\text{AVO}_j$  are a participant's attachment anxiety and avoidance scores;  $c_1$  and  $c_2$  are regression coefficients indicating the degree of change in the slope of the association between RS on a given day and RS the next day produced by a one-unit change in the participant's attachment anxiety or avoidance; and  $u_{1j}$  is error.

The slope of the association between dyadic conflict on a given day and RS the next day for each participant,  $b_{2j}$ , is as follows:

$$b_{2j} = d_0 + d_1 \text{ANX}_j + d_2 \text{AVO}_j + u_{2j} \quad (3b)$$

where  $d_0$  represents the average effect of dyadic conflict on a given day on RS the next day for the entire sample;  $\text{ANX}_j$  and  $\text{AVO}_j$  are a participant's attachment anxiety and avoidance scores;  $d_1$  and  $d_2$  are regression coefficients indicating the degree of change in the slope of the association between reported dyadic conflict on a given day and RS the next day produced by a one-unit change in attachment anxiety or avoidance; and  $u_{2j}$  is error.

These equations allowed us to answer questions at both the daily and global (person) levels. The day-level question, "Did reports of RS and dyadic conflict on a given day make a unique contribution to reports of RS the next day within a participant?" was assessed by the sample-average slopes,  $c_0$  and  $d_0$ , from equations 3a and 3b. The person-level question, "Did participants' attachment anxiety and avoidance make unique contributions to their average daily RS across the assessment period?" was assessed by the intercept terms,  $a_1$  and  $a_2$ , from equation 2. A third question was asked about the interaction between upper and lower levels: "Did the day-level association between RS and dyadic conflict on a given day and RS the next day vary in magnitude as a function of attachment anxiety and avoidance?" The terms  $c_1$ ,  $c_2$ ,  $d_1$ , and  $d_2$  in equations 3a and 3b provided the answer to this question. These terms reflect the interactions between attachment scores and RS or dyadic conflict on a given day as predictors of RS the next day, that is, whether

**TABLE 4: HLM Coefficients Predicting Women's and Men's Daily Reports of Reassurance Seeking From Day-Level and Person-Level Variables**

Effect	Women's Daily ERS	Men's Daily ERS
Daily (previous-day) variables		
Reassurance seeking	-0.07	-0.01
Dyadic conflict	0.23*	0.15*
Person-level variables		
Attachment anxiety	0.25**	0.33**
Attachment avoidance	0.02	-0.11
Interaction effects		
Anxiety × Reassurance Seeking	0.02	-0.01
Anxiety × Dyadic Conflict	0.03	0.16*
Avoidance × Reassurance Seeking	-0.04	0.01
Avoidance × Dyadic Conflict	-0.03	0.01

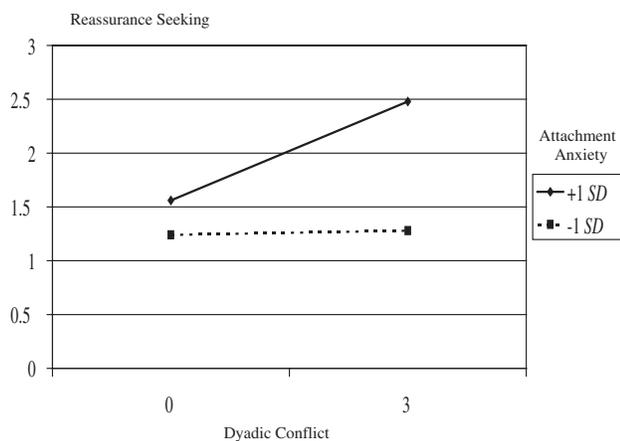
NOTE: ERS = excessive reassurance seeking.

\* $p < .05$ . \*\* $p < .01$ .

participants' attachment scores were associated with the slope of day-level associations between dyadic conflict and RS.

For women, the HLM analysis revealed that both day-level and person-level variables contributed significantly to daily RS (see Table 4). At the day level, reports of dyadic conflict on a given day contributed significantly and uniquely to changes in RS between that day and the next: The higher a woman's reports of dyadic conflict on a given day, the more reassurance she sought from her romantic partner the next day. The unique effect of previous-day reports of reassurance seeking was not significant. At the person level, attachment anxiety made a significant unique contribution to daily RS reports: The higher a woman's attachment anxiety, the higher her daily tendency to seek reassurance from her romantic partner. Attachment avoidance did not contribute significantly and none of the interactions between attachment avoidance or anxiety and reassurance seeking or dyadic conflict were significant (see Table 4).

For men, the HLM analysis also revealed that both day-level and person-level variables contributed significantly to daily RS (see Table 4). At the day level, reports of dyadic conflict on a given day contributed significantly and uniquely to changes in RS between that day and the next: The higher a man's reports of dyadic conflict on a given day, the more reassurance he sought from his romantic partner the next day. The unique effect of previous-day RS was not significant. At the person level, only attachment anxiety made a significant unique contribution to daily RS: The higher a man's attachment anxiety, the higher his daily tendency to seek reassurance from his romantic partner. Avoidance did not contribute significantly to RS. Of interest, the interaction between attachment anxiety and daily dyadic conflict



**Figure 1** Excessive reassurance seeking (ERS) on a given day as a function of dyadic conflict the previous day separately for two values of men's attachment anxiety, one standard deviation above the mean and one standard deviation below.

was also significant for men (see Table 4). No other interactions were significant.

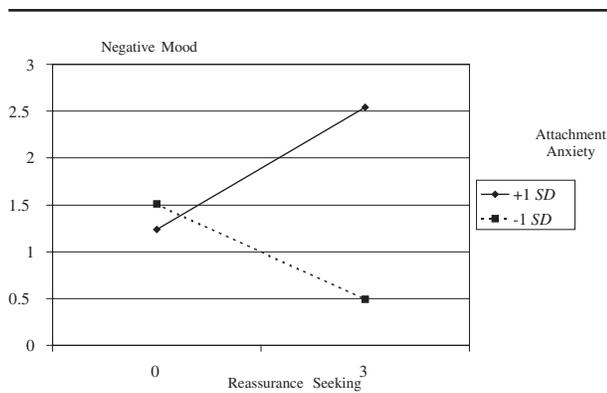
To examine the significant interaction, we followed Aiken and West's (1991) suggestions and computed regression slopes for changes in RS on a given day as a function of dyadic conflict the previous day. The slopes were computed separately for two values of participants' attachment anxiety: one standard deviation above the anxiety mean and one standard deviation below (see Figure 1). The slope of changes in RS on a given day regressed on dyadic conflict the previous day was positive and significant when attachment anxiety was one standard deviation above the mean ( $b$ , the regression coefficient used in HLM, was .32,  $p < .01$ ) but not when it was one standard deviation below the mean,  $b = -.01$ . In other words, the higher a man's attachment anxiety, the stronger the positive association between dyadic conflict on a given day and changes in RS between that day and the next.

Overall, the findings indicate that global reports of attachment anxiety were strongly associated for both sexes with average daily reports of RS across 14 days. In addition, the diary data provided support for the hypothesized use of daily RS as a strategy for dealing with relationship doubts and anxieties. For women, this strategic, day-level use of RS seemed to be relatively independent of attachment style. But for men, strategic use of RS was associated with attachment anxiety. Specifically, among anxiously attached men, variations in daily RS were a function of the level of dyadic conflict the previous day. Among men low in attachment anxiety, daily RS did not significantly track dyadic conflict the previous day.

*The contribution of attachment anxiety and ERS to daily negative mood.* In testing the unique contributions of attachment anxiety and ERS to day-level dysphoric mood, we examined the unique and interactive contributions of two dispositional factors, global attachment and ERS scores, and a contextually influenced variable, daily RS, to daily variations in negative mood. For this purpose, we conducted a series of HLM analyses separately for men and women. At the day level of these analyses, we examined the contribution of negative mood and RS on a given day to a person's reported negative mood the next day. We included negative mood on the previous day so that we could determine the unique contribution of RS to negative mood the next day, controlling for negative mood the previous day. In other words, we examined the contribution of RS on a given day to changes in negative mood from that day to the next. At the global or person (i.e., upper) level of the analysis, we examined the unique contribution of global attachment dimensions and ERS to (a) daily reports of negative mood and (b) day-level associations between RS on a given day and mood changes between that day and the next. The details of these HLM procedures were identical to those reported in the previous section.

For men, the HLM analysis revealed only a significant person-level effect of attachment anxiety,  $b = 0.97$ ,  $p < .05$ . The higher a man's attachment anxiety, the more negative his daily mood across the assessment period. No other main or interactive effect was significant. That is, neither global ERS nor daily RS significantly explained daily changes in negative mood. For women, the HLM analysis also revealed a significant person-level effect of attachment anxiety,  $b = 1.04$ ,  $p < .05$ . Again, the higher a woman's attachment anxiety, the more negative her daily mood across the assessment period. In addition, for women, the interaction between attachment anxiety and RS on a given day significantly predicted changes in negative mood the next day,  $b = 1.02$ ,  $p < .05$ . No other interactions were significant.

To examine the significant interaction, we computed regression slopes for daily changes in negative mood as a function of RS the previous day. The slopes were computed separately for two values of participants' attachment anxiety, one standard deviation above the mean and one standard deviation below (see Figure 2). When women's attachment anxiety was one standard deviation above the mean, the slope of the regression line was positive and significant,  $b = 0.96$ ,  $p < .05$ . When anxiety was one standard deviation below the mean, however, the slope of the regression line was significantly negative,  $b = -1.11$ ,  $p < .01$ . In other words, for highly anxious women, reassurance seeking on a given day was associated with a more negative mood the next day, compatible with Joiner et al.'s (1999) analysis. But for relatively non-



**Figure 2** Negative mood on a given day as a function of reassurance seeking the previous day separately for two values of women's attachment anxiety, one standard deviation above the mean and one standard deviation below.

anxious women, the result of reassurance seeking was actually positive: Reassurance seeking on a given day was associated with a relative decrease in negative mood the next day. This suggests that there are relatively secure and insecure versions of reassurance seeking, perhaps only one of which, the insecure version, is "excessive" (or psychologically damaging in some other way).

Overall, the daily assessment of participants' negative mood across a period of 14 days revealed that (a) only trait-like attachment anxiety, but not ERS, had a significant effect on negative mood, for both men and women, and (b) the effect of daily RS on negative mood the next day, at least for women, depended on dispositional attachment anxiety. For anxious women, the findings supported Joiner et al.'s (1999) view of a dysfunctional tendency. However, for less anxious women, daily RS had a positive effect on next-day mood, suggesting that there is a normal or secure form of reassurance seeking following conflict and that more secure (less anxious) women use it as a context-specific strategy but do not use it to the point where it might be viewed as "excessive."<sup>2</sup>

*ERS and relationship quality.* To examine the contribution of attachment scores and ERS to daily variations in relationship quality, we conducted a series of HLM analyses separately for men and women. At the daily level, we examined the contribution of a person's own RS and his or her partner's RS on one day to the person's relationship quality the next day. Again, we introduced relationship quality on the previous day to determine the unique individual and dyadic contributions of RS to relationship quality on the next day, after controlling for prior-day quality. At the upper (person) level of the analysis, we examined the unique contribution of the participant's and partner's attachment and ERS scores to (a)

the participant's daily reports of relationship quality and (b) day-level individual and dyadic associations between RS on one day and changes in relationship quality between that day and the next. The details of the HLM procedures were identical to those reported in previous sections.

The results were the same for men and women. For men, the HLM analysis revealed significant person-level effects of both a participant's own avoidance,  $b = -.30$ ,  $p < .01$ , and the partner's avoidance,  $b = -.28$ ,  $p < .01$ . For women, the HLM analysis also revealed significant person-level effects of both own avoidance,  $b = -.17$ ,  $p < .05$ , and partner's avoidance,  $b = -.19$ ,  $p < .05$ . That is, the higher a participant's own avoidance and the higher the partner's avoidance, the lower the participant's daily relationship quality across the assessment period. For neither men nor women did the global anxiety and ERS scores (of either participant or partner) contribute significantly to daily variations in relationship quality. Moreover, daily reports of participant's and partner's RS did not significantly affect day-to-day changes in relationship quality, and neither were these changes explained by interactions between global attachment or ERS and daily RS. (This absence of significant effects of attachment anxiety and ERS also was noted when attachment avoidance was not statistically controlled in the HLM analyses.) That is, daily reports of relationship quality were exclusively related to one or both partner's attachment avoidance, not to anxiety or ERS. These findings fit with those of Study 1 and indicate that relationship quality has more to do with attachment avoidance than with ERS or attachment anxiety.<sup>3</sup>

*The mediation of relationship processes.* To examine the mediational role of relationship quality in the diary data, we conducted a series of HLM analyses separately for men and women. At the daily level, we examined the contribution of a participant's own relationship quality on a specific day to his or her negative mood the next day. Again, we introduced negative mood on the prior day so that we could examine the unique contribution of relationship quality to negative mood the next day, controlling for negative mood the prior day. At the upper (person) level of the analyses, we examined the unique contribution of attachment anxiety and avoidance, ERS, and a participant's relationship quality to (a) daily reports of negative mood and (b) day-level associations between relationship quality on a given day and changes in negative mood between that day and the next. The details of these HLM procedures were identical to those reported in previous sections.

For men, the HLM analysis revealed only a significant person-level effect of attachment anxiety on daily reports of negative mood,  $b = 0.94$ ,  $p < .05$ , similar to that

obtained before the introduction of relationship quality into the equation ( $b = .97$ ). No other effects were significant. For women, the HLM analysis also revealed a significant person-level effect of attachment anxiety,  $b = 0.99$ ,  $p < .05$ , similar to that obtained before the introduction of relationship quality into the equation ( $b = 1.04$ ). Again, no other effects were significant. We conducted parallel analyses using partner's quality rather than the person's own quality (not reported here, to save space) and the pattern of results was the same. These findings replicated those for global depression in Study 2 and fit well with the results of Study 1. For both sexes, global depression and daily negative mood were predicted exclusively by attachment anxiety, and this association could not be explained by either partner's relationship quality.<sup>4</sup>

*Conclusions.* As in Study 1, the results of Study 2 provided little support, at either the global or the daily level, for the interactional theories of depression advanced by Coyne (1976) and Joiner et al. (1999). Global ratings of depression and daily ratings of negative mood were associated mainly with attachment anxiety, and both global ERS and daily RS appeared to be facets of attachment anxiety or relational strategies generated by it. Global and daily ratings of relationship quality were mainly associated with attachment avoidance, which played little role in generating depression. In addition, the diary data revealed that daily RS seems to be a reaction to dyadic conflict and to have a beneficial effect on the mood of relatively low anxious women and a detrimental effect on the mood of attachment-anxious women. Overall, both studies indicated that, at least in relatively young, unmarried couples, depression is more a matter of individual psychology than of relational processes.

#### GENERAL DISCUSSION

Taken together, these two studies contribute substantially to our understanding of attachment style, reassurance seeking, relationship quality, and depression. While challenging Joiner et al.'s (1999) provocative interpretation of the relation between ERS, relationship quality, and depression, the results show that the ERS construct can be assimilated into attachment theory because of its considerable overlap with the construct of anxious attachment and that reassurance seeking can be either anxious or nonanxious, with correspondingly different effects on mood. Pursuing Joiner et al.'s (1999) ideas led us to examine relationship processes at a daily level, which revealed interesting effects of attachment style on daily couple functioning and partners' emotional states.

Several hypotheses and research questions were addressed in the two studies, at the global level and a single

time point in Study 1 and at both global and daily levels throughout a 14-day period in Study 2. Our first hypothesis was that ERS and partner's observations of ERS would be correlated because ERS is real and noticeable. Our results strongly and consistently supported this hypothesis for both sexes in both studies and at both global and daily levels of analysis. As discussed below, however, noticing one's own or one's partner's ERS did not generally lead to relationship dissatisfaction.

The second hypothesis was that ERS would be correlated with attachment anxiety, supporting our and Brennan and Carnelley's (1999) contention that ERS is an aspect of this form of attachment insecurity. The results consistently supported this hypothesis for both men and women at the global level. In Study 2, attachment anxiety also was significantly associated with daily reports of reassurance seeking in both sexes. The third hypothesis was that both ERS and attachment anxiety would be associated with depression, as reported in previous studies. The results supported this hypothesis and revealed that attachment anxiety is even more highly correlated with depression than is ERS. The fourth hypothesis was that the effect of ERS on depression would be insignificant in a regression analysis containing both ERS and anxiety as predictors. This hypothesis was strongly supported.

We also asked whether the relation between attachment anxiety and depression is mediated by either partner's relationship quality, which it should be if Joiner et al.'s (1999) relational view of depression is correct. Regression analyses produced results incompatible with this mediational hypothesis. Instead, relationship quality appeared to be a function of attachment avoidance. Across both studies and both sexes, the correlations between a person's own avoidance and his or her relationship quality were strongly negative, as were correlations between the person's own avoidance and his or her partner's reported relationship quality. When relationship quality was predicted in a regression analysis from a combination of own avoidance, own ERS, and own attachment anxiety, only own avoidance contributed significantly (and strongly) to the equation. When relationship quality was predicted from partner's avoidance and one's own anxiety and ERS, only partner's avoidance mattered.

The lack of a significant association between individuals' ERS and relationship quality is critical for the relational view of depression and may suggest that the samples we studied were not comparable with the ones Joiner et al. relied on when constructing their theoretical model. As reviewed earlier, however, Joiner's research group generally studied college students, too. Like us, they also studied mainly people who were not clinically depressed. Surprisingly, Joiner's group did not

generally measure relationship quality, although their theory included the idea that ERS causes problems in relationships. Having obtained essentially identical results in our two studies, we feel confident that relationship quality is not a mediating variable in the process discussed in Joiner et al.'s papers.

In Study 2, we were able to examine processes of interest at the daily level using diary reports. The results indicated that women's daily reassurance-seeking behavior was a joint function of dispositional attachment anxiety and recent conflict with partner, with no significant interaction between the two determinants. For men, both attachment anxiety and recent conflict appeared to influence reassurance seeking, and the two variables interacted such that conflict with partner led to reassurance seeking only for relatively attachment-anxious men. We also examined the joint effects of reassurance seeking and attachment anxiety on subsequent negative mood in search of a process at the daily level similar to what Joiner et al. (1999) hypothesized. For men, only attachment anxiety predicted daily negative mood; reassurance seeking on one day did not increase dysphoria the next day. For women, there was also a main effect of attachment anxiety on dysphoria as well as an interaction between attachment anxiety and reassurance seeking on the prior day: More anxious women became more dysphoric after engaging in reassurance seeking but less anxious women actually became less dysphoric following such behavior. In other words, seeking reassurance had a positive rather than a negative effect on women who were not attachment anxious. Future research should examine more closely whether anxious and nonanxious women seek reassurance differently, feel differently about themselves when they seek reassurance, or evoke different reactions in their partners when they seek reassurance. We were not able to pin down those details in Study 2.

Hierarchical analyses in Study 2 also revealed that when ERS and attachment avoidance were considered as joint predictors of daily relationship quality, only one's own and one's partner's avoidance contributed to daily dissatisfaction; ERS had no unique effects. Moreover, when anxiety, avoidance, reassurance seeking, and daily relationship quality were considered as predictors of subsequent daily dysphoria, only attachment anxiety mattered. There were no main or interaction effects of relationship dissatisfaction or reassurance seeking.

Our results differ from those reported by Davila (2001), who found that ERS accounted for depressive symptoms above and beyond attachment anxiety. Methodological differences between our studies and hers may account for the discrepancies. We studied undergraduate students who were currently involved in romantic relationships and both members of each couple partici-

pated in our research. In Davila's first study, she gave no information about participants' relationship status; in her second study, she preselected participants based on signs of early romantic dysfunction and psychopathology (73% of her sample endorsed relevant risk factors and 72% were not involved in a romantic relationship). One possibility is that in such a troubled sample, ERS contributes to depression beyond attachment anxiety. A second methodological difference concerns the measurement of ERS. In our studies, participants were asked to focus on their current relationship and to rate the extent to which they seek reassurance from their partner in that relationship. In Davila's (2001) studies, participants were asked to rate the extent to which they seek reassurance from close others, without specifying type of relationship. Perhaps global, pan-relational assessments of ERS are more strongly associated with depression than relationship-specific assessments.

We observed a number of interesting but unpredicted gender differences that would be worth examining in future studies. In both of our studies, women's relationship quality was lowered by their perceptions of their partners' ERS (independent of his ERS report), and this was especially true for avoidant women. There was no similar effect of men's perceptions of their partners' ERS on the men's relationship quality. This may have happened because gender-role expectations, including the expectation that men will not excessively seek reassurance, colored women's (especially avoidant women's) evaluations of their male partners' behavior. There have been hints of this kind of sex difference in previous studies. For example, Kirkpatrick and Davis (1994) found that couples in which the man was avoidant and the woman was anxious were relatively stable, although not very happy. But there were no long-term couples in which the man was anxious and the woman avoidant, suggesting that avoidant women might not put up with men's anxious behavior. Whatever the nature of this gender-related process, it did not result in male depression in our studies because women's relationship dissatisfaction was not associated with men's depression.

In Study 2, men's attachment anxiety moderated the effects of one day's relationship conflict on the next day's reassurance seeking. For women, there was no such moderation; instead, conflict led to reassurance seeking regardless of attachment anxiety. Thus, it seems possible that gender-role expectations keep men's reassurance seeking in check, except in the case of attachment-anxious men. One other effect was notable: Reassurance seeking seemed to make anxious women feel worse emotionally but it had no such effect on secure women. Thus, whereas reassurance seeking was a normative response for women following relational conflict, perhaps because it fit with sex-role expectations, and a response

that yielded emotional benefits for nonanxious women, it had damaging effects on anxious women's feelings. Thus, anxious women may think differently about behavior that nonanxious women find acceptable and beneficial. The reasons for this difference remain to be discovered. It is still unclear whether the process is completely intrapsychic or whether it depends on some aspect of partners' reactions that we did not measure. If so, this reaction does not seem to affect partner satisfaction.

Before interpreting our results theoretically, we should consider limitations of our methods. First, the study participants were university students involved in fairly long-term relationships (more than a year in most cases), but they were not married.<sup>5</sup> Therefore, it is possible that the processes discussed by Joiner et al. (1999) had not yet had time to take their toll. Perhaps excessive reassurance seeking will eventually cause some of these relationships to fail, which in turn might increase the tendency of some of the reassurance seekers to become depressed. We examined possible moderating effects of relationship length and found no evidence that it mattered, but the study may not have been sufficiently extended in time to detect relationship changes. This is a worthy topic for future research. Second, it is likely that few of our subjects were truly (i.e., clinically) depressed. The CES-D depression scale (Radloff, 1997) was designed for community surveys, and in samples like ours, it may measure mild or moderate dysphoria rather than serious depression. Our results might have been different if we had focused on seriously troubled adults, a possibility that deserves future study.

Third, all of our analyses were based on self-report measures rather than behavioral observations. In the domains of dysphoria and relationship dissatisfaction, this may not be a serious problem because both states are subjective. Moreover, the high correlations between self-reports of ERS and partners' reports of observed ERS indicate that the study participants' reports of their own behavior corresponded well with what their partners could see. Still, it would be worthwhile to study some of the dynamics we explored using observational methods of the kind pioneered by Gottman (e.g., 1994).

Fourth, many of our analyses were correlational rather than causal. Because of our theoretical orientation and previous experience with attachment theory and attachment measures, we conceptualized attachment anxiety and avoidance as dispositional determinants of ERS, relationship quality, and dysphoria. It would be worthwhile to study the same processes over a longer period to see whether depression can heighten attachment anxiety and relationship dissatisfaction can increase avoidance. Still, many studies have documented relatively high temporal stability in attachment scores over periods of months or years. Until someone shows

that the causal pathways are opposite to the ones we have hypothesized and actually verified in our diary study, it seems reasonable to characterize attachment anxiety and avoidance as dispositions.

Our results suggest that future studies should be conducted to examine causal pathways from anxious attachment to depression. We (e.g., Mikulincer & Shaver, 2003) have shown that most, if not all, of the many attachment studies published to date are compatible with the theoretical notion that anxious attachment involves hyperactivation of the attachment system. Such hyperactivation encourages a person to view and present himself or herself as needy, vulnerable, and incapable of coping autonomously. It is easy to see how this orientation, which is (theoretically speaking) designed to capture the attention and support of relationship partners, also could cause a person to slide downward toward depression. Not only does anxious attachment involve negative models of self, as Bartholomew and Horowitz (1991) have shown, but it uses negative self-characterizations to draw support from what are perceived to be insufficiently attentive attachment figures. This strategy may leave a person open to demoralization, severe self-devaluation, and eventually, depression. That is, attachment anxiety may lead to depression mostly through intrapsychic rather than interpersonal processes. In the present study, daily conflicts resulted in subsequent dysphoric affect only for attachment-anxious men, and reassurance seeking resulted in dysphoric affect only for attachment-anxious women. Daily conflict did not lead to dysphoria in nonanxious men, and reassurance seeking did not lead to dysphoria in nonanxious women.

Theoretically, avoidant attachment, or deactivation of the attachment system, is also strategic. Avoidance involves deliberate (although not necessarily conscious) down-regulation of attachment feelings and behaviors. One way to accomplish this down-regulation is to distance oneself from one's partner, criticize the partner (either explicitly or mentally), and keep one's options open for other relationships, including short-term sexual affairs—all processes that have been empirically associated with avoidant attachment (see Mikulincer & Shaver, 2003; Schachner & Shaver, 2002). It is easy to imagine how these maneuvers might both stem from and contribute to relationship dissatisfaction—one's own and that of one's partner. It is important to note that although the current findings suggest that attachment anxiety but not avoidance is associated with depression, avoidance might still lead to depression under certain circumstances, such as when avoidant people are stressed and unable to defend themselves successfully from threats and stressors. It may be that the kinds of conflicts experienced during our 2-week diary study, and

even the reassurance-seeking behavior of their partners, were not sufficiently severe as stressors to exceed avoidant individuals' defensive capacities.

In our two studies, we obtained evidence for both anxious hyperactivation and avoidant deactivation of the attachment system. The former process seems to increase a person's vulnerability to depression, whereas the latter process contributes to both partners' relationship dissatisfaction. At least in the kinds of relationships we studied, the two processes are essentially independent. Reassurance seeking is evidently a relational strategy used by anxious individuals to their emotional detriment and used, at least occasionally, by nonanxious people with good results. Further research will be needed to define more precisely what is excessive about excessive reassurance seeking and what role it plays in generating depression.

#### NOTES

1. Both attachment variables were included in the analysis because we were adhering to a model of attachment styles involving two orthogonal dimensions, but the results were essentially the same regardless of whether avoidance was included in the analysis. This was also the case in every other analysis we report. In neither study reported here were there cases in which the results were meaningfully different when the attachment variables were considered singly rather than as a pair.

2. The inclusion of partner's scores on excessive reassurance seeking (ERS), attachment anxiety, and attachment avoidance as additional predictors in the analyses of global depression and daily negative mood did not change the findings reported here. Furthermore, these variables made no significant unique contributions to participants' depression and negative mood and did not significantly interact with participants' own ERS and attachment scores.

3. The inclusion of perceptions of partner's ERS as an additional predictor in the hierarchical linear modeling (HLM) analyses of daily negative mood and daily relationship quality did not change the findings reported here. Furthermore, this variable made no significant unique contribution to participants' negative mood or relationship quality ratings and did not significantly interact with participants' ERS and attachment scores.

4. HLM analyses predicting daily ratings of relationship quality from the interaction between a partner's global depression or daily negative mood and a partner's global ERS or daily RS revealed no significant interactions for either sex. This lack of significant interactions replicated the findings of Study 1.

5. We entered relationship length as a predictor in the regression equations and found that it had no effects and did not interact with any of the other independent variables. We also reran the analyses using only participants who had been dating for more than 3 months and the patterns of results did not change.

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