

## A Prospective Test of an Integrative Interpersonal Theory of Depression: A Naturalistic Study of College Roommates

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This study tested an integrated interpersonal theory of depression, which combines J. C. Coyne's (1976b) interpersonal theory of depression with work on the interplay between self-enhancement and self-consistency theory. Students' (targets') and their same-gender roommates' appraisals of each other, depression and anxiety levels, reassurance seeking, and negative feedback seeking were assessed at Time 1 (T1), and again at Time 2 (T2), 3 weeks later. Consistent with the theoretical integration (a) Depressed targets reported engaging in more negative feedback seeking than nondepressed targets, and tended to report seeking more reassurance than nondepressed targets at T1; (b) For male (but not female) targets, the combination of negative feedback seeking, high reassurance seeking, and depression at T1 predicted T1 to T2 increases in rejection by roommates; and (c) Rejection effects applied to depressive symptoms, but not anxious symptoms or anhedonic mood.

Coyne's (1976b) interpersonal theory of depression proposes that the interpersonal behaviors and attitudes of people with depression eventually produce an interpersonal space filled with rejection from others. Specifically, Coyne postulated that mildly depressed individuals seek reassurance as to whether others truly care about them. When others provide reassurance, people with depression question its sincerity and seek further reassurance. A downward spiral is thus established in which the depressed person seeks more frequent and extreme reassurance from others. Coyne (1976a) further proposed that people who are depressed induce negative affect in others. As this negative affect escalates, so does the propensity to reject the person with depression (see also Coyne, 1990; Coyne, Burchill, & Stiles, 1990; Marcus & Nardone, 1992; Segrin & Dillard, 1992 for reviews).

A number of studies have supported Coyne's (1976b) postulate that people with depression elicit rejection from others (e.g., Burchill & Stiles, 1988; Coyne, 1976a; Gotlib & Robinson, 1982; Hammen & Peters, 1977; Hokanson & Butler, 1992; Hokanson, Rubert, Welker, Hollander, & Hedeon, 1989; Joiner & Barnett, 1994; Sacco & Dunn, 1990; Swann, Wenzlaff, Krull, & Pelham, 1992; but see Dobson, 1989; Gotlib & Meltzer, 1987; King & Heller, 1984; and McNeil, Arkowitz, & Pritchard, 1987 for disconfirming results).

Moreover, several studies have reported results consistent with Coyne's (1976a) postulate that people with depression instill negative affect in others (Coyne, 1976a; Coyne et al., 1987; Hammen & Peters, 1978; Hokanson & Butler, 1992; Sacco & Dunn, 1990; Sacco, Milana, & Dunn, 1985; but see Burchill & Stiles, 1988 for disconfirming results). Interestingly, this "contagion" effect has not accounted for why depressed people elicit rejection from others (i.e., contagion does not *mediate* the depression–rejection relationship; see Gurtman, 1986 for a review). Thus, the question remains: Why are people with depression rejected by significant others?

This question has touched off the search for potential moderator variables which may qualify the magnitude of the depression–rejection relationship. Examples include the depressed person's self-disclosure, self-blame, and aid seeking (Gotlib & Beatty, 1985; Gurtman, 1987; Hokanson, Loewenstein, Hedeon, & Howes, 1986; Jacobson & Anderson, 1982; Lynn & Bates, 1985; Stephens, Hokanson, & Welker, 1987); the helping behavior and aggressive-competitive responses of those who are paired with the depressed person (Blumberg & Hokanson, 1983; Hokanson et al., 1989; Marks & Hammen, 1982; Sacco et al., 1985); and discrepant power roles within a depressed target–nondepressed participant dyad (Hokanson, Sacco, Blumberg, & Landrum, 1980).

Recently, Joiner, Alfano, and Metalsky (1992) examined what they viewed as the central moderator specified in Coyne's (1976b) theory—reassurance seeking as to whether significant others truly care. In line with the theory, Joiner et al. reported that people with depression who engaged in reassurance seeking at one point in time were rejected by their same-gender college roommates 5 weeks later compared to their nondepressed high-reassurance-seeking counterparts. In contrast, among students who were low in reassurance seeking, those with depression were no more likely to be rejected than were those without depression. These rejection effects were more pronounced among low- than high-self-esteem participants. It is important to emphasize that the rejection effects were found for men but not women.

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The Joiner et al. (1992) results suggest that people with depression are rejected, in part, because they engage in the type of reassurance seeking described by Coyne (1976b). Why, then, do their efforts to elicit reassurance from others *backfire* and elicit rejection instead? Perhaps the depressed person is excessive and overburdens others by repeated requests for reassurance. Although this explanation is concise and empirically supported among male dyads (Joiner et al., 1992), it does not fully capture the intricate and complex nature of depressive interpersonal behavior. Other explanatory factors are needed—factors which may work in tandem with reassurance seeking in moderating the depression–rejection relationship—to fully explain the depressive social environment.

Joiner, Alfano, and Metalsky (1993) incorporated the work of Swann and colleagues (e.g., Swann, Griffin, Predmore, & Gaines, 1987; Swann, Hixon, Stein-Seroussi, & Gilbert, 1990; Swann, Pelham, & Krull, 1989) to provide an expanded treatment of depressive interpersonal phenomena. Swann et al. (1987) proposed that cognitive and affective reactions to self-relevant feedback are not always congruent and, in the case of people with negative self-views, are incongruent. Specifically, for people with negative self-views, receiving positive feedback produces incongruence between the cognitive and affective systems because such feedback is affectively pleasing but cognitively disconfirming. Similarly, receiving negative feedback leads to incongruence because such feedback is affectively aversive but cognitively confirming. Thus, people with negative self-views are caught in the cognitive–affective “crossfire” between coexisting needs to obtain: (a) affectively satisfying, self-enhancing positive feedback and (b) cognitively confirming, self-consistent negative feedback. Although Swann (1990) emphasized the limitations and ambiguity inherent in the cognitive–affective distinction (see also Lazarus, 1984; Zajonc, 1984), Swann et al. (1987) presented results consistent with this conceptualization.

Joiner et al.’s (1993) integrated theory brings the work of Swann and Coyne together, positing that the person with depression is caught in the cognitive–affective crossfire between coexisting needs to be confirmed and consoled. Specifically, it was proposed that mildly depressed individuals seek reassurance from others as to whether they truly care. If reassurance is forthcoming, the depressed person is affectively satisfied, but only temporarily. As the feedback is cognitively processed, its discrepancy with the negative self-concept becomes apparent, and the person with depression begins to doubt the accuracy of the self-enhancing feedback (see Swann et al., 1990). This arouses needs for self-consistent information, leading the depressed person to engage in negative feedback seeking. Overall, then, depressed people engage in both self-enhancing reassurance seeking and self-verifying negative feedback seeking.

An important implication of the integrated conceptualization is that people with depression may elicit rejection from others due to the persistent and contradictory nature of their information-seeking behaviors. That is, others may become rejecting toward the depressed person in response to his or her chronic “flip flopping” (cf. Blumberg & Hokanson, 1983; Hokanson & Butler, 1992; Hokanson et al., 1989). Thus, the integrated theory postulates that the combination of depression, reassurance

seeking, and negative feedback seeking elicits rejection from others.

The purpose of the present study was to test two central postulates of the integrated theory—that the combination of depression, reassurance seeking, and negative feedback seeking heightens risk for interpersonal rejection, and that rejection effects are specific to depressed symptoms. The methodology is similar to that used by Joiner et al. (1992, 1993; see also Hokanson & Butler, 1992; Hokanson et al., 1986; Hokanson et al., 1989; Siegel & Alloy, 1990; Swann et al., 1992). Participants (targets) and same-gender roommates completed a questionnaire packet at one point in time (Time 1 [T1]) and, 3 weeks later (Time 2 [T2]), returned and completed a separate set of questionnaires.

The present study went beyond the Joiner et al. (1993) study in four important ways. First, in contrast to the cross-sectional design used by Joiner et al., the present study incorporated a prospective methodology, which allowed us to examine whether the combination of depression, reassurance seeking, and negative feedback seeking would temporally precede rejection, as our integrated theory requires. Second, the present study allowed us to examine whether the combination of depression, reassurance seeking, and negative feedback seeking would culminate in increases in rejection over time, a central postulate of our integrated theory which also has not been tested to date. Third, the measures of rejection in the present study were more comprehensive, valid, and consistent with past work (e.g., Coyne, 1976a).

Fourth, the present study addressed the issue of symptom specificity. Consistent with Coyne’s (1976b) theory, our integrated theory postulates that rejection effects will be specific to depression. Interestingly, past findings on the symptom specificity issue have been somewhat unresponsive (see Boswell & Murray, 1981; Dobson, 1989; King & Heller, 1984, 1986; McNeil et al., 1987 for unresponsive results; but see Coyne, 1976a; Hammen & Peters, 1977; and Siegel & Alloy, 1990 for supportive results). The present study addressed the issue of symptom specificity by including measures of both depressed and anxious symptoms. In keeping with the logic of Alloy, Kelly, Mineka, and Clements (1990), we examined the issue of specificity to depressed versus anxious symptoms because this provides a more stringent test of specificity than work examining depressed versus nonanxious symptoms or general psychological distress. Surprisingly, the vast majority of studies in the interpersonal depression literature have not examined the issue of specificity to depressed versus anxious symptoms (for exceptions, see Dobson, 1989; Siegel & Alloy, 1990). Moreover, in contrast to the latter two studies, which both used the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970), the present study used more recently developed measures which possess greater discriminant validity with respect to depressed versus anxious symptoms (see below).

In addition, the present study allowed continued exploration of two important issues. The first involves gender effects. The Joiner et al. (1992) results regarding the Depression  $\times$  Reassurance Seeking  $\times$  Self-Esteem interaction and rejection applied to men only, whereas the Joiner et al. (1993) findings on the Depression  $\times$  Reassurance Seeking  $\times$  Negative Feedback Seeking interaction and rejection held for men and women (however,

further analysis of those data indicated that the three-way interaction between depression, reassurance seeking, and negative feedback seeking was more predictive of rejection for men than women, but to a nonsignificant degree [ $p = .11$ ]. We therefore included gender as an exploratory variable throughout the study.

Second, consistent with Gurtman (1986) and Joiner et al. (1992; 1993), two dimensions of rejection were assessed—negative evaluation (i.e., dislike) and avoidance (i.e., desire to leave). It should be noted that an important limitation of the Joiner et al. studies is that rejection results applied to a measure of negative evaluation, but not to an index of avoidance.

The predictions were as follows. First, consistent with the notion that people with depression need to be affectively consoled (Coyne, 1976b), we predicted that depressed targets would engage in more reassurance seeking than nondepressed targets.<sup>1</sup> Second, consistent with the notion that people with depression need cognitive verification (Swann, 1990), we predicted that depressed targets would engage in more negative feedback seeking than nondepressed targets.

Third, we predicted that depression, reassurance seeking, and negative feedback seeking of targets at T1 would interact to predict increases in roommate rejection from T1 to T2. It was further predicted that the form of the triple interaction would be such that the increases in rejection would be most pronounced among depressed targets who engaged in both reassurance seeking and negative feedback seeking. Finally, in line with our position on symptom specificity, we predicted that rejection effects would be specific to depressed versus anxious symptoms.

## Method

### *Participants and Procedure*

One hundred eighty-two participants (92 men; 90 women) were drawn from introductory psychology classes at the University of Texas at Austin. All participants brought a same-gender, nonrelative roommate to both experimental sessions. The sample included roommate pairs who chose to room together, as well as those assigned to each other through the university housing agency. Such assignments are random, except that smokers and nonsmokers are matched. Participants received class credit for their participation.

Upon arrival at Session 1, target participants and their roommates were informed that they would be filling out questionnaires about their personal views, feelings, and attitudes. They also were asked to return for a second session in 3 weeks, at which time they completed questionnaire packets and were debriefed and excused.

A total of 23 roommate pairs (11% of the original sample) participated at Session 1 but did not return for Session 2. Although these pairs did not differ from pairs who returned on any T1 variable, the possibility that more conflictual pairs were more likely to drop out should be considered. If so, such differential attrition may well dilute the hypothesized rejection effects, in that pairs who most typify our model may be most likely to drop out. Similarly, the nature of our "roommate methodology," of which participants were aware before choosing to participate, may have worked against our hypotheses, in that pairs who fit the model may have chosen not to participate.

### *Materials*<sup>2</sup>

*Beck Depression Inventory.* (BDI; Beck, Rush, Shaw, & Emery, 1979; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Level of de-

pressive symptoms was assessed by the BDI, a 21-item self-report inventory. Although the BDI is not indicative of the full clinical syndrome of depression, it is a reliable and well-validated measure of depressive symptomatology (see Beck, Steer, & Garbin, 1988 for a review; see also Kendall, Hollon, Beck, Hammen, & Ingram, 1987).

*Feedback-Seeking Questionnaire.* (FSQ; Swann et al., 1992). The FSQ assesses participants' tendency to seek feedback from others within five self-relevant domains: intellectual, social, musical and artistic, athletic abilities, and physical attractiveness. Within each domain, participants are asked to choose two of six questions which they would like their roommates to answer about them during a future session "so that they may learn more about themselves." Of the six items in each domain, three are framed negatively (e.g., "What is some evidence you have seen that your roommate doesn't have very good social skills?"), and three are framed positively (e.g., "What is some evidence you have seen that your roommate has good social skills?"). Thus, the participant could select a total of 10 questions, two from each of the five domains. A feedback-seeking score was computed by tallying the number of negative questions selected. The resulting scale can range from 0 to 10, with higher scores representing more negative feedback seeking (see Joiner et al., 1993; Swann & Read, 1981; Swann et al., 1989, 1992 for reliability and validity data).

*Depressive Interpersonal Relationships Inventory—Reassurance-Seeking Subscale.* (DIRI-RS; Metalsky, Joiner, & Pothoff, 1995). The DIRI-RS measures reassurance seeking, defined as a tendency to excessively seek reassurance from others as to whether they truly care (e.g., "Do you frequently seek reassurance from the people you feel close to as to whether they really care about you?"). The reassurance-seeking subscale includes four items, each rated on a 7-point scale (items range from 1 to 7), and is averaged across items. Thus, subscale scores can range from 1 to 7 with higher scores corresponding to increasing reassurance seeking.

The criterion and construct validity (Cronbach & Meehl, 1955) of DIRI-RS has been supported by past work (e.g., Joiner et al., 1992 found that the DIRI-RS moderated the depression-rejection link; Metalsky et al., 1995 found that (a) reassurance seeking was diagnostically specific to clinical depressives; (b) the DIRI-RS moderated the interpersonal life stress-depression relation; (c) the DIRI-RS predicted actual reassurance-seeking behavior in the lab; and (d) the DIRI-RS was highly correlated with a self-report reassurance-seeking measure that was specific to particular relationships). Joiner et al. (1992) reported a coefficient alpha of .88 for DIRI-RS.

*Evaluation of Target on Revision of Rosenberg Self-Esteem Questionnaire.* (R-SEQ; Rosenberg, 1965; Swann et al., 1992). This inventory, developed by Swann et al. (1992), includes the 10 items of Rosenberg's original scale, reworded such that roommates completed it with

<sup>1</sup> It is important to emphasize that when we use the terms "depressed," "depressive," or "depression" to refer to participants who were elevated on the Beck Depression Inventory (BDI), this should not be taken to suggest clinical levels of the depressive syndrome. Instead, these participants are best viewed as exhibiting mild subclinical elevations in depressive symptoms (see Kendall, Hollon, Beck, Hammen, & Ingram, 1987). Because Coyne's (1976b) and Joiner et al.'s (1993) conceptualizations focus on interpersonal responses to those who initially exhibit mild depressive symptoms, use of the BDI in the present study is appropriate (see also Joiner et al., 1992).

<sup>2</sup> Consistent with the recommendations of Joiner, Schmidt, and Metalsky (1994), we included a validity measure to detect participants who were not approaching the questionnaire forthrightly. The measure, similar to the MMPI-Lie scale, included 15 items randomly interspersed throughout the questionnaire packet. Participants who endorsed 7 or more items were excluded, resulting in the exclusion of 11 pairs (4 men; 7 women; see Joiner et al., 1994).

regard to the esteem in which they hold the targets (e.g., "I see my roommate as a person of worth, at least on an equal basis with others."). It is therefore best viewed as a measure of that aspect of rejection involving negative evaluation of the targets' global worth as a person (see Gurtman, 1986). Each item is rated on a 1 to 5 scale; full scale scores can thus range from 10 to 50. For ease of interpretation, scoring was reversed such that higher scores reflected a more negative view of targets by their roommates. This measure is referred to here as R-SEQ rejection (see Joiner et al., 1992; Swann et al., 1992, for reliability and validity data).

**Willingness-to-Interact Scale.** (WILL; Coyne, 1976a). Roommates' willingness to engage in future interactions with targets was measured by a series of six questions answered on a 5-point scale, anchored at 0; full scale scores can range from 0 to 24. An example item is "How willing would you be to sit with your roommate on a 3-hour bus trip?" Coefficient alpha in the present sample was .85 (similar to the corrected odd-even item correlation of .81 reported by Coyne, 1976a; for validity data, see Burchill & Stiles, 1988; Coyne, 1976a; Gotlib & Robinson, 1982).

**Beck Anxiety Inventory.** (BAI; Beck, Epstein, Brown, & Steer, 1988). Level of anxious symptoms was assessed by the BAI, a 21-item self-report inventory. The BAI's reliability, convergence with other anxiety measures, and discriminant validity with respect to depression measures, have been well-supported (Beck, Epstein, et al., 1988; Clark & Watson, 1991). The BAI items primarily measure physiological manifestations of anxiety (e.g., hands trembling and heart pounding), and thus is a reasonable measure of physiological hyperarousal which, as Clark and Watson (1991) argued, distinguishes anxiety from depression.

**Positive and Negative Affect Schedule.** (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS includes two 10-item scales, one for positive affect (PA; the extent to which a person feels enthusiastic, active, and alert) and one for negative affect (NA; the extent to which a person experiences subjective distress such as anger, disgust, guilt, and fear). Each item is rated on a 1 to 5 scale; thus scores for PA and NA can each range from 10 to 50 (for reliability and validity data, see Watson, 1988; Watson, Clark, & Carey, 1988; Watson, Clark, & Tellegen, 1984). Participants indicated how they felt over the past week. It should be noted that PA is viewed as a measure of *anhedonia*, which, as Clark and Watson (1991) argued, distinguishes depression from anxiety. In contrast, NA is viewed as nonspecific, assessing both depressed and anxious symptoms.

## Results

Means and standard deviations for the entire sample, and for men and women separately, are presented in Table 1.

Table 2 presents the zero-order correlations between all measures. As Table 2 shows, reassurance seeking on the DIRI-RS and negative feedback seeking on the FSQ were not significantly correlated ( $r = -.02, p = ns$ ), consistent with our conceptualization of the two measures as being distinct. DIRI-RS reassurance seeking and FSQ negative feedback seeking were both correlated with BDI depression ( $r_s = .17$  and  $.15$ , respectively; both  $p_s < .05$ ), a finding which prefaces the results presented below. As can also be seen in Table 2 and as would be expected, the two rejection measures (i.e., R-SEQ and WILL) were significantly correlated. Additionally, the T1 BDI was significantly associated with T1 and T2 R-SEQ ( $r_s = .28$  and  $.23, p_s < .01$ ), and was correlated with T1 and T2 WILL ( $r_s = .21$  and  $.23, p_s \leq .01$ ), consistent with past work (e.g., Coyne, 1976a).

Table 1  
Means and Standard Deviations for All Measures

Measure	Entire sample		Men		Women	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
BDI	5.82	5.45	6.14	6.29	5.49	4.40
DIRI-RS	2.16	.98	2.14	.95	2.19	1.01
FSQ	3.00	2.66	3.00	2.81	3.00	2.51
T1 R-SEQ	14.72	6.08	15.59	6.11	13.81	5.94
T2 R-SEQ	15.61	6.75	16.94	7.31	14.20	5.81
T1 WILL	20.85	4.72	21.73	4.95	19.94	4.32
T2 WILL	20.95	5.09	21.59	4.86	20.27	5.26
BAI	9.40	8.13	7.95	6.98	10.97	8.99
PA	33.35	7.52	33.29	7.79	33.40	7.26
NA	19.70	6.62	19.43	6.79	20.00	6.45

*Note.* BDI = Beck Depression Inventory. DIRI-RS = Depressive Interpersonal Relationships Inventory, Reassurance-Seeking. FSQ = Feedback-Seeking Questionnaire. T1 and T2 R-SEQ = Times 1 and 2 Evaluation of target by roommate on Revised Rosenberg Self-Esteem Questionnaire. T1 and T2 WILL = Times 1 and 2 Willingness-to-Interact Scale. BAI = Beck Anxiety Inventory. PA = Positive and Negative Affect Schedule, Positive Affect subscale. NA = Positive and Negative Affect Schedule, Negative Affect subscale.

### Negative Feedback Seeking and Reassurance Seeking in Depressed versus Nondepressed Targets

Depressed and nondepressed groups were formed on the basis of targets' T1 BDI scores as follows: depressed group ( $BDI \geq 10, n = 28$ ); nondepressed group ( $BDI \leq 9, n = 154$ ), consistent with the recommendations of Kendall et al. (1987).<sup>3</sup>

To determine whether targets' sex had any main or interactive effects on the dependent variables, we performed a two-factor (Sex  $\times$  Group) multivariate analysis of variance (MANOVA) on targets' Time 1 negative feedback seeking (FSQ) and reassurance seeking (DIRI-RS). The results of this analysis are reported in terms of Wilks' lambda converted to an exact multivariate  $F$  statistic. The main effect for Sex and the Sex  $\times$  Group interaction were not significant, multivariate  $F_s(2, 177) = .75$  and  $1.30$ , respectively, and thus sex was dropped from the analysis.

Next, to test predictions regarding differences between depressed and nondepressed groups on FSQ and DIRI-RS, we conducted a one-way (depressed vs. nondepressed) MANOVA on FSQ and DIRI-RS, the results of which are reported in terms of Hotelling's  $T^2$  converted to an exact multivariate  $F$  statistic. In the context of a significant multivariate  $F$ , the univariate  $t_s$  for FSQ and DIRI-RS would be examined separately, consistent with the recommendations of Stevens (1988, p. 122).

The MANOVA produced a significant multivariate effect for group,  $F(2, 179) = 5.10, p < .01$ .<sup>4</sup> In the context of the signifi-

<sup>3</sup> We also conducted the analyses using other traditional cut-off points (i.e., 3 and 10; 9 and 16). Without exception, the results converged with those presented in the text.

<sup>4</sup> There were no main or interactive effects for length of relationship or choice/assignment status of roommate pairings. Also, we analyzed DIRI-RS and FSQ together in the same MANOVA because of their hypothesized roles as features of depressive interpersonal behavior, despite their nonsignificant correlation (see Table 2).

Table 2  
Intercorrelations Between All Measures

Measure	1	2	3	4	5	6	7	8	9	10
1. BDI	—									
2. DIRI-RS	.17*	—								
3. FSQ	.15*	-.02	—							
4. T1 R-SEQ	.28**	.07	-.07	—						
5. T2 R-SEQ	.23**	.11	.05	.58**	—					
6. T1 WILL	.21**	.01	-.06	.60**	.50**	—				
7. T2 WILL	.23**	.12	.01	.52**	.81**	.59**	—			
8. BAI	.36**	.14	.09	.09	.14	.15*	.20**	—		
9. PA	-.42**	-.02	-.16*	-.29**	-.19**	-.18*	-.18*	-.02	—	
10. NA	.37**	.06	.04	.10	.11	.07	.07	.62**	.02	—

Note. BDI = Beck Depression Inventory. DIRI-RS = Depressive Interpersonal Relationships Inventory, Reassurance-Seeking. FSQ = Feedback-Seeking Questionnaire. T1 and T2 R-SEQ = Times 1 and 2 evaluation of target by roommate on Revised Rosenberg Self-Esteem Questionnaire. T1 WILL = Time 1 Willingness-to-Interact Scale. T2 WILL = Time 2 Willingness-to-Interact Scale. BAI = Beck Anxiety Inventory. PA = Positive and Negative Affect Schedule, Positive Affect subscale. NA = Positive and Negative Affect Schedule, Negative Affect subscale.

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

cant multivariate  $F$ , the univariate  $t$ s revealed a significant main effect for group on FSQ ( $t[1, 180] = 2.93, p < .005$ ), but not for DIRI-RS ( $t[1, 180] = 1.08, p = ns$ ). In line with prediction, depressed targets reported engaging in more negative feedback-seeking compared to nondepressed targets at T1 ( $M$ s = 4.36 and 2.78,  $SD$ s = 2.60 and 2.75, respectively). Contrary to prediction and to past work (e.g., Joiner et al., 1993), depressed targets did not differ significantly from nondepressed targets in T1 reassurance seeking; however, as shown in Table 2, BDI and DIRI-RS were significantly correlated.

#### Rejection of Targets by Roommates: Depression, Negative Feedback Seeking, Reassurance Seeking, and Gender

To examine the hypothesized interaction between depression, negative feedback seeking, and reassurance seeking of targets at T1 in predicting increases in rejection by roommates from T1 to T2, a setwise hierarchical multiple regression procedure was used, consistent with the recommendations of Cohen and Cohen (1983). To assess gender effects, gender was included as a predictor variable.

For a given rejection index (i.e., R-SEQ or WILL), T1 (baseline) scores on the rejection index were entered first into the regression equation, thereby creating residual change scores in rejection from T1 to T2. This, of course, also controls for T1 rejection. Target's gender, T1 BDI, FSQ, and DIRI-RS scores were entered next into the regression equation as a set, followed by entry of the set of two-way interaction terms, the set of three-way interaction terms, and finally, at Step 5, the four-way interaction term. Consistent with Cohen and Cohen (1983), individual variables within a given set were not interpreted unless the set as a whole was significant, thereby reducing Type I errors.

Length of relationship and choice or assignment status did not have effects in any analysis and therefore will not be discussed further. The assumption of homogeneity of covariance was tested and met in all instances (cf. Joiner, 1994).

As can be seen in Tables 3 and 4, the BDI  $\times$  FSQ  $\times$  DIRI-RS  $\times$  Gender interaction significantly predicted residual changes in R-SEQ negative evaluation from T1 to T2 ( $pr = -.22, t[165] = -2.98, p < .01$ ), and WILL avoidance from T1 to T2 ( $pr = -.16, t[165] = -2.10, p < .05$ ).

To depict the interaction effects, following Cohen and Cohen (1983, pp. 323, 419), residual change scores for R-SEQ rejection were computed by inserting specific values for predictor variables (i.e., one standard deviation above and below the mean) into the regression equation associated with the regression analysis reported in Table 3. Note that the pattern of findings for WILL was quite similar to those presented for R-SEQ.

The results of the descriptive analysis are presented in Figures 1 and 2. As can be seen in Figure 1, among female dyads, particular levels of depression, reassurance seeking, and negative feedback seeking were not consistently related to R-SEQ rejection levels. By contrast, and as can be seen in Figure 2, among male dyads, nondepressed targets did not elicit increases in negative evaluation from T1 to T2, regardless of whether they were high in negative feedback seeking, or reassurance seeking, or both. Indeed, nondepressed participants who were high in reassurance seeking and negative feedback seeking were more positively evaluated. In contrast, and consistent with our theoretical model, depressed, high reassurance-seeking, high negative feedback-seeking male targets elicited substantial increases in negative evaluation from their roommates.

Interestingly, the FSQ  $\times$  DIRI-RS two-way interaction achieved significance in predicting R-SEQ and WILL changes (see Tables 3 and 4), which suggests that the combination of high reassurance seeking and high negative feedback seeking contributed to rejection increases in both men and women. However, the set of two-way interactions is not significant in either analysis, making interpretation of any single constituent of the set tenuous. Furthermore, as can be seen in Figure 1, high reassurance-seeking, high negative-feedback-seeking women were not particularly rejected. And, as described above and in Figure 2, whether high reassurance-seeking, high negative-feed-

Table 3  
*Depression, Negative Feedback Seeking, Reassurance Seeking, Gender and Interactions at Time 1 Predicting Residual Changes in R-SEQ Negative Evaluation of Targets from Time 1 to Time 2*

Order of entry of set	Predictors in set	F for set	t for within-set predictors	df	Partial correlation (PR/pr)
1.	Baseline	91.86**		1, 180	.58
	Time 1 R-SEQ		9.58**	180	.58
2.	Main effects	2.01		4, 176	.21
	Time 1 BDI		.96	176	.07
	Time 1 FSQ		1.55	176	.12
	Time 1 DIRI-RS		.78	176	.06
	Gender		-1.78	176	-.13
3.	Two-Way interactions	2.39		6, 170	.28
	BDI × FSQ		-.27	170	-.02
	BDI × DIRI-RS		.07	170	.01
	BDI × Gender		-1.60	170	-.12
	FSQ × DIRI-RS		2.13*	170	.16
	FSQ × Gender		-1.92	170	-.15
	DIRI-RS × Gender		-.35	170	-.03
4.	Three-way interactions	.73		4, 166	.13
	BDI × FSQ × DIRI-RS		1.31	166	.10
	BDI × FSQ × Gender		-.97	166	-.08
	BDI × DIRI-RS × Gender		-1.52	166	-.12
	FSQ × DIRI-RS × Gender		-.31	166	-.02
5.	Four-way interaction	8.91**		1, 165	.22
	BDI × FSQ × DIRI-RS × Gender		-2.98**	165	-.22

Note. R-SEQ = Negative Evaluation of Target on Revised Rosenberg Self-Esteem Questionnaire. BDI = Beck Depression Inventory. FSQ = Feedback-Seeking Questionnaire. DIRI-RS = Depressive Interpersonal Relationships Inventory, Reassurance-Seeking. PR = Multiple partial correlation for a set of predictors; pr = partial correlation for within set predictors.  
 \* $p < .05$ . \*\* $p < .01$ .

back-seeking male participants were depressed or nondepressed made a striking difference in terms of rejection scores.

### Specificity to Depression

If the hypothesized effects are specific to depression, they should emerge when BDI but not BAI is used as a predictor of rejection (cf. Metalsky & Joiner, 1992). Clark and Watson (1991) offer a second strategy for testing symptom specificity. They argued that anhedonia (i.e., low PA) is specific to depression, whereas physiological hyperarousal (e.g., high BAI score) is specific to anxiety. Thus, to provide a second test of the symptom specificity, the analyses were conducted using both PA and BAI scores in place of BDI scores. Specificity would be indicated by rejection effects for PA but not BAI.

*Depression vs. Anxiety.* The results from these analyses were fully in line with the symptom specificity hypothesis. Specifically, the BAI × DIRI-RS × FSQ × Gender interaction was not predictive of R-SEQ or WILL changes ( $prs = .01$  and  $-.01$ , respectively,  $ps = ns$ ), whereas the BDI × DIRI-RS × FSQ × Gender interaction was ( $prs = -.22$  and  $-.16$ ; see Tables 3 and 4).

*Anhedonia vs. Physiological Hyperarousal.* The results were not in line with the prediction that rejection effects would apply to anhedonia (i.e., low PA), but not to physiological hyperarousal (i.e., high BAI). Specifically, the PA × DIRI-RS × FSQ × Gender interaction was not significantly predictive of

changes in R-SEQ rejection ( $pr = .06$ ,  $p = ns$ ). It is also noteworthy that the NA × DIRI-RS × FSQ × Gender interaction was not associated with R-SEQ rejection ( $pr = -.04$ ,  $p = ns$ ).

Overall then, rejection effects held for depressive symptoms on the BDI and *not* for anxious symptoms on the BAI, as predicted. However, rejection effects did not hold for anhedonia (low PA), at odds with prediction.

### Discussion

We tested an integration of Coyne's (1976b) interpersonal theory of depression with work on the interplay between self-enhancement and self-consistency theory (Shrauger, 1975; Swann et al., 1987, 1989, 1990). The integrated theory suggests that depressed individuals' conflicting needs to be consoled and confirmed eventuate in rejection by significant others.

The results partially corroborated postulates of the integrated theory. First, as predicted, depressed participants reported engaging in more self-consistent negative feedback seeking than nondepressives, and people with depression tended to report seeking more self-enhancing reassurance than their nondepressed counterparts. Second, consistent with prediction, the combination of negative feedback seeking, high reassurance seeking, and depression by male (but not female) targets at T1 was associated with increases in negative evaluation by their roommates from T1 to T2. Third, rejection effects were specific

Table 4  
*Depression, Negative Feedback Seeking, Reassurance Seeking, Gender and Interactions at Time 1 Predicting Residual Changes in WILL Avoidance of Targets from Time 1 to Time 2*

Order of entry of set	Predictors in set	F for set	t for within-set predictors	df	Partial correlation (PR/pr)
1.	Baseline	143.82**		1, 180	.67
	Time 1 WILL		11.99**	180	.67
2.	Main effects	1.65		4, 176	.19
	Time 1 BDI		1.54	176	.12
	Time 1 FSQ		.85	176	.06
	Time 1 DIRI-RS		1.44	176	.11
	Gender		-.10	176	-.01
3.	Two-way interactions	2.08		6, 170	.23
	BDI × FSQ		-.33	170	-.03
	BDI × DIRI-RS		.81	170	.06
	BDI × Gender		-.75	170	-.06
	FSQ × DIRI-RS		2.25*	170	.17
	FSQ × Gender		-1.78	170	-.14
	DIRI-RS × Gender		-.81	170	-.06
4.	Three-way interactions	.44		4, 166	.08
	BDI × FSQ × DIRI-RS		-.26	166	-.02
	BDI × FSQ × Gender		-.34	166	-.03
	BDI × DIRI-RS × Gender		-.99	166	-.08
	FSQ × DIRI-RS × Gender		.36	166	.03
5.	Four-way interaction	4.41*		1, 165	.16
	BDI × FSQ × DIRI-RS × Gender		-2.10	165	-.16

Note. R-SEQ = Negative Evaluation of Target on Revised Rosenberg Self-Esteem Questionnaire. BDI = Beck Depression Inventory. FSQ = Feedback-Seeking Questionnaire. DIRI-RS = Depressive Interpersonal Relationships Inventory, Reassurance-Seeking. PR = Multiple partial correlation for a set of predictors; pr = partial correlation for within set predictors.

\*  $p < 0.05$ . \*\*  $p < .01$ .

to depressed versus anxious symptoms, but did not hold for anhedonic symptoms.

The present findings lend further credence to the notion that mildly depressed individuals have a vacillating interpersonal style characterized by *both* reassurance seeking and negative feedback seeking. Moreover, mildly depressed men who have such a vacillating interpersonal style appear to elicit rejection from other men. These findings highlight the importance of examining multiple interpersonal characteristics which modulate the conditions under which mildly depressed individuals will and will not elicit negative responses from others. Indeed, when depressed men did not engage in reassurance seeking *and* negative feedback seeking, they did not elicit rejection from their roommates (see Figure 2).

Interestingly, the combination of high reassurance seeking, high negative feedback seeking and depression, as opposed some subset of the three (e.g., depression and reassurance seeking), was most predictive of rejection from others among men. We suggest that depression toxifies information-seeking behaviors by adding a quality of distress which others find particularly aversive. By contrast, a person without depression who engages in both types of feedback seeking may do so in a less desperate fashion and, consequently, may be less likely to elicit negative evaluation from others. Indeed, among high reassurance-seeking, high negative-feedback-seeking men who were nondepressed, rejection scores decreased over the course of the study.

An interesting implication of the results is that others' incon-

gruent responses to depressives (initially proposed by Coyne, 1976b; see also Gotlib & Robinson, 1982; but see Hollander & Hokanson, 1988; Strack & Coyne, 1983) may vary as a function of the type of information requested by the depressive. Specifically, it may be that the "incongruent response hypothesis" is operative only when the person with depression requests both reassurance and negative information. Put differently, others may respond to persons with depression in incongruent ways because the depressed persons ask them to.

In contrast to the results of Joiner et al. (1993), rejection effects in the present study were obtained on measures of dislike and of intent to avoid. Intent to avoid may be viewed as a more severe index of rejection, in that it probably includes dislike, but in addition, includes the motivational decision to reduce contact with another. The distinction and relation between these two categories of rejection—as well as their relation to depression and interpersonal variables—deserve continued attention in future work.

We did not address the question as to which variables mediate the depression-rejection relation. This issue represents a major gap in the literature, and deserves continued attention. It is possible that the combination of reassurance seeking, negative feedback seeking, and depression leads to particular forms of negative affect (e.g., anger and hostility), which, in turn, may lead to rejection. Another interesting possibility is that others' anticipation of contagious negative affect, as opposed to negative affect itself, may mediate the depression-rejection relation (i.e., others detach from depressives to preempt contagious negative affect).

With regard to the issue of symptom specificity, the results

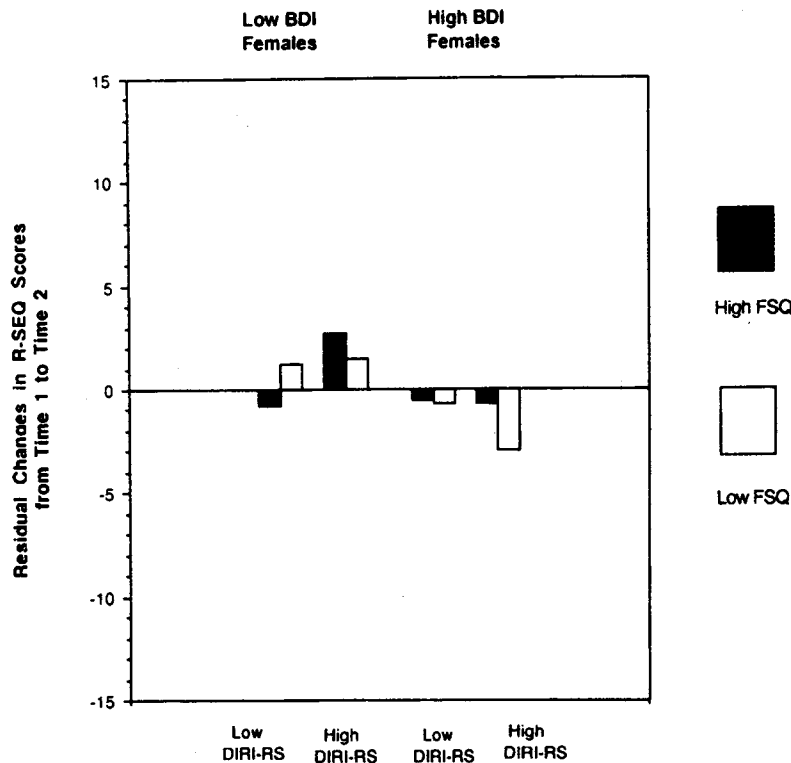


Figure 1. Beck Depression Inventory (BDI)  $\times$  Depressive Interpersonal Relationships Inventory Reassurance-Seeking (DIRI-RS)  $\times$  Feedback-Seeking Questionnaire (FSQ) Interaction as a function of residual change scores on the evaluation of roommate on the Revised Rosenberg Self-Esteem Questionnaire (R-SEQ) in low- and high-BDI women.

for men were supportive in the BDI versus BAI analyses but not in the PA versus BAI analyses. This pattern of results suggests that anhedonia (i.e., low PA) is not alone sufficient to elicit rejection among roommates of high reassurance-seeking, high negative-feedback-seeking men; the other symptoms of the depressive syndrome also seem required. However, it was the symptoms of depression, not those of anxiety or general negative affect, that induced the rejection effect.

Although the present investigation tested core postulates of our integrated theory, two additional aspects of the theory need to be addressed in future work. First, we have suggested a sequence in which depressed individuals initially seek relatively more self-enhancing feedback, but eventually seek both self-enhancing and self-consistent information from others. The existence of such a sequence, and its defining parameters (e.g., timing), remain to be demonstrated. Second, the various communicative modalities in which people with depression ask for incongruent feedback require further exploration. In the present study, we focused on the underlying tendencies to seek reassurance and negative feedback, the most obvious examples of which are verbal requests. Other potentially important modalities include paralinguistic qualities such as volume and pitch, and the many manifestations of body language (e.g., facial, gestural, postural, and proxemic qualities).

In closing we note several conceptual and methodological cautions and considerations. From a conceptual standpoint, re-

jection effects applied only to male pairs and were not applicable to female pairs. Although this finding is consistent with past work (e.g., Hammen & Peters, 1977, 1978; Joiner et al., 1992), the explanation as to which factors do predict rejection among women remains unclear. It may be that rejection among women is locally determined by an array of causes and that a global explanation such as the one offered here does not hold. An alternative explanation is that our findings reflect women's reluctance to provide rejecting responses under conditions such as those in the present study. Investigation of gender differences in the relation between interpersonal variables and depression represents a very important area for future research.

From a methodological standpoint, because targets' and roommates' gender was the same, our results may suggest that men are more likely to provide (rather than elicit) rejection to high reassurance-seeking, high negative-feedback-seeking, depressed people. This interesting possibility should be evaluated in future work. Also, the present study did not measure participants' behaviors and thus caution must be exercised in interpreting the relation between the interpersonal *behavior* of people with depression and the rejecting *behavior* of others. Similarly, the present study focused on nonromantic roommates and thus, extension of these results to romantic pairs awaits future work. Finally, possible differences between clinical versus subclinical and chronic versus remitted depressives should be examined in future work.

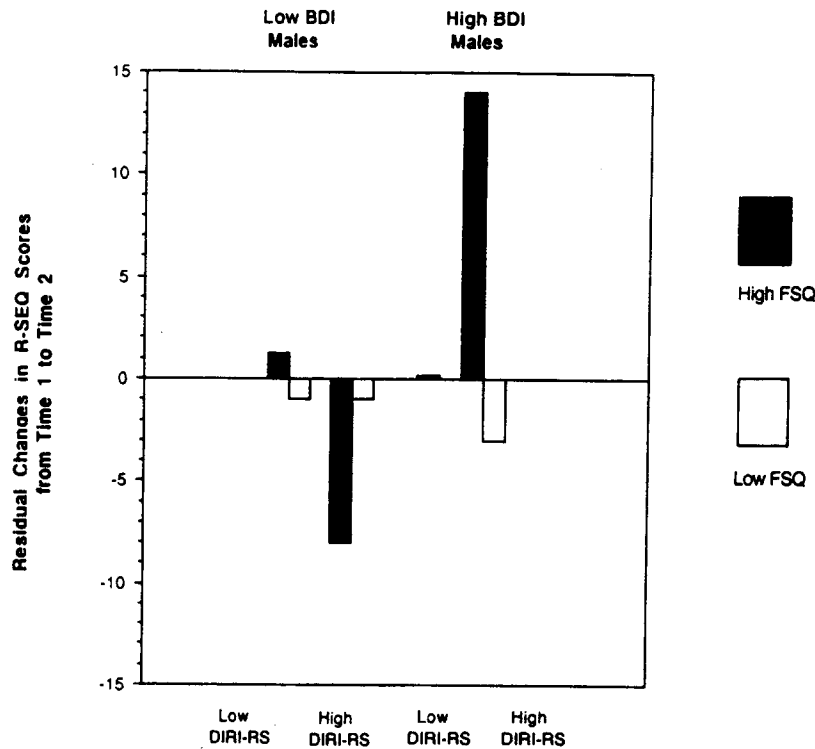


Figure 2. Beck Depression Inventory (BDI)  $\times$  Depressive Interpersonal Relationships Inventory Reassurance-Seeking (DIRI-RS)  $\times$  Feedback-Seeking Questionnaire (FSQ) Interaction as a function of residual change scores on the evaluation of roommate on the Revised Rosenberg Self-Esteem Questionnaire (R-SEQ) in low- and high-BDI men.

At a more general level, borrowing extensively from the work of Coyne and colleagues (1976a, 1976b; Coyne et al., 1987; Robbins, Strack, & Coyne, 1979; Strack & Coyne, 1983) and Swann and colleagues (1983, 1987, 1990; Swann et al., 1987, 1989, 1990, 1992; Swann & Read, 1981), we have proposed an explanation of the means by which the depressed person's social environment becomes disordered, and we have provided an empirical test of this explanation; although the results support the view that depression, in conjunction with reassurance seeking and negative feedback seeking, elicits rejection from same-gender male roommates, extension of the results to other populations, measures, and procedures presents an exciting agenda for future investigation.

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