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## Research Article

# EXCESSIVE REASSURANCE SEEKING: Delineating a Risk Factor Involved in the Development of Depressive Symptoms

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**Abstract**—Six studies investigated (a) the construct validity of reassurance seeking and (b) reassurance seeking as a specific vulnerability factor for depressive symptoms. Studies 1 and 2 demonstrated that reassurance seeking is a reasonably cohesive, replicable, and valid construct, discernible from related interpersonal variables. Study 3 demonstrated that reassurance seeking displayed diagnostic specificity to depression, whereas other interpersonal variables did not, in a sample of clinically diagnosed participants. Study 4 prospectively assessed a group of initially symptom-free participants, and showed that those who developed future depressive symptoms (as compared with those who remained symptom-free) obtained elevated reassurance-seeking scores at baseline, when all participants were symptom-free, but did not obtain elevated scores on other interpersonal variables. Studies 5 and 6 indicate that reassurance seeking predicts future depressive reactions to stress. Taken together, the six studies support the construct validity of reassurance seeking, as well as its potential role as a specific vulnerability factor for depression.

Coyne's (1976) interpersonal theory of depression proposes that initially distressed individuals seek others' reassurance to alleviate doubts regarding whether others truly care about them. Other people often provide reassurance, but to little avail, because the depressed person doubts its sincerity, attributing it instead to others' sense of pity or obligation. The depressed person faces a dilemma: He or she both needs and doubts others' reassurance. Need compels the depressed individual again to request others' feedback; once received, the reassurance is again doubted. The pattern repeats, and the depressed person's significant others become frustrated and increasingly likely to reject the depressed individual. Rejection furthers the disruption of the depressed person's interpersonal environment, which, in turn, maintains or exacerbates the depressed person's symptoms.

*Excessive reassurance seeking* (the tendency to ask other people excessively for reassurance of worth; Joiner, Metalsky, Katz, & Beach, 1999) is a key construct in Coyne's (1976) theory, because it explains when depressed people will be rejected and when not (e.g., Joiner & Metalsky, 1995), and when depression will be contagious and when not (Joiner, 1994a). Here we present a new line of research on excessive reassurance seeking, by first further establishing it as a viable construct (Studies 1 and 2), and then examining its role in vulnerability to depression (Studies 3–6). This emphasis on vulnerability to depression stands in contrast to our past work on the role of reassurance seeking in interpersonal rejection.

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## STUDY 1: FACTORIAL CONSTRUCT VALIDITY OF A REASSURANCE-SEEKING SCALE

### Method

The Depressive Interpersonal Relationships Inventory (DIRI) includes 24 items assessing variables described by Coyne (1976), including reassurance seeking, need for approval, doubting others' sincerity, and general dependency. Four items assess reassurance seeking (Items 20–23, Table 1). The list was administered to samples of 524 (279 women) and 205 (114 women) psychology students. The items were factor-analyzed using principal axis factoring, with oblique rotation.

We used two criteria for factor extraction. First, to determine whether factors were replicated between the two samples, coefficients of congruence (Cattell, 1978) were computed, and were supplemented by a procedure for testing factor invariance (Nunnally & Bernstein, 1994, pp. 549–551), which involves correlating a factor's factor scores from one sample with corresponding scores from a second sample. Second, a scree test (Cattell, 1966) was used.

### Results and Discussion

#### Factor-analytic results

In Sample 1 ( $N = 524$ ), the first several unrotated eigenvalues were 6.78, 3.57, 1.70, 1.18, 1.01, 0.93, 0.84, and 0.80. For Sample 2 ( $N = 205$ ), corresponding eigenvalues were 6.86, 2.69, 1.85, 1.42, 1.10, 1.01, 0.95, and 0.91. In both samples, then, the scree occurred in the range from the second to the fourth factor. To ensure inclusiveness in the replicability analyses, we initially extracted five factors from both samples. Inspection of content of items loading onto each factor ( $\geq .30$ ) suggested the following factor labels: General Dependency, Doubt in Others' Sincerity, Excessive Reassurance Seeking, Dependence on Close Others, and Need for Acceptance.

Congruence coefficients regarding these five factors, respectively, were .96, .95, .98, .91, and .78. Factor invariance correlations were virtually identical. Notably, the Excessive Reassurance Seeking factor obtained a high congruence coefficient (.98). Because of the low congruence coefficient for the fifth factor, its exclusion was consistent with the scree criterion, and we concluded that four factors best accounted for the inventory's factor space.

To maximize accuracy of estimates, we combined the samples and conducted a principal axis factoring extracting four factors with Oblimin rotation. The results of this analysis are in Table 1. The items designed to assess reassurance seeking displayed high loadings on the Reassurance Seeking factor (average loading = .81), and low loadings on other factors (average loading =  $-.02$ ). Coefficient alpha for the Reassurance-Seeking Scale was .88.

#### Factor intercorrelations

Consistent with our view that excessive reassurance seeking is a discernible aspect of interpersonal functioning, the correlations of the

## Reassurance Seeking and Depression

**Table 1.** Rotated factor loadings (pattern matrix) from principal axis factoring of Depressive Interpersonal Relationships Inventory items

Item	Factor 1: General Dependency	Factor 2: Doubt in Others' Sincerity	Factor 3: Reassurance Seeking	Factor 4: Dependence on Close Others
1. How important is it to you to <i>always</i> have an ongoing romantic relationship?	.10	-.05	.21	-.28
2. To what degree do you need other people in order to feel okay about yourself?	.47	-.04	-.01	-.41
3. How important is it to you to receive positive comments from the people you feel close to?	.44	.12	.03	-.16
4. Do you often fear being rejected by those you love?	.57	-.13	.23	.09
5. Do you often fear being criticized by those you love?	.67	-.11	.10	.03
6. To what degree do you depend on the people you feel close to for meeting your needs?	.07	-.03	.13	-.60
7. How hard do you try to fulfill the needs of the people you feel close to?	.21	.31	.01	-.16
8. Do you feel resentful when you do not get your way with the people you feel close to?	.23	-.10	.18	-.13
9. To what degree will you go out of your way to preserve friendships?	.34	.34	-.03	-.10
10. How important is it for you to always be accepted by your friends?	.61	.11	-.10	-.19
11. To what degree does it hurt when you feel criticized by someone you feel close to?	.53	.02	-.03	-.10
12. Do you often find yourself giving in to the wishes of others?	.55	.06	.02	.02
13. To what degree do you go along with others so they will still like you?	.63	-.13	-.03	.02
14. In general, how sincere are the people you feel close to?	-.01	.85	-.03	.02
15. How sincere are the people you feel close to when they tell you how they feel about you?	-.06	.87	.11	.11
16. Do you often wonder whether people you feel close to are sincere when they compliment you?	.39	-.23	.31	.27
17. Do you often think that people you feel close to may not truly care about you even when they say they do?	.37	-.35	.37	.26
18. To what degree are you dependent on the people you feel close to?	.09	.03	.12	-.62
19. Do you feel worthless without the approval of others?	.42	-.04	.16	-.20
20. Do you find yourself often asking the people you feel close to how they <i>truly</i> feel about you?	.06	.09	.73	-.03
21. Do you frequently seek reassurance from the people you feel close to as to whether they <i>really</i> care about you?	.09	.13	.81	.01
22. Do the people you feel close to sometimes become irritated with you for seeking reassurance from them about whether they <i>really</i> care about you?	-.09	-.02	.88	-.09
23. Do the people you feel close to sometimes get "fed up" with you for seeking reassurance from them about whether they <i>really</i> care about you?	-.12	-.07	.81	-.12
24. When it comes to the people you feel close to, how certain are you that they <i>really</i> care about you?	-.10	.64	-.13	-.08

Note. Results are for Samples 1 and 2 combined ( $N = 729$ ). Four factors were retained; oblique rotation was used.

Reassurance Seeking factor with the other factors were in the moderate range (Table 2). The results of Study 1 indicate that reassurance seeking is a cohesive and replicable factor that is relatively distinct from other aspects of interpersonal style.

## STUDY 2: REASSURANCE-SEEKING SCALE PREDICTS OBSERVER-RATED REASSURANCE-SEEKING BEHAVIOR

### Method

#### *Participants and procedure*

Participants were 52 psychology students (31 women), each of whom brought a same-sex, nonrelative roommate to the study. Session 1 involved collection of videotaped interactions; Session 2, a week later, involved collection of questionnaires.

At Session 1, the target participant and roommate were seated across from each other, and were instructed that they would participate "in a project that will help clinical psychology students hone their skill at psychological test interpretation," and that part of the project involved being videotaped. The participant and roommate completed a brief questionnaire that they believed would be interpreted by a clinical psychology student. The experimenter took the completed questionnaires from the room, and 3 min later returned with bogus feedback forms about the participant and roommate. The bogus forms included ratings on relatively benign personality descriptors, such as "active" and "edgy."

The participant and roommate examined the forms, and were videotaped while they discussed them to try to get detailed information concerning one another's opinions of the ratings. Five minutes later, the pair was interrupted, debriefed, and scheduled to fill out questionnaires a week later.

#### *Measures*

Two measures were of interest: judges' ratings of target participants' videotaped reassurance seeking and target participants' responses to the Reassurance-Seeking Scale, described in Study 1.

Six judges, blind to questionnaire responses, watched each 5-min videotaped interaction, and were instructed to write down each question asked by the target participant. Judges applied a rating scheme to each question to determine whether it met set criteria for reassurance seeking. Each judge's ratings of the number of reassurance-seeking behaviors by target subjects were tallied, and these tallies were averaged across judges for each subject, producing a behavioral reassurance-seeking index, for which interrater agreement was .72.

Judges also made ratings based on general impressions. Subjective ratings were tallied and averaged, producing a subjective rating index,

for which interrater reliability, collapsed across items, was .73 (coefficient alpha, collapsed across judges, was .96). The correlation between the behavioral and subjective ratings was .68.

### Results and Discussion

Correlations between targets' Reassurance-Seeking Scale scores and judges' behavioral and subjective ratings were .39 and .43, respectively ( $p < .05$ ; .37 and .42 for men; .42 and .43 for women). Together with Study 1, Study 2 supports the Reassurance-Seeking Scale as valid, discernible from related aspects of interpersonal functioning, and cohesive. We now examine a new aspect of the scale's construct validity, its role in vulnerability to depression.

## STUDIES 3–6: REASSURANCE SEEKING AND DEPRESSION

Coyne's (1976) theory, which implies a "depressive spiral," begins with a mildly dysphoric person who, in response to stress and via excessive reassurance seeking, generates a negative interpersonal environment. This negative environment, in turn, eventuates in more severe depressive symptoms. The theory thus has implications for vulnerability to depression. If excessive reassurance seeking confers a vulnerability to depression, it should display some diagnostic specificity to depression. Study 3 addressed this issue.

### Study 3: Reassurance Seeking Among Clinically Diagnosed Undergraduates

#### *Method*

Participants were 135 undergraduates (77 men), ages 17 through 41 ( $M = 19.31$ ,  $SD = 2.71$ ), who underwent structured clinical interviews and completed questionnaires.

Current diagnoses were assigned using the Diagnostic Interview Schedule (Regier et al., 1984; see, e.g., Rudd et al., 1996, for reliability and validity), administered by trained research assistants. The principal Axis I diagnoses, based on the *Diagnostic and Statistical Manual of Mental Disorders* (third edition, revised; American Psychiatric Association, 1987) were as follows: Eleven of the 135 participants were diagnosed with Major Depression (8.1%), 4 with Dysthymia (3.0%), 20 with Anxiety Disorder (14.8%), 28 with Substance Abuse (20.7%), 4 with Bipolar Disorder, Manic (3.0%), and 1 with Schizophrenia (0.7%); 67 participants (49.6%) had no diagnosis. The Anxiety Disorders included Social Phobia ( $n = 9$ ), Simple (Specific) Phobia ( $n = 7$ ), Generalized Anxiety Disorder ( $n = 3$ ), and Post-Traumatic Stress Disorder ( $n = 1$ ). No general measures of functional impairment or illness severity were available; thus, any differences between depressed and other participants on interpersonal

**Table 2.** Factor intercorrelations for Reassurance Seeking, General Dependency, Doubt in Others' Sincerity, and Dependence on Close Others

	General Dependency	Doubt in Others' Sincerity	Reassurance Seeking	Dependence on Close Others
General Dependency	—			
Doubt in Others' Sincerity	-.07	—		
Reassurance Seeking	.47	-.31	—	
Dependence on Close Others	.44	.31	-.20	—

## Reassurance Seeking and Depression

variables might reflect severity or impairment rather than diagnostic differences. This should be considered when interpreting our findings.

Students completed the DIRI, including the Reassurance-Seeking Scale. Scales for the first two factors in Table 1, General Dependency and Doubt in Others' Sincerity, were also formed. The fourth factor, Dependence on Close Others, contained only two items, and thus was not examined. We compared the effects of Reassurance Seeking with those for General Dependency and Doubt in Others' Sincerity, to examine further the distinctiveness of reassurance seeking compared with other interpersonal dimensions.

### Results and discussion

A depressed group ( $n = 15$ ) consisted of participants assigned diagnoses of major depression ( $n = 11$ ) or dysthymia ( $n = 4$ ), and an other-disorders group ( $n = 53$ ) consisted of participants who received any other diagnosis. As predicted, the depressed group achieved significantly higher reassurance-seeking scores than the other-disorders group ( $M_s = 14.40$  and  $11.26$ ,  $SD_s = 3.79$  and  $5.64$ , respectively),  $F(1, 66) = 4.09$ ,  $p < .05$ ,  $\eta^2 = .06$ . This result was not due to low reassurance-seeking scores within a particular diagnostic subset of the other-disorders group; there were no significant differences among participants with anxiety disorders, those with substance-abuse disorders, and those with other nondepressive disorders,  $F(2, 50) = 0.82$ , *n.s.*,  $\eta^2 = .03$ .<sup>1</sup>

A pointed test would involve comparing the depressed group with a second group diagnosed with another disorder that might also be associated with reassurance seeking. Previous reports suggest that anxiety-disordered patients may be prone to a form of reassurance seeking (i.e., needing reassurance about safety; Salkovskis & Warwick, 1986). Accordingly, we compared the depressed ( $n = 15$ ) and anxious ( $n = 20$ ) groups. The depressed group achieved higher reassurance-seeking scores than the anxious group ( $M_s = 14.40$  and  $11.45$ ,  $SD_s = 3.79$  and  $5.74$ , respectively). This difference approached statistical significance,  $F(1, 34) = 2.98$ ,  $p < .10$ ,  $\eta^2 = .08$ , a result reasonably consistent with the relative specificity of excessive reassurance seeking to depression.

An important finding is that the depressed group did not differ from the other-disorders group regarding general dependency,  $F(1, 66) = 1.19$ , *n.s.*,  $\eta^2 = .02$ , or doubt in others' sincerity,  $F(1, 66) = 1.36$ , *n.s.*,  $\eta^2 = .02$ . Similarly, the depressed group did not differ from the anxiety group regarding general dependency,  $F(1, 34) = 0.74$ , *n.s.*,  $\eta^2 = .02$ , or doubt in others' sincerity,  $F(1, 34) = 1.45$ , *n.s.*,  $\eta^2 = .04$ . Excessive reassurance seeking, more than other interpersonal style dimensions, appeared to characterize the depressed group specifically.

### Study 4: Excessive Reassurance Seeking Predicts Development of Depressive Symptoms Among Initially Symptom-Free Undergraduates

In this study, we compared baseline reassurance-seeking scores among two groups—those who subsequently developed depressive symptoms and those who did not. Building on preliminary findings (Joiner & Schmidt, 1998), we predicted that reassurance-seeking scores at baseline (when all participants were symptom-free) would be higher among individuals who later developed depressive symptoms than among those who remained symptom-free.

1. Mean score for the no-diagnosis group was 10.74, significantly different from the depressed group's score,  $F(1, 71) = 5.02$ ,  $p < .05$ ,  $\eta^2 = .08$ , but not the other-diagnosis group's score,  $F(1, 108) = 0.36$ , *n.s.*,  $\eta^2 = .003$ .

### Method

At a baseline session, 394 psychology students completed the Beck Depression Inventory (BDI; Beck & Steer, 1987), a 21-item self-report inventory of demonstrated reliability and validity, and the DIRI. On the basis of low scores on the BDI, 274 symptom-free participants (142 women) were selected to continue in the study. Ten weeks later, 254 of the 274 participants returned for a second session, when they again completed the BDI. Attrition did not appear to produce any systematic bias.

Based on baseline and follow-up BDI scores, two groups were formed. The symptom-free group ( $n = 237$ ) obtained scores of 6 or less at baseline and follow-up (a score of 6 approximates the usual BDI mean in undergraduates). The increased-symptoms group ( $n = 17$ ) obtained scores of 6 or less at baseline and 10 or more at follow-up (a score of 10 is a usual cutoff score for mild-moderate depressive symptoms).

### Results and discussion

Three analyses of covariance (ANCOVAs) were conducted (distributional assumptions met for each). For the first, reassurance-seeking scores were the dependent variable, group status (symptom-free vs. increased-symptoms) was the independent variable, and baseline scores on the BDI and the General Dependency and Doubt in Others' Sincerity subscales were covariates. Baseline BDI scores were covaried to adjust for baseline differences in depressive symptoms;<sup>2</sup> scores on General Dependency and Doubt in Others' Sincerity were covaried to show that any effect of group status on reassurance seeking went beyond the effects of these two interpersonal dimensions. Results indicated a significant effect for group,  $F(1, 248) = 6.25$ ,  $p < .05$ ,  $\eta^2 = .06$ . Reassurance-seeking scores were higher in the increased-symptoms group ( $M = 12.60$ ,  $SD = 3.43$ ) than in the symptom-free group ( $M = 8.52$ ,  $SD = 3.60$ ), as expected.

For the second and third ANCOVAs, scores on the General Dependency and Doubt in Others' Sincerity subscales, respectively, served as dependent variables, group status (symptom-free vs. increased-symptoms) was the independent variable, and baseline scores on the BDI and Reassurance-Seeking Scale were covariates. In both analyses, results indicated a nonsignificant effect for group,  $F(1, 248) < 1$ , *n.s.*,  $\eta^2 < .02$ . Scores on the General Dependency and Doubt in Others' Sincerity subscales were similar in the increased-symptoms and symptom-free groups.

As predicted, participants who later developed depressive symptoms scored higher in baseline reassurance seeking than those who remained symptom-free. Baseline depression scores were controlled; therefore, differences were probably not due to differences in baseline depression. Moreover, reassurance seeking specifically, and not other interpersonal dimensions, was implicated in the development of future depressive symptoms.<sup>3</sup>

2. Mean baseline BDI score was 4.61 for the increased-symptoms group and 4.29 for the symptom-free group, a nonsignificant difference,  $F(1, 252) = 2.66$ , *n.s.*,  $\eta^2 = .01$ .

3. Partial correlations between each of the three interpersonal variables, on the one hand, and the group-status variable (symptom-free vs. increased-symptoms), on the other, controlling for baseline depression and the other two interpersonal variables, were also computed. Only the partial correlation between group status and excessive reassurance seeking attained statistical significance ( $pr = .13$ ,  $p < .05$ ); for the partial correlations involving general dependency and doubt in others' sincerity,  $pr < .06$ , *n.s.*

### Study 5: Reassurance Seeking Predicts Undergraduates' Rejection-Related Depressive Reactions

Study 5 tested whether reassurance seeking would moderate the effect of rejection by a roommate on undergraduates' depressive reactions.

#### Method

**Participants and procedure.** One hundred three psychology students were informed that they would be filling out questionnaires about their personal attitudes (Time 1) and would return 5 weeks later (Time 2), with their same-gender roommates, to complete similar measures. Of 103 pairs, 98 (54 female) completed the entire study; thus, attrition was not a major issue.

The length of roommates' relationship ( $M = 2.6$  months,  $SD = 2.52$ ) did not correlate with any measures, or moderate any effects, and thus is not discussed further.

**Measures.** The target students completed the four-item Reassurance-Seeking Scale<sup>4</sup> at baseline (they did not complete the larger DIRI questionnaire; accordingly, analyses on other interpersonal dimensions were not possible; but see Study 6).

At Time 2, the students' roommates completed a revision of the Rosenberg Self-Esteem Questionnaire (R-SEQ; Swann, Wenzlaff, Krull, & Pelham, 1992) in which the 10 items of Rosenberg's original scale were reworded so that the roommates completed it with regard to the esteem in which they held the targets (e.g., "I see my roommate as a person of worth, at least on an equal basis with others"). Each item is rated on a scale from 1 to 5; full-scale scores can thus range from 10 to 50. Scoring was reversed so that higher scores reflected a more negative view of targets by roommates. Past work has provided reliability and validity data (e.g., Swann et al., 1992). This measure may not tap rejecting behavior of roommates; rather, it assesses rejecting attitudes of roommates toward targets.

Depressive symptoms were assessed by the BDI, which the target participants completed at both sessions.

#### Results and discussion

Table 3 presents all means, standard deviations, and intercorrelations. The correlations between reassurance seeking and depressive symptoms at Times 1 and 2 were of moderate magnitude and statistically significant. The rejection measure was uncorrelated with reassurance seeking, thus alleviating any concern about overlap between predictors in regression analyses.

We conducted a regression analysis in which the order of entry of the predictors was as follows: (a) Time 1 depression score, (b) reassurance seeking and rejection measures, and (c) Reassurance Seeking  $\times$  Rejection interaction. As predicted, the Reassurance Seeking  $\times$  Rejection interaction term significantly predicted increases in depressive symptoms from Time 1 to Time 2 ( $pr = .20$ ),  $t(93) = 1.97$ ,  $p < .05$ . The assumption of homogeneity of covariance was met (Time 1 depression did not interact with reassurance seeking or rejection to predict Time 2 depression, nor did it moderate the Reassurance Seeking  $\times$  Rejection interaction), indicating that the results applied to on-

4. Correlations between Reassurance-Seeking items and rejection ranged from  $-.15$  to  $.02$  (n.s.). Reassurance-Seeking items thus did not differentially relate to rejection as a function of item content (e.g., reference to negative consequences).

**Table 3.** Study 5: Intercorrelations among all measures

	Time 1 RSS	Roommate rejection	Time 1 depression	Time 2 depression
Time 1 RSS	—			
Roommate rejection	-.07	—		
Time 1 depression	.30*	.04	—	
Time 2 depression	.27*	.14	.42*	—
Mean	10.27	16.18	7.72	7.07
SD	3.87	8.15	8.01	7.79

Note.  $N = 98$ . RSS = Reassurance-Seeking Scale.

\* $p < .05$ .

set of new symptoms and exacerbation of existing symptoms (Joiner, 1994b).

Figure 1 illustrates this interaction's form (determined by inserting high and low values for predictors into the regression equation; see Cohen & Cohen, 1983, pp. 323, 419). Individuals who both had high reassurance-seeking scores and were rejected by their roommates were most likely to experience increases in depressive symptoms. Reactions to an interpersonal stressor, then, were moderated by reassurance seeking: High reassurance seekers were vulnerable; others, less so.

### Study 6: Reassurance Seeking Predicts Undergraduates' Depressive Reactions to Midterm Failure

In Study 6, we tested whether individuals who score high in reassurance seeking would be particularly vulnerable to an increase in depressive symptoms the day of, and several days following, receipt of an unfavorable midterm grade.

#### Method

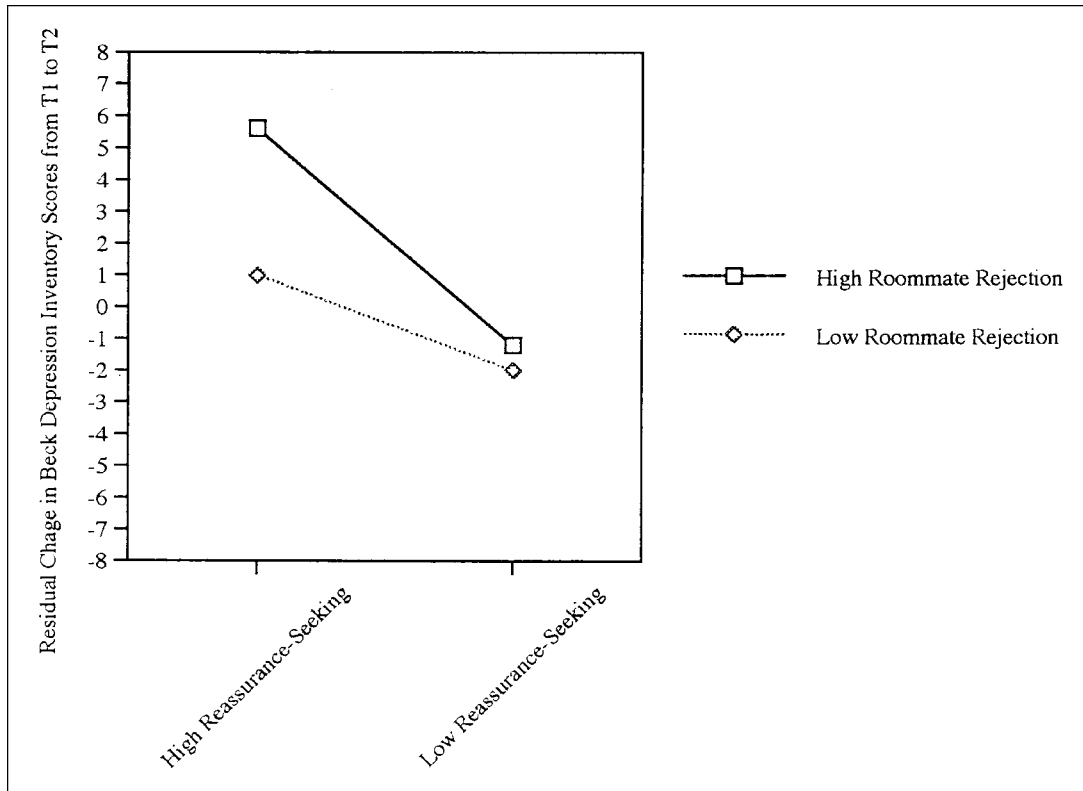
**Participants and procedure.** One hundred nineteen (78 women) psychology students were assessed during the 2 weeks preceding and the 2 weeks following receipt of midterm grades. Here, we focus on six sessions: baseline (Time 1), which occurred 2 weeks before students received their grades, and five follow-up sessions (Times 2–6), which occurred the day of receipt of grades and the 4 subsequent days. At these sessions, students completed several questionnaires.

**Materials.** Students completed the DIRI, and we compared the effects of reassurance seeking with those for general dependency and doubt in others' sincerity, to examine further the distinctiveness of reassurance seeking compared with other interpersonal dimensions. This measure was completed at baseline.

**Outcome on midterm exam.** At Time 1, students were asked, "What grade would you consider a failure on the exam?" Responses were on a scale from 1 (A+) to 13 (F). These aspiration scores were subtracted from students' actual scores (same 13-point scale). High scores represented a more negative outcome.

**Depression composite score.** At each session, participants completed the BDI, two subscales (Motivational Deficit and Psychomotor Slowing) of the Hopelessness Depression Symptom Questionnaire

Reassurance Seeking and Depression



**Fig. 1.** Residual change in depression scores as a function of reassurance-seeking scores and roommate rejection in Study 5. T1 = Time 1; T2 = Time 2.

(HDSQ; Metalsky & Joiner, 1997), and the Depression subscale of the Multiple Affect Adjective Checklist (MAACL; Zuckerman & Lubin, 1965). Scores on the HDSQ and MAACL subscales were *z*-transformed and combined to derive a total depression score. Analyses using

this composite score and the BDI had highly similar results. The results for the depression composite are presented here, to emphasize that results linking reassurance seeking with depression apply to at least two distinct depression measures.

**Table 4.** Study 6: Intercorrelations among all measures

	Time 1 RSS	Time 1 Depend	Time 1 Doubt	Time 1 Outcome	Time 1 Depression	Time 2 Depression	Time 3 Depression	Time 4 Depression	Time 5 Depression	Time 6 Depression
Time 1 RSS	—									
Time 1 Depend	.49*	—								
Time 1 Doubt	.27*	.12	—							
Outcome	.06	-.04	.04	—						
Time 1 Depression	.38*	.30*	.22*	.12	—					
Time 2 Depression	.31*	.30*	.13	.20*	.62*	—				
Time 3 Depression	.34*	.32*	.03	.08	.59*	.65*	—			
Time 4 Depression	.30*	.24*	.10	.09	.60*	.71*	.80*	—		
Time 5 Depression	.23*	.24*	.05	.12	.59*	.66*	.77*	.78*	—	
Time 6 Depression	.15	.15	.04	.17	.45*	.47*	.64*	.60*	.70*	—
Mean	9.98	21.16	5.38	-1.42	0	0	0	0	0	0
SD	5.08	6.33	2.71	3.10	0.55	0.49	0.54	0.55	0.55	0.60

Note. *N* = 119. RSS = Reassurance-Seeking Scale; Depend = General Dependency dimension of the Depressive Interpersonal Relationships Inventory; Doubt = Doubt in the Sincerity of Others dimension of the Depressive Interpersonal Relationships Inventory; outcome = outcome on midterm examination.

\**p* < .05.

*Results and discussion*

Table 4 presents all means, standard deviations, and intercorrelations; values were as expected (e.g., reassurance-seeking scores correlated with depression, and showed a correlation with general-dependency scores similar to the one found in Study 1). The midterm outcome measure was generally uncorrelated with other measures, thus alleviating concern about overlap between predictors in regression analyses.

We constructed five regression equations with depression scores from Time 2 through Time 6 as dependent variables. Time 1 depression score was entered first into the equations, thereby creating residual change scores in depression from Time 1 to follow-up. Reassurance-seeking score and midterm outcome score were next entered into the equations, followed by entry of the Reassurance Seeking  $\times$  Midterm Outcome interaction term.

As predicted, the interaction served as a significant predictor of residual changes in depression scores at each follow-up session (see Table 5). The assumption of homogeneity of covariance was summarily met. Moreover, as depicted in Figure 2 (where Time 2 findings are shown; results for Time 3 to Time 6 were similar), the form of this interaction was as predicted: Students who both received a high reassurance-seeking score and received a low grade were the only subgroup to experience increases in depressive symptoms; all other participants experienced decreases or no change.

The same pattern of findings did not emerge when general dependency and doubt in others' sincerity replaced reassurance seeking in the regres-

**Table 5.** Study 6: Partial correlations (from regression analysis) between Reassurance Seeking  $\times$  Midterm Outcome interaction and changes in depression scores

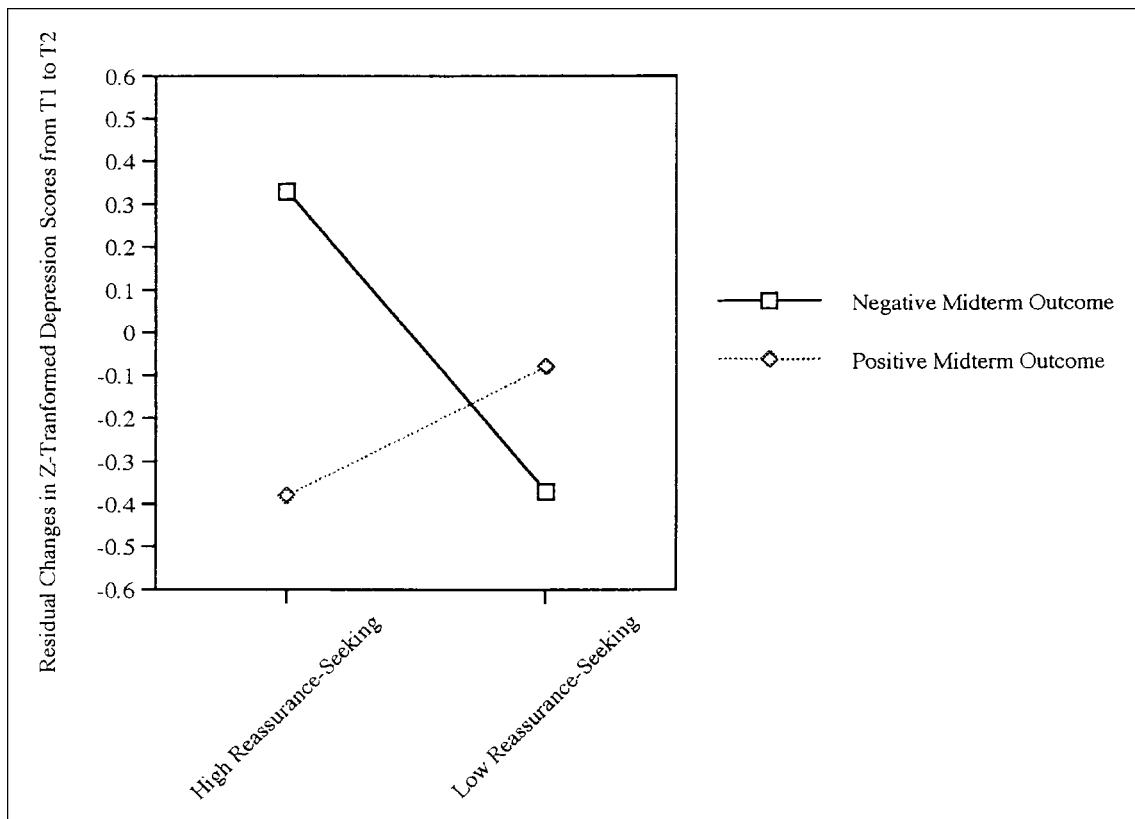
Change in depression	Partial correlation	<i>t</i>	<i>p</i>
Time 1 to Time 2	.38	4.35	< .01
Time 1 to Time 3	.23	2.49	< .01
Time 1 to Time 4	.22	2.46	< .05
Time 1 to Time 5	.22	2.39	< .05
Time 1 to Time 6	.20	2.23	< .05

*Note.* Degrees of freedom are 1, 114.

sion analysis. Excessive reassurance seeking specifically, not depressotypic interpersonal style generally, predicted increases in depressive symptoms.

**GENERAL DISCUSSION**

Excessive reassurance seeking represents a key variable in Coyne's (1976) interpersonal theory of depression, because when persistent and paired with increasing emotional distress, it exerts a deteriorating influence on the interpersonal environment, with consequences such as interpersonal rejection (e.g., Joiner & Metalsky, 1995) and "contagious depression" (e.g., Joiner, 1994a).



**Fig. 2.** Residual change in depression scores as a function of reassurance-seeking scores and midterm outcome in Study 6. T1 = Time 1; T2 = Time 2.



## Reassurance Seeking and Depression

In the present studies, we expanded this line of work into the new domain of vulnerability to depression. We supported the general construct validity of reassurance seeking by demonstrating its cohesiveness, discriminability, and validity, and we presented the first comprehensive test of the role of reassurance seeking in vulnerability to depression.

Together with past studies that have used the Reassurance-Seeking Scale (see Joiner et al., 1999), Studies 1 and 2 support the view that reassurance seeking is a viable construct, at least with regard to internal consistency, factorial rigor, discriminability, and convergent validity, and at least with regard to undergraduates.

Study 3 indicates that reassurance seeking is a relatively specific feature of depression versus some other psychiatric diagnoses. Specificity to depression appeared to apply to reassurance seeking specifically, not to depression-related interpersonal style more generally. Reassurance seeking not only covaried with depressive diagnoses, but showed some specificity to them—a pattern of results that constitutes reasonably strong support for a potential vulnerability factor (cf. Garber & Hollon, 1991).

Reassurance seeking also appears to meet other important criteria for psychopathology-related causal factors (e.g., specificity, temporal precedence). In Studies 4 through 6, reassurance seeking temporally preceded development of depressive symptoms, and moderated depressive reactions to stress. Notably, we did not predict (and did not find) that interpersonal stressors are the only stressors that impinge on reassurance seeking to eventuate in symptoms. We thus frame reassurance seeking as a general diathesis, activated by an array of stressors. Reassurance seeking specifically, and not other dimensions of interpersonal style, appeared to confer vulnerability. This finding further supports the discriminant validity of the reassurance-seeking construct.

We suggest that reassurance seeking is both activated by stress and, especially when paired with depressive affect, a producer of stress (cf. Hammen, 1991; Potthoff, Holahan, & Joiner, 1995). For example, a dysphoric individual who seeks excessive reassurance in response to perceived threat in one domain (e.g., fear of being fired) may, by excessive reassurance seeking, generate stress in another domain (e.g., his or her spouse may withdraw after failing to assuage the individual's worries). This new stressor may fuel still more reassurance seeking, leading to further interpersonal disruption, and thus to relationship conflict, loneliness, or both and, in turn, depression. Experimental modeling of this narrative will be a challenge for future research.

Because reassurance seeking may constitute a risk for depressive symptoms, and may produce other painful consequences (e.g., relationship loss), themselves precursors of depression, reassurance seeking deserves attention in intervention programs. Reassurance-seeking behaviors, as well as attitudes that underlie them, represent potential therapeutic targets for clinicians using empirically validated depression treatments (e.g., interpersonal psychotherapy; Klerman, Weissman, Rounsaville, & Chevron, 1984).

In summary, the present studies, taken together with past work, show that reassurance seeking is important for psychopathologists and clinicians to consider, because it is implicated in disrupting people's

interpersonal functioning, and may be involved in the development of pernicious and painful symptoms.

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