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Do you *really* love me?: An experimental investigation of reassurance seeking and interpersonal rejection

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RUNNING HEAD: DO YOU *REALLY* LOVE ME?

DO YOU *REALLY* LOVE ME?: AN EXPERIMENTAL INVESTIGATION OF
REASSURANCE SEEKING AND INTERPERSONAL REJECTION

A Thesis

Submitted to Dr. Edward P. Lemay Jr. of the
Psychology Department of the University of New Hampshire
in partial fulfillment of the requirements
for honors in psychology

by

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Abstract

The authors conducted an experiment to test the interpersonal model of depression (Coyne, 1976), and specifically the link between excessive reassurance seeking (ERS) and rejection. The present study involved college-aged romantic couples. Some participants were then manipulated into perceiving that their partner was seeking reassurance from them. Results support the main tenets of Coyne's (1976) theory. Participants reported increased frustration and reduced felt closeness to dysphoric partners when they were led to believe that their partners were engaging in ERS. Effects on frustration were moderated by partners' depression, while effects on felt closeness were partially mediated by frustration, yielding a mediated moderation model. Alternative explanations were not supported. Clinical and theoretical implications are discussed.

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Introduction

Prior to Coyne's (1976) publication of his interpersonal theory of depression, researchers and theorizers assumed that the causes and consequences of depression were strictly within the individual, with no sizeable influence from the environment (Allport, 1960; Ruesch, 1962; Grinker, 1964; Beck, 1964; Beck, 1967; Miller, 1971). However, in his interpersonal model Coyne (1976) posited that not only is the depressed person a recipient of influence from the environment, but that this influence is reciprocal in that the depressed person creates a dysphoric environment that supports and exacerbates the individual's depression. It is important to note that even as early as 40 years before Coyne (1976) emphasized the importance of the interpersonal on depression, researchers were already beginning to note the importance of human connection (Mead, 1934) and how an individual's interactions with others may be directly related to the development and maintenance of psychopathology (Sullivan, 1953).

Coyne's (1976) interpersonal theory of depression states that depressed or mildly dysphoric individuals attempt to placate their feelings of worthlessness and distress by appealing to close interpersonal partners to provide them with reassurance that they are lovable and worthy. Initially partners will provide the requested reassurance, however the depressed individuals doubt the authenticity of this feedback and deem their partner's reassuring behavior as a pity response, or felt obligation to provide such reassurance (Joiner, Metalsky, Katz, & Beach, 1999b). Although the potentially depressed individuals doubt the sincerity of the provided support, their need for additional reassurance predominates their authenticity doubts, ergo setting into motion a repetitive pattern of reassurance-seeking behavior and subsequent doubt of their partner's response. As the reassurance-seeking behavior becomes excessive, the partners of depressives become increasingly annoyed and frustrated, ultimately culminating in the rejection

of the depressed person. As their interpersonal environment becomes progressively disrupted and limited, dysphoric symptoms are exacerbated and the onset or worsening of depression occurs (for supporting research see, Benazon, 2000; Haeffel, Voelz, & Joiner, 2007; Hammen & Peters, 1978; Joiner, Alfano, & Metalsky, 1992; Joiner, 1994; Joiner & Metalsky, 1995; Joiner, Metalsky, Katz, & Beach, 1999a; Katz, Beach, & Joiner, 1998; Starr & Davila, 2008).

Excessive Reassurance Seeking

A number of research programs have stemmed from this interpersonal model of depression, including the work of Joiner and colleagues (Joiner, Alfano, & Metalsky, 1992; Joiner & Metalsky, 1995; Joiner, Metalsky, Katz, & Beach, 1999a; Joiner, Metalsky, Katz, & Beach, 1999b), who have identified excessive reassurance seeking (ERS) as an important component of depressed individuals' interpersonal relationships. Research delineating the role of ERS in depression and interpersonal rejection has provided strong support for the theorizing of Coyne (1976) and Joiner (1999). Over the past two decades researchers and theorists have provided support for ERS as a moderator between depression and rejection (Evraire & Dozois, 2011; Joiner, Alfano, & Metalsky, 1992; Joiner, Metalsky, Katz, & Beach, 1999a; Joiner, Metalsky, Katz, & Beach, 1999b; Starr & Davila, 2008), as a risk factor for developing depression (Joiner & Schmidt, 1998; Joiner & Metalsky, 2001; Katz, Beach, & Joiner, 1998; J. G. Potthoff, Holahan, & Joiner, 1995), as a mediator of depression contagion (Joiner, 1994; Joiner, Metalsky, Katz, & Beach, 1999a; Joiner, Metalsky, Katz, & Beach, 1999b), and as a behavioral facet of insecure attachment (Brennan & Bosson, 1998; Davila, 1999; P. R. Shaver, Schachner, & Mikulincer, 2005).

ERS as a Moderator between Depression and Rejection

In the earliest study examining the possible moderating role of ERS in the depression-rejection relationship, Joiner and colleagues (1992), examining same-sex college roommates, found strong support for the moderation model, however the effect was limited to male roommate pairs. In line with their predictions, they did find that mildly depressed men (but not women) with low self-esteem and who strongly sought reassurance were significantly more rejected by their roommates than their low reassurance seeking or nondepressed counterparts. Joiner and colleagues (1992) attributed this gender bias to societal gender norms, whereby, men are expected to withhold emotional disclosures and any displays of weakness. In contrast, it seems more acceptable for women to rely on others in times of emotional turmoil.

Additional studies (T. E. Joiner, Alfano, & Metalsky, 1992; T. E. Joiner & Metalsky, 1995; Katz & Beach, 1997) have consistently found that nondepressed partners (hereafter referred to as actors) only devalue depressed partners (hereafter referred to as simply the partner) when they exhibit high amounts of reassurance seeking behavior. Starr and Davila (2008), through a meta-analysis, synthesized the findings from the growing body of research regarding the relationship between ERS, depression, and interpersonal rejection. Starr and Davila found relatively weak effect sizes when examining the predictive nature of ERS on rejection; however, a slightly stronger effect was found in samples composed of romantic dyads ($r = .14$ and $r = .17$, respectively, $p < .001$).

Finally, Starr and Davila (2008) found support for Joiner and colleagues' (Joiner, Alfano, & Metalsky, 1992; Joiner & Metalsky, 1995) assertion of a significant gender bias in the depression-rejection relationship. Their data suggested that the depression-ERS link may be especially strong in women (but not men), while the ERS-rejection link may be especially strong

for men (but not women). Previous studies have demonstrated that a specific risk or precipitating factor of depression that is especially characteristic of women is interpersonal conflict due to ERS (Rudolph et al., 2000; Rudolph, 2002). Societal gender norms allow for women to seek affectively pleasing reassurance, therefore they are less likely to be rejected because of reassurance-seeking; however, men who overtly express emotions and are dependent are not consonant with societal gender norms and therefore, these men elicit more rejection from interpersonal partners (Rudolph & Conley, 2005).

What makes ERS so aversive to actors? Swann and Bosson (1999) suggest that when depressed partners receive reassurance from actors and continue make repeated request for this reassurance, the actors begin to believe that their depressed partners does not view them as a “credible source of feedback”. If one is to assume that most individuals view themselves as being honest and trustworthy, this underlying, implicit, message that one’s feedback cannot be authenticated, leads the actor to question their self-views and subsequently, frustrated by their depressed partner’s lack of trust in them. Swann and Bosson summarize their analysis by proffering actors feel burdened by their inability to convince their partners that their feedback is genuine and reliable. This may be the pathway through which nondepressed actors, in time, come to exhibit dysphoric symptoms, a phenomenon that Joiner (1994) described as contagious depression, whereby actors develop symptoms of depression after prolonged exposure to the behavior of their depressed partner.

ERS as a mediator of the depression contagion phenomenon. The depression contagion phenomenon was meta-analyzed by Joiner and Katz (1999), and subsequently concluded that there is substantial support for the theory that depressive symptoms are indeed contagious. Additionally, in many studies examining the depression contagion effect, ERS has at

least a partial mediating role in the transmission of depressive symptoms (Katz, Beach, & Joiner, 1999, Joiner, 1994; Joiner & Katz, 1999). Joiner and Katz (1999) further postulated that the association between depressive symptoms and ERS, when predicting contagious depression, may partially explain the rejecting behavior of the actor. In other words, actors are motivated to reject depressed partners in order to assuage their own depressive symptoms; this is accomplished through increasing their actual, or physical, distance from the depressed partner, or by becoming emotionally distant. However, Joiner, Alfano, and Metalsky (1992) did not find that depression contagion accounted for the rejection of depressed college students by their roommates.

Why do depressed partners continue their ERS behavior despite actors providing initially constructive feedback? Coyne (1976) posited that, although actors may initially provide authentic, positive, and constructive feedback, over time as the reassurance seeking becomes increasingly persistent, actors will continue to provide *verbally* constructive feedback, however this verbal feedback will be incongruent with *nonverbal* feedback, which is expressing their covert frustration and annoyance. Coyne believed that depressed partners are perceptive of this inauthentic feedback, rendering it necessary, to them, that they seek further reassurance.

Alternatively, Joiner, Alfano, and Metalsky (1993), proffered a theory integrating self-verification theory and self-enhancement theory (W. B. Swann, Hixon, Stein-Seroussi, & Gilbert, 1990; W. B. Swann Jr., Pelham, & Krull, 1989; Joiner, Alfano, & Metalsky, 1993) with Coyne's (1976) interpersonal model. In their integrated theory, Joiner et al. posit that depressed partners who are seeking reassurance are caught in a "cognitive-crossfire", wherein actors provide them with positive feedback which is affectively pleasing however, cognitively disconfirming. That is, self-enhancement theory would suggest that depressed partners are looking for self-enhancing information when they are seeking reassurance. However, self-

verification theory would also suggest that depressed partners are also seeking information that will verify the accuracy of their self-views. The implications of Joiner et al.'s (1993) integrated theory would suggest that actors begin to respond to depressed and high reassurance-seeking partners in a negative and rejecting manner because of the depressed partners inconsistent feedback seeking behaviors (Hokanson & Butler, 1992; Joiner, Alfano, & Metalsky, 1993; Joiner & Metalsky, 1995).

ERS as a Risk Factor for Depression

Starr and Davila (2008) also meta-analyzed data regarding the predictive validity of ERS on depression and reported a moderate effect size ($r = .32$) across 38 studies that results on this relationship. Additionally, a number of prospective studies have examined baseline ERS and future symptoms of depression and suggest that ERS does predict future depression (Davila, 2001; Haeffel, Voelz, & Joiner, 2007; Joiner & Metalsky, 2001; J. G. Potthoff, Holahan, & Joiner, 1995; P. R. Shaver, Schachner, & Mikulincer, 2005). If a causal pathway does exist between ERS and depression, as the existing literature has suggested, then it would suggest that reassurance-seeking behavior has a detrimental effect on a depressed individual's social support network, to the degree that it produces significant interpersonal stress, which in turn produces an increase in dysphoric symptoms (Potthoff, et al., 1995; Swann & Bosson, 1999).

Attachment and ERS

Attachment theory (Bowlby, 1982) was developed as a conceptual basis for the internal working model that infants create for their caregiver(s), which predicts that variance in caregiver responsiveness results in either a secure or insecure attachment style. In more recent years researchers and theorists have extended the study of attachment to adults and, in fact, view

attachment styles as relatively stable (however, modifiable) across the lifespan of adults, exerting its influence in a variety of domains (Hazan & Shaver, 1987; Mikulincer & Shaver, 2003).

As in child attachment, adult attachment style can be either secure or insecure, and individuals with an insecure attachment style can be characterized as being either anxiously attached or avoidantly attached. Unlike individuals with secure attachments, who received consistent positive care as children, individuals who are anxiously or avoidantly attached either received inconsistent feedback and care or consistently no feedback or care, respectively. It is important to note that these two forms of insecure attachment differ in how they view others in their environment, otherwise called their internal working model (IWM) of others (Brennan, & Carnelley, 1999, Shaver, et al., 2005). While individuals who are anxiously attached have low self-worth, fear abandonment and rejection, and have a highly dependent style of relating, they also are open to feedback from others in their environment and have positive working models of others. In contrast, attachment avoidant individuals have extremely negative working models of others, are not open to feedback, and minimize expressions of emotion and proximity to others (Bartholomew, 1990).

Brennan and Carnelley (1999), in response to Joiner and Colleagues (1999), proffered a developmental theory of ERS by integrating the existing ERS literature with the well established theories of attachment. Brennan and Carnelley (1999) posited that individuals with an anxious attachment are most likely to be high reassurance seekers. Anxiously-attached individuals experience unpredictable, unstable, and destructive caregiving as a child, thus becoming distrusting of the support and feedback they receive from close others who may be classified as “caregivers”. Crittenden’s (1997) theorizing of the effects of early attachment styles on later romantic relationships, lends much to the theory regarding the developmental nature of excessive

reassurance seeking. Crittenden's description of anxiously-attached individuals runs congruous with Joiner and colleagues' (1999) theory that reassurance seekers are in a constant state of causal uncertainty within their social environment, leading them to continuously seek reassurance as to their role in causal connections.

In the most comprehensive examination of attachment style and reassurance seeking, to my knowledge, Shaver and colleagues (2005) concluded that due to the substantial overlap between reassurance-seeking and attachment anxiety, reassurance seeking should be considered a facet of anxious attachment and that reassurance seeking can be either anxious or nonanxious, both of which have varying effects on mood and behavior. Shaver and colleagues found that both ERS and attachment anxiety related to depression, however attachment anxiety was found to have a stronger correlation with depression than ERS. When they regressed depression on both ERS and attachment anxiety, only attachment anxiety remained a significant predictor. In conclusion, Shaver and colleagues' (2005) findings suggest that attachment-related anxiety is a vulnerability factor for depression, and subsequently for ERS; while attachment-related avoidance is related to relationship dissatisfaction, which in-effect predicts stay/leave behaviors (Rusbult, 1983).

Gaps in the Literature

The present research was aimed at filling a number of gaps within the ERS literature. In their meta-analysis of the literature, Starr and Davila (2008) listed a number of these gaps, one of which is the relative underrepresentation of romantic couples in previous studies. As a child, an individual's attachment figure is most often their parent, or a guardian of some form. That is, children rely on their parents for support and safety, and a disruption of this bond is what causes the development of attachment-insecurity. As individuals age, romantic partners take the place of

parents as the main attachment figure, and individuals rely on these partners for emotional and instrumental support, above and beyond others in their interpersonal environment. Given the high degree of self-disclosure and the expectations for responsiveness in romantic relationships, it is essential to expand the current literature that has examined ERS in romantic relationships, because romantic partners are most likely to be the target of reassurance seeking behavior.

Additionally, Starr and Davila (2008) noted the lack of research examining possible moderating variables in the relationship between ERS and rejection. It is important to recognize that not all people who have a partner who excessively seeks reassurance are rejecting of that partner, lending support to the claim that there are individual or situational differences that moderate the possibility of ERS leading to rejection.

Finally, to this list I add that no prior studies have experimentally manipulated partners' reassurance seeking, which has created ambiguity regarding the causal role of reassurance seeking in eliciting rejection. This is a necessary course if one is to rule out possible explanations that may explain the association between ERS and rejection. It may in fact be the case that individuals who engage in ERS actually accurately perceive derogation from their partner, and thus engage in reassurance seeking to assuage this uncertainty. Another possible explanation for the association between ERS and rejection may be that the mere provision of having to respond to relationship-assessment type questions is uncomfortable and distressing, regardless of who is seeking the response (i.e. a third party or a romantic partner).

The Present Study

The present investigation experimentally tested the link between depression as theorized by Coyne (1976), while also testing the main tenets of Joiner's theorizing of the interpersonal model of depression. In the process I also address several gaps in the existing literature. In regard

to the first gap, the present study examined the link between reassurance seeking and rejection in a sample of romantic couples. With regard to the second, the present study examined partners' self-esteem, partners' depression, and attachment insecurities as moderators of the reassurance seeking – rejection link. Partners' self-esteem was examined in light of previous correlational findings from Joiner and Metalsky (1995) that demonstrated a clear link between ERS, depression, and self-esteem in predicting interpersonal rejection. Partners' depression is the catalyst in Coyne's (1976) model that sets in motion the downward spiral from ERS, to rejection, to worsening of dysphoric symptoms. Therefore, if partners' depression does indeed act as this catalyst, as previous correlational studies have suggested, then it should produce a significant moderating effect under the experimental manipulations of the present study. Attachment-insecurity was examined as a moderator in light of the numerous studies that have demonstrated the strong association between ERS, depression, and attachment anxiety, as well as the link between attachment avoidance and relationship quality.

Finally, in regard to the third gap, the present study experimentally manipulated actors' perceptions that their partner was seeking reassurance. As stated above, this is necessary because only experimental manipulations can unambiguously demonstrate a causal effect of reassurance seeking on interpersonal rejection. In addition, the particular manipulation that was used deconfounded two processes that may explain why people reject partners who engage in reassurance seeking. First, the partner's reassurance seeking communicates to actors that their partner is insecure about their own worth as a relationship partner. In turn, this communication may also cause actors to doubt their partner's interpersonal worth or they may feel that they are not trusted by their partner, both of which may culminate in rejection of the partner. Second, responding to a partners request for reassurance with reassurance may be frustrating (as the

interpersonal model of depression predicts) if one has already provided such reassurance in the past, or it may be unpleasant because it requires actors to explicitly confront (or explicitly conceal) some difficult topics. In other words, prior studies have confounded actors' mere receipt of reassurance seeking with their likely provision of reassurance, casting ambiguity on the particular process that results in interpersonal rejection. The present study deconfounded these two processes by including an experimental condition that creates the belief that partners have sought reassurance and a second condition that requires the provision of this reassurance without creating this belief.

Hypotheses

1. Partners' depression will moderate the relationship between reassurance seeking and actors' felt closeness; higher partners depression will predict a decrease in actors' felt closeness when actors believe their partner has sought reassurance.
2. Partners' depression will moderate the relationship between reassurance seeking and actor's frustration; higher partners' depression will predict an increase in actors' frustration when actors believe their partner has sought reassurance.
3. Partners' depression, self-esteem, and reassurance seeking will predict a decrease in actors' felt closeness and an increase in actors' frustration.
4. Partners' attachment related anxiety will moderate the relationship between reassurance seeking and actor felt closeness and frustration; greater partner anxiety will predict a decrease in actors' felt closeness and an increase in actors' frustration.
5. Actors' attachment related avoidance will moderate the relationship between reassurance seeking and actor's felt closeness and frustration; greater actor avoidance will predict a decrease in actors' felt closeness and an increase in actors' frustration.

Methods

Participants

Romantic couples were recruited through the University of New Hampshire participation pool and through paper flyers posted around the university campus. Couples were told that the study was examining behaviors in romantic relationships and that their participation would be compensated with either \$10 or participation credit towards their introductory psychology class requirements. The final sample consisted of 102 romantic couples, one of which was dropped from analyses due to missing data. The sample consisted of only heterosexual dating couples, with an average relationship length of a year and two months. 96% of the sample was between the ages of 18 and 22, and 95% of participants responded as being Caucasian, 2% African American, 2% Asian American, and 1% Native American.

Procedure

Participants arrived to the lab session with their romantic partners. After obtaining informed consent, dyad members were then separated and escorted to individual rooms where they would complete the pre-manipulation measures on computer-based questionnaires (depression symptoms, chronic reassurance seeking, attachment orientation, and relationship qualities). Following completion of the T1 measures, participants were then subjected to one of three experimental manipulations depending on their randomly assigned condition. Dyads who were randomly assigned to the *reassurance seeking condition* ($n = 70$) or the *difference questions control condition* ($n = 67$) were presented with a sheet of paper that listed 15 questions; 10 of which were mundane or trivial questions (e.g., “What memory from childhood are you most fond of? Why?”; “If we were to have an entire weekend to go somewhere enjoyable, where would you

want to go?"; "What social issues facing the world today are most important and should be addressed by the government?"; "If somebody handed you a magic lamp and gave you three wishes, what would they be?"; "What does the word happy or happiness mean to you? How would you describe it?") and 5 were reassurance seeking type questions (i.e., "What are some positive characteristics about me? What are some negative characteristics about me?"; "Are there ever times when you question your commitment to me and our relationship? What are the factors that contribute to these feelings of commitment or non-commitment?"; "Do you still feel as strongly for me as you did at the beginning of our relationship? What behaviors have influenced this one way or another?"; "Where or how far do you see our relationship going in the future? What are the factors that influence feelings on this, one way or another?"; "What characteristics of our relationship do you not like, or wish to change?"). Participants were asked to circle five questions they would be interested in getting a response to from their partner.

After both members of the dyad selected their five questions, the question sheets were collected. The experimenter returned shortly thereafter with the same sheet of 15 questions, with five questions seemingly circled by the participant's romantic partner (however, the questions were really circle by the experimenter). For dyads randomly assigned to the *reassurance seeking condition*, they received a question sheet with the five reassurance seeking-type questions (listed above) circled, seemingly by their partner. In the *different questions control condition* the participants received a question sheet with the five trivial or mundane questions (listed above) circled. In a third condition, the *different requestor control condition* ($n = 66$), participants were not provided with the question sheet but rather, they answered the same five aforementioned reassurance seeking-type questions as part of their computer-based questionnaire. These questions were reworded to reflect that it was the experimenter requesting their response, rather

than their partner (e.g., “What are some positive characteristics about your partner? What are some negative characteristics about your partner?”; “Do you still feel as strongly for your partner as you did at the beginning of your relationship? What behaviors have influenced this one way or another?”). The *different questions control condition* acts as a control in that, like the *reassurance seeking condition*, participants are responding to question seemingly selected by their romantic partner. Likewise, the *different requestor control condition* is also similar to the *reassurance seeking condition*, however solely because participants in this condition are answering the same reassurance-type questions, but without the perception that they were selected by their romantic partner. Participants in all three conditions were asked to type out short responses to each question in the computer program. After making their responses, participants in all three conditions completed the post-manipulation measures and thoroughly debriefed prior to leaving the laboratory.

Measures of independent variables

Depressive Interpersonal Relationships Inventory-Reassurance Seeking Subscale.

(DIRI-RS; (Metalsky et al., 1991). Reassurance seeking was assessed using the DIRI-RS, a 4-item measure of the frequency of reassurance seeking behavior in the current relationship, which contains items such as: “Do you often find yourself asking the people you feel close to how they truly feel about you?” and “Do the people you feel close to sometimes get ‘fed up’ with you for seeking reassurance from them about whether they really care about you?”. Participants rated items on a 7-point Likert scale indicating frequency of reassurance seeking, from 1 (*No, not at all*) to 7 (*Yes, very much*). Score were obtained by averaging responses across the 4 items.

Coefficient alpha (Cronbach, 1951)for the current sample was .85.

Center for Epidemiologic Studies-Depression Scale. (CES-D; (Radloff, 1977).

Depression was assessed using the CESD, a 20-item self-report inventory. The CESD was developed as a means to assess depression in a community, or non-clinical sample; therefore, it was deemed most appropriate for the current sample of college students. The CESD includes items such as: “I had trouble keeping my mind on what I was doing” and “I felt I was just as good as other people” (reversed scored). Participants indicated how often they had felt these ways in the past week, on a 4-point Likert scale, from 1 (*rarely or none of the time, less than 1 day*) to 4 (*most or all of the time, 5-7 days*). Participants’ depression scores were computed by averaging scores across the 20 items. The obtained coefficient alpha for the current sample was .86

Rosenberg Self-Esteem Questionnaire. (SEQ; (Rosenberg, 1989). Self-esteem was assessed using the SEQ, a 10-item measure containing items such as: “I feel that I am a person of worth, at least on an equal plane with others” and “All in all, I am inclined to feel that I am a failure” (reverse scored). Responses were made on a 7-point Likert scale, 1 (*strongly disagree*) to 7 (*strongly agree*). Self-esteem scores for participants were computed by averaging scores across the 10 items. The obtained coefficient alpha for the current sample was .88.

Experiences in Close Relationships Scale-Revised. (Fraley, Waller, & Brennan, 2000). Attachment anxiety and avoidance were assessed using the ECR, which contains 36 items (18 items assessing anxiety and 18 items assessing avoidance), regarding the experiences, feelings, and behaviors in romantic relationships. The ECR contains items such as: “Sometimes romantic partners change their feelings about me for no apparent reason” (anxiety) and “I get uncomfortable when a romantic partner wants to be very close” (avoidance). Participants were instructed to respond to the items regarding their experiences in close relationships in general

and not just their experience in the current relationship. Responses were made on a 7-point Likert scale, from 1 (*strongly disagree*) to 7 (*strongly agree*). Scores for participants' attachment anxiety and attachment avoidance were computed by averaging responses across the 18 items that composed their respective scales. Coefficient alpha for the current sample on the attachment anxiety and attachment avoidance items were both .89.

Measures of dependent variables

Frustration. Frustration was assessed using four items. "I currently feel frustrated with my partner", "I currently feel annoyed with my partner", "I currently feel irritated with my partner", and "I currently feel aggravated with my partner". These items were rated on a 7-point Likert scale, from 1 (*strongly disagree*) to 7 (*strongly agree*). Scores on frustration were computed by averaging scores across the four items. Coefficient alpha obtained for these four items was .94.

Felt Closeness Scale. (Murray, Rose, Bellavia, Holmes, & Kusche, 2002). To assess how close actors felt to their partner, we used 5 items adapted from Murray et al. (2002). Items included such things as: "I can tell my partner anything" and "My partner and I, are a perfect match for one another". Participants responded to items on a 9-point Likert scale, from 1 (*not at all true*) to 9 (*completely true*). Scores were computed by averaging scores across the 5 items. In the current sample we obtained a coefficient alpha of .88, matching that found by Murray et al. (2002).

Results

Data Analytic Strategy

Data analysis was conducted through hierarchical linear regression, using the SPSS mixed model procedure. The models accounted for individuals nested within couples and utilized a compound symmetry error structure to estimate the covariance between members of dyads. Restricted maximum likelihood was used as the method for attaining parameter estimates. The use of the linear mixed models procedure accounts for the interdependence of outcomes measures between members of dyads. Both members of the dyad provided data as both an actor, acting on the manipulation, and as a partner, the potentially dysphoric, reassurance-seeking partner. Planned contrasts were entered into models for group comparisons. One contrast compared the participants in the reassurance condition (coded 2/3) to participants in the two control conditions (coded -1/3). This contrast is henceforth referred to as the *reassurance seeking contrast*. In a second contrast, participants in the different requestor control condition (coded 1/2) were compared to participants in the different information control condition (coded -1/2), while participants in the reassurance condition were excluded (coded 0). This contrast is henceforth referred to as the *residual contrast*, as the inclusion of this contrast accounts for the residual variability in outcome measures across the two control conditions.

Preliminary data screening was performed to assess the satisfaction of assumptions for regression analyses. Histograms and box plots indicated that outcome and predictor variables were all reasonably normally distributed, with no extreme outliers. Scatter plots were examined for all combinations of predictor and outcome variables and indicated linear relationships on all accounts. Gender was coded as “1” for males and “2” for females. Means and standard deviations for both men and women are presented in Table 1, while correlations between measures for both men and women are presented in Table 2.

Table 1: Means and Standard Deviations for Relevant Measures

<i>Variables</i>	<i>M</i>		<i>SD</i>	
	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>
<i>Predictor Measures</i>				
Attachment Anxiety (ECR-R)	2.77	2.89	0.91	0.97
Attachment Avoidance (ECR-R)	2.20	2.13	0.64	0.75
Depression (CES-D)	1.54	1.56	0.40	0.37
Self-esteem (SEQ)	5.59	5.43	1.06	0.92
ERS (DIRI-RS)	2.95	3.29	1.21	1.49
Felt Closeness	7.45	7.53	1.46	1.55
Frustration	1.57	1.69	0.96	1.04

NOTE. T1= Time 1, T2= Time 2. ECR-R= Experiences in Close Relationships Scale-Revised. CES-D=Center for Epidemiologic Studies-Depression Scale. SEQ= Rosenberg Self-Esteem Questionnaire. DIRI-RS= Depressive Interpersonal Relationships Inventory-Reassurance Scale.

Table 2: Correlations

<i>Variables</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
1. Attachment Anxiety		.31**	-.43**	.20*	.53**	-.21*	.31**
2. Attachment Avoidance	0.18		-0.09	0.17	0.05	-.54**	0.19
3. Self-esteem	-.52**	-0.04		-.52**	-.37**	0.03	-0.12
4. Depression	.53**	0.1	-.71**		.29**	-0.02	.20*
5. Reassurance Seeking	.47**	-0.14	-0.15	.31**		-0.01	0.17
6. Closeness	0.06	-.46**	-0.04	0.09	0.03		-.36**
7. Frustration	.30**	.44**	0	0.13	0.11	-.32**	

NOTE: Correlations for men are presented below the diagonal, women above.

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

The Association Between Self- and Partner Reports of ERS Behavior

In an effort to replicate findings from Shaver et al. (2005), we compared one's own self-report of their reassurance seeking behavior to their partners response on a measure of perceived partner reassurance seeking. When correlating men's own ERS scores with women's perceptions of the men's ERS we found a small to moderate size correlation, $r = .297, p < .001$. When we correlated women's own ERS scores with men's perceptions of the women's ERS behavior we found a nearly identical correlation, $r = .262, p = .004$. Although still lending support to the notion that ERS is a real and observable behavior, our correlations were much smaller than those found by Shaver et al. (2005).

The Association Between Behavioroid Scores and Self-Report Scores of ERS

As discussed in the procedure, the present study asked participants to select 5 questions, from a set of 15, that they would be interested in hearing a response to, from their partner in the other room. To refresh, 10 of the 15 questions were mundane or trivial questions, while 5 of them were reassurance-seeking-type questions. Although we ultimately switched out the participants' actual responses with preselected ones to create the manipulations, we used these actual selected questions as a behavioroid assessment of ERS (Aronson & Carlsmith, 1968). We were interested in examining the correlation between the DIRI-RS (Metalsky et al., 1991) self-report measure of ERS and our behavioroid measure, as a means of establishing convergent validity for the DIRI-RS. The correlation we obtained for these two measures was relatively small but significant, $r = .234, p = .003$. These results, therefore, lend support to previous studies that have provided evidence for the validity and reliability of the DIRI-RS (Haefffel, Voelz, & Joiner, 2007; Joiner, Alfano, & Metalsky, 1992; Metalsky et al., 1991).

Moderating Effects of Partner's Self-Reported Depression

We tested models examining our prediction that partner's level of depression would moderate the effects of the reassurance condition on actors' felt closeness and frustration with partner. The models included the condition contrasts (*reassurance seeking contrast* and *residual contrast*), partners' depression symptoms, and product terms representing the interactions between partners' depression and the condition contrasts. Two models were constructed, one regressing actors' felt closeness on condition contrasts, partners' depression, and product terms, and another regressing actors' frustration on the aforementioned predictors.

In models predicting actors' frustration and felt closeness (Table 3), the product term representing the interaction between the reassurance-seeking contrast and partners' depression produced significant effects. This effect indicated that the differences in scores on actors' felt closeness and actors' frustration between the reassurance seeking condition and the two control conditions depended on the partners' score on depression symptoms. Predicted scores on actors' frustration and actors' felt closeness are plotted in Figure 1 and Figure 2, respectively. Follow up conditional analyses were conducted using procedures recommended by Cohen, Cohen, Aiken, and West (2003), where we examined the conditional effects of the reassurance-seeking condition on actors' frustration and felt closeness at low levels of partners' depression (1 *SD* below the mean) and at high levels of partners' depression (1 *SD* above the mean). Table 4 presents the conditional effects, where the unstandardized regression coefficients can be interpreted as the mean differences between scores for participants in the reassurance-seeking condition and an average of scores for participants in the two control conditions. As can be seen in Table 4, actors in the reassurance-seeking condition reported feeling less close to and more frustration towards their romantic partners when their partners were highly depression

symptomatic. Conversely, actors in the reassurance seeking condition felt closer to their partner when they were low on depression symptoms, as well as less frustrated, however the difference on frustration scores was not significant, $p = .272$.

Table 3

Results of Multilevel Regression Models Predicting Actors' Frustration and Felt Closeness from Experimental Conditions and Partners' Depression Symptoms

Predictor	Predicting Frustration			Predicting Felt Closeness		
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>b</i>	<i>SE</i>	<i>t</i>
Reassurance-seeking Contrast	-1.61	0.67	-2.40*	3.47	0.98	3.56***
Residual Contrast	0.45	0.70	0.65	1.25	1.01	1.25
Partners' Depression Symptoms (PDS)	0.34	0.19	1.81	-0.30	0.27	-1.1
Reassurance-seeking Contrast X PDS	1.17	0.44	2.69**	-2.24	0.63	-3.57***
Residual Contrast X PDS	-0.28	0.42	-0.68	-0.67	0.60	-1.13

* $p < .05$ ** $p < .01$ *** $p < .001$

Figure 1: Actor Frustration as a Function of Condition and Partners' Depression Symptoms

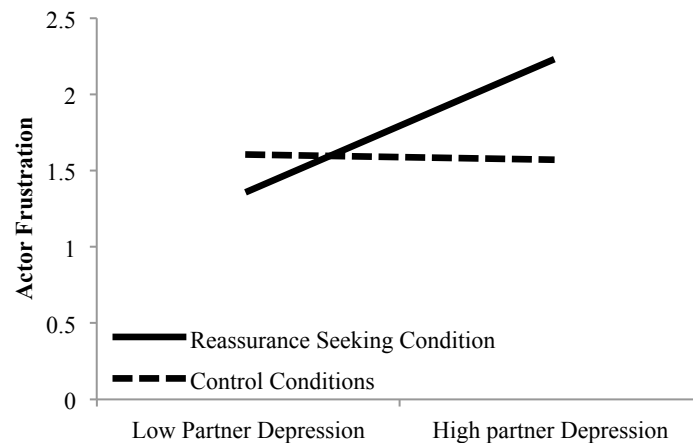


Figure 2: Actors' Felt Closeness as a Function of Conditions and Partners' Depression Symptoms

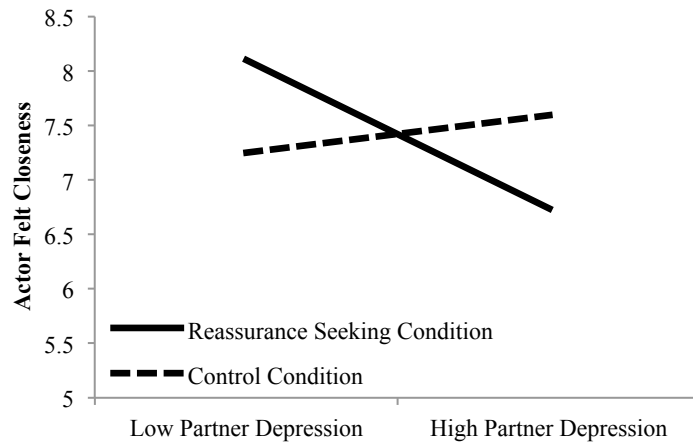


Table 4

Conditional Effects of Reassurance-Seeking Condition on Actors' frustration and Felt Closeness as a Function of Partners' Depression Symptoms

Criterion	Partners' Depression Symptoms (Relative to Mean)	
	Low (-1 SD)	High (+1 SD)
Actors' Frustration	-0.24 (-1.12)	0.65 (2.60**)
Actors' Felt Closeness	0.85 (2.54**)	-0.85 (-2.24*)

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

NOTE. Values represent: $b(t)$

Moderating Effects of Partners' Self-Esteem

We then tested models examining our prediction that partner's self-esteem would moderate the effects of the reassurance condition on actors' frustration and felt closeness with partner. As in the previous models, we included the condition contrasts, as well as the partner's self-esteem, and product terms representing the interactions between partners' self-esteem and

the condition contrasts. Two models were constructed, one regressing actors' frustration on condition contrasts, partners' depression, and product terms, and another regressing actors' felt closeness on the aforementioned predictors. Table 5 provides the unstandardized regression coefficients for the two models predicting actors' frustration and felt closeness. The interaction between the reassurance-seeking contrast and partners' self-esteem produced significant effects on actors' frustration and felt closeness. That is, differences between the scores for participants in the reassurance-seeking condition and scores for participants in the control conditions differed as a function of partners' self-esteem. Predicted actors' felt closeness and frustration scores are plotted in Figures 3 and 4.

Table 5

Results of Multilevel Regression Models Predicting Actors' Frustration and Felt Closeness from Experimental Conditions and Partners' Self-Esteem

Predictor	Predicting Frustration			Predicting Felt Closeness		
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>b</i>	<i>SE</i>	<i>t</i>
Reassurance-seeking Contrast	2.67	0.83	3.22**	-4.34	1.17	-3.69***
Residual Contrast	-0.19	0.98	-0.196	1.44	1.39	1.04
Partners' Self-Esteem (PSE)	-0.07	0.07	-0.935	-0.09	0.10	-0.86
Reassurance-seeking Contrast X PSE	-0.46	0.15	-3.13**	0.80	0.21	3.91***
Residual Contrast X PSE	0.03	0.18	0.159	-0.20	0.25	-0.82

** $p < .01$ *** $p < .001$

Figure 3: Actors' Felt Closeness as a Function of Condition and Partners' Self-Esteem

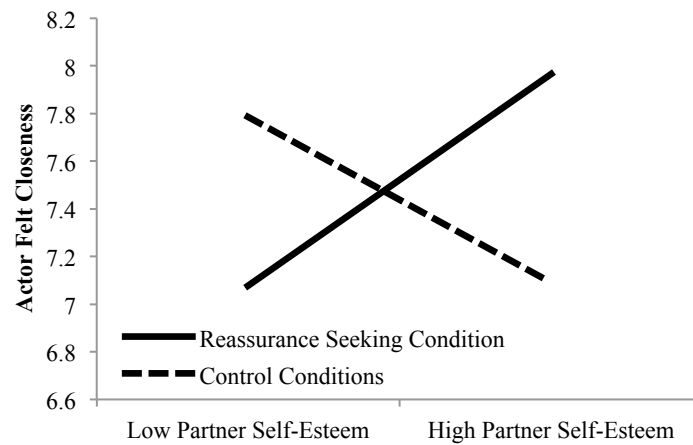
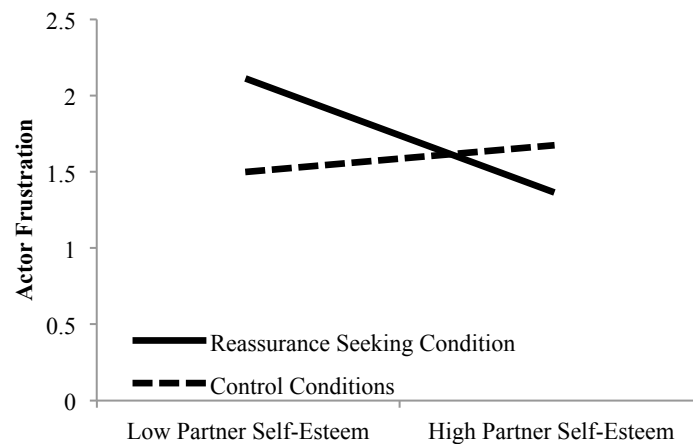


Figure 4: Actors' Frustration as a Function of Condition and Partners' Self-Esteem



Using the same procedure mentioned above, we examined the conditional effects of the reassurance seeking condition on actors' felt closeness and frustration at low (1 *SD* below the mean) and high (1 *SD* above the mean) levels of partners' self-esteem. Table 6 presents the unstandardized regression coefficients for these conditional analyses, which can be interpreted as the mean differences on criterion scores between participants in the reassurance seeking condition and an average of the scores for participants in the control conditions.

Table 6

Conditional Effects of Reassurance-Seeking Condition on Actors' Frustration and Felt Closeness as a Function of Partners' Self-Esteem

Criterion	Partners' Self-Esteem (Relative to Mean)	
	Low (-1 SD)	High (+1 SD)
Actors' Frustration	2.41 (3.22**)	-0.30 (-1.39)
Actors' Felt Closeness	-3.89 (-3.66***)	0.88 (2.67**)

** $p < .01$ *** $p < .001$

NOTE. Values represent $b (t)$

Moderating Effects of Partners' Attachment Anxiety

To test our predictions regarding the moderating effects of partners' attachment anxiety on the relationship between reassurance seeking and rejection, we constructed models with predictors that included the condition contrasts, partners' attachment anxiety, and product terms representing the interaction between condition contrasts and partners' attachment anxiety. Actors' frustration and felt closeness were regressed on the abovementioned predictors. Unstandardized regression coefficients are presented in Table 7. As can be seen in Table 7, the reassurance-seeking contrast X partners' attachment anxiety interaction had a significant effect on actors' frustration. Meaning, differences between frustration scores for participants in the reassurance-seeking condition and participants in the control conditions depended on the partners' amount of attachment related anxiety. Interestingly, unlike the interaction between the reassurance-seeking contrast and partners' depression symptoms and the interaction between the reassurance-seeking contrast and partners' self-esteem, the reassurance-seeking contrast's interaction with partners' attachment anxiety did not produce a significant effect on actors' felt closeness, $p = .236$.

Table 7

Results of Multilevel Regression Models Predicting Actors' Frustration and Felt Closeness from Experimental Conditions and Partners' Attachment Anxiety

Predictor	Predicting Frustration			Predicting Felt Closeness		
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>b</i>	<i>SE</i>	<i>t</i>
Reassurance-seeking Contrast	-0.97	0.46	-2.11*	0.85	0.70	1.22
Residual Contrast	1.09	0.55	1.98*	-1.09	0.85	-1.28
Partners' Attachment Anxiety (PAA)	0.21	0.07	2.85**	-0.20	0.11	-1.8
Reassurance-seeking Contrast X PAA	0.41	0.16	2.61**	-0.28	0.23	-1.19
Residual Contrast X PAA	-0.37	0.18	-2.09*	0.44	0.27	1.6

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

Predicted scores from the model predicting actors' frustration as a function of condition and partners' attachment anxiety, are plotted in Figure 5. We tested the conditional effects of the reassurance-seeking condition on actors' frustration as a function of partners' attachment anxiety, using the same procedures stated above. The unstandardized regression coefficients for the conditional analyses are present in Table 8. As can be seen in the table, for participants in the reassurance-seeking condition, actors' frustration scores were significantly higher for actors with a highly anxiously attached (+1 *SD*) partner, relative to participants in the control conditions. Low partner attachment anxiety (-1 *SD*) predicted lower actors' frustration scores for participants in the reassurance-seeking condition, however this difference was not significant, .338.

Table 8

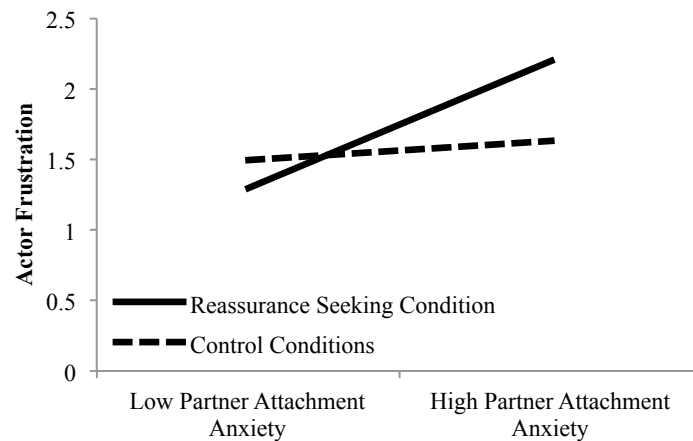
Conditional Effects of Reassurance-Seeking Condition on Actors Frustration as a Function of Partners' Attachment Anxiety

Criterion	Partners' Attachment Anxiety	
	Low (-1 <i>SD</i>)	High (+1 <i>SD</i>)
Actors' Frustration	-0.20 (-.96)	0.57 (2.62**)

** $p < .01$

NOTE. Values represent *b* (*t*)

Figure 5: Actors' Frustration as a Function of Condition and Partners' Attachment Anxiety



Exploratory Findings

In recent years, there has been some debate within the literature as to whether ERS is a facet of the hyperactivating strategy of anxiously attached individuals (Brennan & Carnelley, 1999; Shaver et al., 2005) or a separate and distinct construct (Davila, 2001). Shaver et al. (2005) reported that when they regressed depression on ERS and attachment anxiety, the predictive power of ERS was lost after controlling for attachment anxiety, in both men and women. However, data from the current study only partially support Shaver et al.'s findings. We conducted two regression analyses, one for each sex, replicating the methods of Shaver et al. For the regression model predicting depression from ERS and attachment anxiety in men, although ERS was a significant predictor in the first step of the regression model, $\beta = .311, t = 3.25, p < .005$, it became nonsignificant once attachment anxiety was included in the second step, for ERS: $\beta = .080, t = .83, p = .410$, and attachment anxiety $\beta = .491, t = 5.07, p < .001$. Interestingly, however, this was not the case in the regression model predicting depression from ERS and

attachment anxiety for women. While ERS was a significant predictor in the first step of the model, $\beta = .288, t = 3.01, p < .005$, unlike for the men, ERS remained a significant predictor when attachment anxiety was entered into the regression equation in step 2, for ERS: $\beta = .254, t = 2.24, p < .05$, for attachment anxiety: $\beta = .063, t = .56, p = .578$. These results suggest that ERS may serve different functions for men and for women. For men, ERS appears to be a facet of attachment anxiety; while ERS appears to be a separate construct in women.

In addition to the regression analyses, I conducted Hotelling-Williams tests (Hotelling, 1940; Williams, 1959; as suggested by Steiger, 1980; and Bobko, 1995) to test the null hypothesis that the correlation between ERS and depression and the correlation between ERS and attachment anxiety were equal. Our analyses found that the $r = .507$ between ERS and attachment anxiety is significantly greater than the $r = .296$ between ERS and depression, $t_{(200)} = 3.05, p < .005$. For accommodative purposes, we have reproduced the formula for the Hotelling-Williams Test in Figure 6.

Figure 6.

$$t(N-3) \sim (r_{12} - r_{13}) \sqrt{\frac{(N-1)(1+r_{23})}{2 \frac{N-1}{N-3|R|} \bar{r}^2 (1-r_{23})^3}}$$

Where: $\bar{r} = (r_{12} + r_{13})/2$

$$|R| = 1 - r_{12}^2 - r_{13}^2 - r_{23}^2 + 2r_{12}r_{13}r_{23}$$

Discussion

We experimentally tested the relationship between excessive reassurance seeking and rejection, a link theorized to be the mediating pathway through which depression elicits rejection from interpersonal partners (Joiner, et al., 1999), as originally proposed by the interpersonal model of depression (Coyne, 1976). This is the first causal evidence of the processes described within the model. Specifically, we manipulated participants' perception that their romantic partner was seeking reassurance from them, allowing us to draw causal inferences between reassurance seeking and interpersonal rejection. In addition to our experimental findings, we also found correlational data replicating previous findings. As found in previous studies, depression and self-esteem were both significantly correlated with reassurance-seeking behavior, while reassurance-seeking behavior was found to be significantly correlated with both actors' frustration and felt closeness. Additionally, our results also supported our five hypotheses, demonstrating that moderating variables influence the relationship between partner ERS and actor rejection.

Analyses examining the interaction between reassurance seeking, depression, and rejection revealed that partners' depression moderated the relationship between partners' reassurance seeking and actors' rejection. That is, for dyads in the reassurance-seeking condition, actors' rejection (increases in frustration, decreases in felt closeness) varied across levels of partners' depression, with highly depressed partners being more rejected as compared to less depressed partners. Additionally, our analyses revealed that partners' self-esteem moderated the relationship between partners' reassurance seeking and actors' rejection. That is, for dyads in the partner-sought reassurance condition, actors' rejection varied across levels of partners' self-esteem, with lower partner self-esteem predicting greater actor rejection.

We failed to replicate the findings from Joiner et al.'s (1992) study on college roommates where they found evidence for a significant three-way interaction between reassurance seeking, depression, and self-esteem, at least for male roommate pairs. To test this interaction we entered a product term for the interaction between contrast, partner's depression, and partner's self-esteem, however this interaction did not produce significant effects on either actors' frustration or felt closeness. To test for effects of sex, we included a four-way interaction product term to the model, however results were still not significant. Given the high correlation between partners' depression and partners' self-esteem, the three-way interaction, partners' reassurance seeking X partners' depression X partners' self-esteem, may have failed to produce significant effects because both depression and self-esteem may account for a similar portion of variance in frustration and felt closeness scores. In addition to partners' depression and partner's self-esteem moderating the reassurance seeking-rejection relationship, we also found evidence supporting our hypotheses on the moderating effects of partners' attachment anxiety. Results demonstrated that partners' attachment anxiety moderated the relationship between partners' reassurance seeking and actors' frustration. That is, actors' frustration varied across levels of partners' attachment related anxiety, with more attachment-anxious partners being more rejected compared to less anxious partners.

Additionally, exploratory analyses of correlational data obtained from the current sample found mixed support for the theory that ERS is behavioral facet of attachment anxiety (Brennan & Carnelley, 1999; Shaver et al., 2005). For men, analyses appeared to support this theory, with the predictive effects of ERS becoming disappearing after attachment anxiety was controlled for. However, this effect was not found in women, where ERS was a greater predictor of depression, even when controlling for attachment anxiety. Additionally, testing for equality of dependent

correlations through the use of the Hotelling-Williams test, found that the correlation between attachment anxiety and ERS is significantly greater than the correlation between ERS and depression. Future research should do more to address the possible gender differences that may exist, and how ERS may serve different functions for men and women. While the main findings from the present study support a model where ERS is predicative of interpersonal rejection, Coyne's (1976) original model emphasized the downward spiral that depressed individuals fall into once rejection is perceived; therefore, it is important to consider what factors predict depression, both prior to and following rejection.

Limitations

Before theoretical implications of the present study are explored, limitations should be considered. The current study utilized a sample composed mostly of university students, and although the average relationship length was fairly long (1 year and 2 months), they were not married. It is possible that the results observed in the current study may differ in older populations and in relationships that involve greater commitment (i.e. marriage). In addition to the convenience sample, all of the data collected were obtained using self-report measures, rather than behavioral observation, with the exception of the behavioroid measure of reassurance seeking. Future research would benefit from expanding the ERS literature to including behavioral observation methods of assessing the dynamics found in the current study.

Theoretical Implications

To our knowledge, the current study is the first to implement an experimental design in the ERS literature. This allows us to deconfound the processes that lead actors to reject depressed partners. The evidence for the moderating effects of depression on the ERS-rejection relationship

supports the assertions made by Coyne's (1976) model, as well as the theorizing of Joiner and colleagues (1992, 1995, 1999, 1998), both of whom, proposed that excessive dependent behavior, such as ERS, in concurrence with depression or dysphoric symptoms, adds toxicity to the interpersonal environment, to the degree that close interpersonal partners reject depressed partners. With our results demonstrating the moderating effects of self-esteem and attachment insecurity on the relationship between ERS and rejection, we provide evidence for the effect of individual differences have on this relationship, which were not addressed in Coyne's original model.

Our results also replicate and confirm theories from the literature integrating the interpersonal model depression and attachment theory (Shaver et al., 2005; Brennan & Carnelley, 1999). Our results, taken with those of previous studies, suggest that ERS is perhaps a behavioral manifestation of the hyperactivation of anxiously attached individuals. As previously mentioned, the strong correlation between actors' perceptions of partners' attachment anxiety and partners' actual attachment anxiety, suggests that attachment-anxious people overtly display their fears of abandonment and rejection. Our results would suggest that future research would profit from delineating the role of attachment anxiety from dysphoric symptoms in creating the toxic interpersonal environment that has been attributed to the development and maintenance of depression by previous research and theory (Blumberg & Hokanson, 1983; Coyne, 1976; Coyne et al., 1987; Davila, 2001; Joiner, Metalsky, Katz, & Beach, 1999b).

Clinical Implications

The present study has contributed the first causal evidence of the ERS – interpersonal rejection link, and with this new evidence, we suggest that a psychoeducational module be developed and included in the most prevalent treatments for depression, originally suggested by Joiner et al. (1999). Specifically, the theories underlying Interpersonal Therapy (Klerman, Weissman, Rounsaville, & Chevron, 1984) should be particularly receptive to integrating an educational program into the treatment of depressed patients, given the high degree of emphasis on the importance of the interpersonal.

Additionally, in light of results suggesting that both depression and anxious attachment are independently predictive of ERS and subsequently rejection, clinicians should be particularly vigilant in addressing the possible reassurance seeking behaviors of patients who display tenets of both predictors. Also, given the high degree of correlation between depression and attachment anxiety, it is particularly important for the partners of depressed and anxiously attached individuals to be actively involved in the treatment of their depressed partner. Both members of a dyad need to become educated on the effects of ERS on the quality of their interactions and the negativity of their affect. If partners of depressed individuals can be educated on how to best accommodate the positive change of their partner, the effectiveness of treatment may be significantly bettered.

Conclusion

Through manipulation of partner reassurance seeking, we provided the first causal evidence for the theories (e.g. Joiner, 1999) predicting that ERS causes close others to reject them. Additionally, we found causal evidence for the moderating effects of depression on predicting interpersonal rejection, originally described by Coyne (1976). While the current study has addressed a number of gaps in the ERS literature, a number of gaps remain. Future research should continue to explore experimental methods in examining ERS in order to obtain more causal evidence, should extend the findings from the present study to other populations (e.g. clinical, older adults, different interpersonal relationships), and finally, future research should work to delineate the specific roles of attachment anxiety, depression, and ERS, in predicting negative interpersonal outcomes, as well as negative intrapersonal outcomes.

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