Rejection Sensitivity and Depressive Symptoms in Women

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It is proposed that interpersonal loss that communicates rejection increases the risk for depression specifically in individuals who not only expect rejection but are also concerned about preventing it. Accordingly, the role of rejection sensitivity (RS)—the disposition to anxiously expect, readily perceive, and overreact to rejection—in women's depressive reactions to rejection by a romantic partner was examined. A 6-month longitudinal study of college women revealed that women high in RS compared to those who are low became more depressed when they experienced a partner-initiated breakup but not when they experienced a self-initiated or mutually initiated breakup. By contrast, RS was not associated with increased depression in response to failing to achieve an academic goal. These results support the view that depression in high-RS women is a reaction to a loss in a valued goal domain, that is, failure to prevent rejection in an important relationship.

It has long been recognized that interpersonal loss plays a role in the genesis of depression (Bowlby, 1980; Brown & Harris, 1978; Freud, 1971). The extent to which individuals become depressed when they experience such loss, however, varies considerably. Both theoretical reasoning and empirical evidence implicate attachment cognitions as moderators of the link between interpersonal loss and depression. For example, to account for variability in response to loss, current cognitive-interpersonal models of adult depression have argued that loss elicits depression to the extent that individuals hold insecure attachment cognitions (Hammen, 1992; Hammen et al., 1995; Rudolph, Hammen, & Burge, 1997). Such cognitions incorporate discomfort with intimacy, anxiety about abandonment, and beliefs that others are untrustworthy and undependable (Hazan & Shaver, 1987). Along similar lines, personality diathesis-matching stress theories of depression have argued that it is

specifically those individuals with heightened concerns over social acceptance and high investment in interpersonal relatedness who are most vulnerable to depression in the face of interpersonal loss (e.g., Blatt & Zuroff, 1992; also see Coyne & Whiffen, 1995, for review). This relatedness vulnerability has been referred to as sociotropy (Beck, Epstein, Harrison, & Emery, 1983; Clark, Beck, & Brown, 1992) and as dependency (Blatt & Zuroff, 1992).

Although there is empirical support for both the cognitive-interpersonal (Hammen et al., 1995) and dependency/sociotropy diathesis-stress theories (Clark et al., 1992; Robbins, 1990; Robins & Block, 1988; Rude & Burnham, 1993; cf. Zuroff & Mongrain, 1987), this research has not clarified precisely what it is about interpersonal loss, insecure attachment cognitions, or relatedness concerns that lead to depression. The goal of this study was to address these issues both on theoretical and empirical grounds. Toward this end, we begin with the theoretical claim that interpersonal loss elicits depression to the extent that it conveys the message of rejection. We also propose an expectancy-value view of vulnerability to depression conceptualized as rejection sensitivity (RS) (Downey & Feldman, 1996). Specifically, we predict that for rejection to elicit depression, individuals must not only be doubtful of acceptance and expect rejection but also be concerned about preventing rejec-

tion and gaining or maintaining acceptance. These theoretical claims were tested in a longitudinal study of college women that examined the impact of events that do and do not communicate rejection on women's depressive symptomatology as a function of their level of RS.

INTERPERSONAL LOSS AND REJECTION

Previous research based on the cognitive-interpersonal and diathesis-stress models of depression have traditionally relied on a very general, nonspecific definition of interpersonal stress, combining events with potentially distinct psychological meanings. Research in these traditions, for instance, would treat relationship breakups initiated by the self and those initiated by the partner as functionally equivalent examples of interpersonal stress. In this study, however, we differentiate between negative interpersonal events that communicate rejection and those that do not convey this message. We argue that interpersonal loss triggers depression to the extent that it communicates rejection, because messages of rejection undermine people's ability to view themselves as worthy of love and acceptance, leading to despair and depression (Brown & Harris, 1978). It is thus proposed that whereas interpersonal losses that convey rejection (such as a partner-initiated breakup) should elicit depression, those that do not communicate rejection (such as a self-initiated breakup) should not increase the risk for depressive reactions.

RS: AN EXPECTANCY-VALUE MODEL OF
VULNERABILITY TO DEPRESSION

The cognitive-interpersonal and the dependency/sociotropy diathesis-stress models of depression have also not adequately explained why interpersonal loss and rejection would trigger depression in individuals who have insecure attachment cognitions or heightened relatedness concerns beyond contending that such cognitive schemas are sources of vulnerability. Insecure attachment cognitions have been conceptualized as including multiple cognitive-affective mediating components such as beliefs that others are untrustworthy, expectations of rejection, discomfort with intimacy, and anxiety about abandonment (Hammen et al., 1995; Hazan & Shaver, 1987). Similarly, conceptualizations of sociotropy and dependency encompass concern with social disapproval, the desire to be close to others, and the desire to please others. Measures of these constructs do not distinguish among these different mediating units. Thus, it has not been theoretically clarified how and why each of the various components of attachment cognitions or dependency/sociotropy constructs, independently or in interactions with each other, would make people vulnerable to depression in the face of

rejection. Without a theoretical account of the potential links between specific relevant cognitions and depression to guide research, precise predictions have not been made and research findings regarding the link between specific components of attachment style or dependency/sociotropy and depression have been interpreted post hoc (e.g., Hammen et al., 1995).

In this article, we adopt an expectancy-value model (Bandura, 1986) of vulnerability to depression. We argue that expectations of rejection together with the value individuals place on preventing rejection and gaining acceptance determine whether experiences of rejection should elicit depression (Bowlby, 1980; Fishtein, Pietromonaco, & Barrett, 1999; Pietromonaco & Feldman Barrett, 1997). More specifically, individuals must both expect rejection (doubt acceptance) and be highly concerned over its occurrence to become depressed when they perceive rejection. In the absence of concern over preventing rejection and gaining acceptance, expecting rejection should not be a sufficient condition to elicit depressive reactions to rejection. Similarly, concern over preventing rejection in the context of a generalized expectation of being accepted (i.e., high concern but low rejection expectations) should not lead to depression following a rejection. In such cases, a single rejection is unlikely to trigger the global, catastrophic negative beliefs about oneself that underlie depression.

The proposed vulnerability is captured in the anxious expectations component of RS, that is, the cognitive-affective processing disposition to anxiously expect, readily perceive, and overreact to rejection (Downey & Feldman, 1996; Feldman & Downey, 1994). The operationalization of RS reflects an expectancy-value model of attachment in which anxiety and concern over the possibility of rejection reflect the importance or value of acceptance/rejection goals and expectations of rejection reflect the perceived likelihood of attaining those goals. Consequently, people who are relatively high in RS (HRS) are concerned about the possibility of rejection while also expecting rejection rather than acceptance. In contrast, people who are relatively low in RS (LRS) show lower levels of concern about the prospect of rejection, and they expect acceptance from significant others.

We have previously proposed that for HRS individuals, anxious expectations of rejection become activated in situations where rejection is a possibility (e.g., conflict; Downey & Feldman, 1996; Downey, Freitas, Michealis, & Khouri, 1998; S. R. Levy, Ayduk, & Downey, in press). Their activation prompts vigilance for potentially relevant cues. Such vigilance leads to a readiness to perceive intentional rejection in the negative and even ambiguous behaviors of others. Accordingly, in both experimen-

tal and field studies, HRS individuals were found to perceive intentional rejection in ambiguous cues more readily than LRS people (Downey & Feldman, 1996; Downey et al., 1998). For example, college students who entered romantic relationships anxiously expecting rejection more readily perceived hurtful intent in their new partner's ambiguous behavior (e.g., being cool and distant) (Downey & Feldman, 1996, Study 3).

The RS model further claims that when HRS individuals perceive rejection, they respond to it with intense negativity. In support of this claim, using a word priming-pronunciation paradigm, we have found that following rejection primes (e.g., "abandon"), thoughts of hostility (e.g., "hit") were activated much more strongly in HRS than in LRS women (Ayduk, Downey, Testa, Yen, & Shoda, 1999, Study 1). Furthermore, when HRS women perceived rejection in their actual relationships, they expressed their hurt and anger in hostile and nonsupportive behavior toward their partners (Ayduk et al., 1999, Studies 2 and 3; Downey et al., 1998). Note that in these studies, HRS women were more hostile than LRS women only under conditions that made them feel rejected (e.g., conflicts); HRS and LRS women responded similarly to interpersonal situations that did not communicate rejection (e.g., experiment ended for technical reasons; Ayduk et al., 1999, Study 2).

The RS model also proposes that HRS individuals react to perceptions of rejection in such intensely negative ways because rejection represents loss in a valued goal domain and confirms the vulnerable individual's worst fears. In support of the idea that HRS individuals actively try to prevent rejection, previous research has found that HRS adolescent girls report being more willing than LRS girls to do things they know are wrong to keep their partners in their relationships (Purdie & Downey, 2000).

Within this framework, interpersonal experiences that convey rejection are likely to be interpreted by HRS individuals as reflecting their inability to attain highly valued goals, eliciting despair and depression (Bowlby, 1980; Higgins, 1989; Melges & Bowlby, 1969). For individuals who are not particularly concerned about such issues, in contrast, rejection should not be necessarily linked to how positively individuals view themselves, regardless of their expectations of rejection, and therefore should not elicit depression. Accordingly, recent research in social-cognitive models of motivation and emotion indicate that affective reactions to impediments for goal attainment are greater for goals that are more important, salient, or accessible (e.g., Carver & Scheier, 1990; Fazio, 1986; Frijda, 1986; Higgins, Shah, & Friedman, 1997; Klinger, Barta, & Maxeiner, 1980; McIntosh, 1996).

THE STUDY

This study examined the role of RS in increasing vulnerability to depression in the face of rejection in a significant relationship. We focused on this process in women because they are at heightened risk for depression (Kessler & Zhao, 1999) and because interpersonal events are more stressful for young women than for young men (e.g., Rudolph & Hammen, 1999). As Coyne and Whiffen (1995) and others have pointed out, it is important that researchers clarify whether they are assessing clinical depression or depressive symptomatology because these different approaches to measuring distress may have different correlates. Thus, at the onset we want to make clear that our focus is on depressive symptomatology rather than clinical diagnosis of depression.

We reasoned that for HRS women, a partner-initiated breakup would reflect a rejection, whereas a breakup that was self-initiated or mutually initiated would not. We reasoned that both self- and mutually initiated breakups would be associated with a sense of control over the breakup and thus should not be perceived as rejection. In support of this idea, people who have experienced self- and mutually initiated breakups report significantly lower levels of distress following breakup than those for whom the breakup has been initiated solely by the partner (Akert, 1998). Thus, we tested the hypothesis that RS would predict increased depressive symptoms following a partner-initiated breakup but not following a self- or a mutually initiated breakup. However, we also reasoned that HRS and LRS women would not differentially value having a grade point average (GPA) that matches one's expectations at the beginning of the school year. Thus, HRS women should not to be more vulnerable to increased depressive symptomatology compared to LRS women when failing to attain the GPA they had expected.

These hypotheses were tested in a study that also addressed some of the methodological limitations identified by Coyne and Whiffen (1995) in their review of research on the personality diathesis-stress hypothesis. First, a prospective design allowed us to control for initial level of depressive symptoms and unconfound the measurement of depressive symptoms from measurement of the vulnerability factor (see also Hammen et al., 1995). Second, RS was treated as a personality dimension rather than as a typology by keeping it as a continuous variable in all analyses.

METHOD

Sample and Procedure

The sample consisted of 223 women who participated as 1st year undergraduates in a longitudinal study of dat-

ing relationships (age: M = 18.5 years, SD = 0.57). The racial composition of the sample was representative of the undergraduate population of the college from which the participants were recruited (54.8% Caucasian, 25.3% Asian or Asian American, 8.3% Hispanic, 7.8% African American, and 3.7% from other ethnic backgrounds).

The descriptive statistics and the main analyses reported below are on the subset of the sample who had been in at least one romantic relationship over the course of the study (n = 178). This subset did not differ significantly from the larger sample on any of the variables relevant for the study. Furthermore, the results reported below did not change when analyses combined people who have not been in any relationship with those who had been in a relationship but had not experienced a breakup.

For 2 successive years, 1st-year students entering Columbia University were mailed at the beginning of the academic year an invitation to participate in a longitudinal study of interpersonal relationships. Those who indicated interest in participating in the study were mailed two sets of questionnaires at the beginning of the academic year, a month apart, and a third one at the end of the academic year. Participants received $5 for completing each set of questionnaires.

The first set included the Rejection Sensitivity Questionnaire (RSQ) (Downey & Feldman, 1996), the Adult Attachment Questionnaire-Continuous version (M. B. Levy & Davis, 1988), and questions about basic demographics. The second set included the Beck Depression Inventory (BDI) (Beck, Mendelson, Mock, & Erbaugh, 1961). The end-of-year set included the BDI, questions about dating history, and expected and actual academic performance over the academic year. In the dating history section, participants indicated the number of romantic relationships they were in during the academic year. For each relationship, they specified when it began and ended and who initiated the breakup (self, partner, or mutual). The two cohorts did not differ significantly on variables relevant to the study.

Measures

BDI. The BDI (Beck et al., 1961) is a 21-item self-report measure that assesses on a 4-point scale the affective, cognitive, and behavioral symptoms of depression. Possible scores range from 0 to 63, with higher scores indicating greater depressive symptomatology. For the current sample, the mean BDI score for Time 1 (beginning of the academic year) and Time 2 (end of the academic year) were 8.75 (SD = 7.27) and 8.97 (SD = 7.00), respectively. The correlation between the two scores was 0.59 (p < .001).

RSQ. The RSQ (Downey & Feldman, 1996) assesses the anxious expectations component of RS; the complete measure is available at www.columbia.edu/~gd20. The measure consists of 18 hypothetical situations in which rejection by a significant other is possible (e.g., "You ask your friend to do you a big favor"). For each situation, people are first asked to indicate their degree of concern or anxiety about the outcome of the situation (e.g., "How concerned or anxious would you be over whether or not your friend would want to help you out?") on a 6-point scale ranging from 1 (*very unconcerned*) to 6 (*very concerned*). They are then asked to indicate the likelihood that the other person(s) would respond in an accepting fashion (e.g., "I would expect that he/she would willingly agree to help me out") on a 6-point scale ranging from 1 (*very unlikely*) to 6 (*very likely*). High likelihood of this outcome represents expectations of acceptance, and low likelihood represents expectations of rejection.

Reflecting our adoption of an expectancy-value model (Bandura, 1986) of anxious expectations of rejection, RSQ scores were computed as follows: A score for each situation was obtained by weighting the expected likelihood of rejection by the degree of anxiety or concern about the outcome of the request. The score for acceptance expectancy was reversed to index rejection expectancy (expectancy of rejection = 7 – expectancy of acceptance). The reversed expectation score was then multiplied by anxiety or concern ratings. A total (cross-situational) RS score for each participant was computed by summing the RS scores for each situation and dividing by the total number of situations. The mean RSQ score for the current sample was 9.73 (SD = 3.54) with a range of 3.11 to 22.05.

Downey and Feldman (1996, Study 1) showed that the RSQ is a normally distributed measure that taps a relatively enduring and coherent information-processing disposition. The RSQ test-retest reliability was .83 over a 2- to 3-week period and .78 over a 4-month period. Downey and Feldman (Study 3) provided evidence that RS was not redundant, in terms of its predictive utility, with established personality constructs to which it is conceptually and empirically related, including introversion, neuroticism, adult attachment style, social anxiety, social avoidance, and self-esteem. In addition, in a different sample, Downey and Ayduk (2000) found that whereas the RSQ was significantly related with the Sociotropy scale, r(115) = .39, p < .001 (Beck et al., 1983), it was not redundant with the Sociotropy scale scores in terms of predicting BDI depressive symptoms (RSQ: b = .49, t(105) = 2.19, p < .05.

Adult Attachment Questionnaire. Participants completed the Adult Attachment Styles Questionnaire–Continuous Version (M. B. Levy & Davis, 1988). This continuous

version of Hazan and Shaver's (1987) categorical measure assesses secure, anxious-avoidant, and anxious-ambivalent styles on a scale from 1 (*strongly agree*) to 7 (*strongly disagree*). The mean ratings were 4.59 on the secure ($SD = 1.79$), 3.16 on the avoidant ($SD = 1.86$), and 2.89 on the ambivalent ($SD = 1.75$) scales. RSQ was correlated with all three attachment scales in the theoretically expected direction: secure, $r(176) = -.26$, $p < .001$; avoidant, $r(176) = .24$, $p = .001$; and ambivalent, $r(176) = .26$, $p < .001$).

Academic Performance Questionnaire. Participants reported the overall GPA they had expected and the actual grade they had received. The mean expected grade fell between and A– and B+, whereas the mean actual grade was between a B+ and a B. Academic stress was defined as the discrepancy between the actual and the expected grade. Women whose actual grade was lower than their expected grade were categorized as experiencing high academic stress ($n = 129$) and women whose actual grade was higher than or equal to their expected grade were categorized as experiencing low academic stress ($n = 49$). RS was unrelated to level of academic stress, $r(176) = .10$, *ns.*

Dating History Questionnaire. At the end of the academic year, participants were asked to indicate the beginning and end dates of each romantic relationship they had been in since the beginning of the academic year. For each relationship that had ended, they reported whether the breakup was initiated solely by the partner, solely by themselves, or mutually by the partner and themselves. This study focused on people's most recently ended relationship because this would be most pertinent to their Time 2 depression level.

Of the women, 66% had experienced a breakup over the course of the study. Four of the participants did not provide breakup information. Of the people who experienced a relationship breakup, the most recent breakup was self-initiated in 50.4% of the cases, mutually initiated in 27% of the cases, and partner-initiated in 22.6% of the cases. Participants' RSQ scores were not different as a function of their relationship breakup status, $F < 1$; self-initiated: $M = 9.59$, $SD = 3.00$; partner-initiated: $M = 10.19$, $SD = 4.76$; mutually initiated: $M = 10.03$, $SD = 3.34$; no breakup: $M = 9.93$, $SD = 3.45$.

Overview of Data Analyses

To allow parameter estimates to be readily interpretable, RSQ scores were standardized as *z* scores for all data analyses. Breakup information was recoded into presence vs. absence of a partner-initiated breakup (partner initiated = 1, self-initiated, mutually initiated, and no breakup = 0) and used in subsequent analyses as such. The main results reported below came from multiple

regression analysis testing for the hypothesized interaction between RS and partner-initiated breakup. Further simple slope analyses were conducted following the approach described by Aiken and West (1990) to test whether partner-initiated breakup was significantly related to depressive symptoms separately among LRS and HRS individuals. All parameter estimates reported below are unstandardized.

RESULTS

Does Partner-Initiated Relationship Breakup Trigger Depressive Symptoms in HRS Women?

First, to test whether RS alone predicted changes in BDI scores over the academic year, we conducted a regression analysis on Time 2 BDI scores with RS as the predictor variable. BDI score at Time 1 was included as the covariate. The results showed that RS predicted Time 2 BDI, $b = .99$, $t(170) = 2.22$, $p < .05$, when controlling for preexisting level of depressive symptoms.

Second, to investigate whether an experience of a partner-initiated breakup predicted end-of-year depressive symptoms, we conducted a regression analysis on Time 2 BDI score with presence versus absence of a partner-initiated breakup as the predictor variable and Time 1 BDI score as the covariate. The experience of a partner-initiated breakup per se did not predict depressive symptoms at Time 2, $b = 1.29$, $t(170) = 1.08$, *ns*) controlling for Time 1 BDI score. This result did not change when the analyses also controlled for RSQ score ($b = 1.19$, $t < 1$).

To determine whether there is an interaction between RS and partner-initiated breakups in predicting depressive symptoms, we regressed Time 2 BDI on RS, partner-initiated breakup, and the interaction term between them, with Time 1 BDI score included as a covariate. Results revealed a significant interaction term (RS × Partner Initiated Breakup), $b = 2.74$, $t(168) = 2.86$, $p < .005$. Table 1 summarizes the parameter estimates from this analysis, and Figure 1 illustrates the results based on these parameter estimates. Predicted values were computed using –1 and 1 standard deviation of the RSQ scores for LRS and HRS women, respectively, and the mean BDI score at Time 1 (8.75).

As Figure 1 shows, among HRS women, those who had experienced a partner-initiated breakup showed the highest increase in depressive symptoms. Simple slope analyses indicated that partner-initiated breakup was significantly related to increased depressive symptoms among HRS women, $b = 3.67$, $t(168) = 2.87$, $p < .02$. Among LRS women, in contrast, the experience of a partner-initiated breakup did not lead to an increase in depressive symptoms at Time 2, $b = -1.80$, $t(168) = -1.15$, *ns.*

The overall RS × Partner-Initiated Breakup interaction remained significant when participants' current

TABLE 1: Parameter estimates from the multiple regression analysis predicting Time 2 BDI, with Time 1 BDI, RS, partner-initiated breakup, and the interaction between RS partner-initiated breakup (N = 178).

Variable	Parameter Estimates	R^2	ΔR^2
Intercept	3.99***		
Time 1 Beck Depression Inventory	0.55***	0.35	
Rejection sensitivity	0.23	0.37	0.02
Partner-initiated breakup	.93	0.37	0.00
Rejection sensitivity × Partner-Initiated Breakup	2.74**	0.41	0.03

NOTE: Breakup was coded 1 if partner initiated and 0 in cases of self-initiated and mutually initiated breakups as well as no breakups.
*$p < .05$. **$p < .01$. ***$p < .001$.

Figure 1 Predicted Time 2 Beck Depression Inventory (BDI) scores as function of rejection sensitivity and relationship breakup.

NOTE: HRS = high rejection sensitivity. LRS = low rejection sensitivity. Other breakup status includes participants who experienced self-initiated and mutually initiated breakups and those who did not experience any breakups. Predicted values are adjusted for Time 1 BDI scores.

relationship status (involved vs. not involved) was controlled, $b = 2.25$, $t(168) = 2.20$, $p < 0.05$. Furthermore, the significant interaction effect also held when logistic regression analysis were conducted with d BDI scores dichotomized as low (0-9; 64% of sample) versus mild, moderate, or severe (10-63; 36% of sample), $b = .34$, $\chi^2(1) = 3.8$, $p = .05$.

An alternative way to view the interaction between RS and partner-initiated breakup is to examine the relation of RS to depression among those who did and did not experience a partner-initiated breakup. For those who experienced a partner-initiated breakup, RS predicted Time 2 BDI controlling for Time 1 BDI, $b = 2.95$, $t(22) = 3.32$, $p < .005$. For those who had not, there was no systematic relationship between RS and depressive symptoms, $b = 0.23$, $t < 1$. Further analyses revealed that when controlling for Time 1 BDI, RS did not predict depressive symptoms at Time 2 either for those who reported a self-initiated breakup, $b = -0.82$, $t(54) < 1$, or those who reported that the breakup was mutually initiated, $b = 0.65$, $t(27) < 1$. The effect of RS on depressive symptoms for self-initiated and for mutually initiated breakups were not significantly different from one another, $b = 1.88$, $t(83) = 1.32$, $p > .18$. Furthermore, neither women who experienced self-initiated nor mutually initiated breakups differed significantly from those who had not experienced a breakup in terms of the impact of RS on Time 2 depressive symptoms, $b = -1.7$, $t(115) = -1.48$, *ns*, and $b = .24$, $t < 1$, *ns*, respectively. Time since the most recent breakup was not a significant predictor of depressive symptoms at Time 2, and controlling for this variable did not alter the above results.[1]

To further examine the hypothesis that rejection elicits depressive symptoms in people who both expect rejection and who are concerned about preventing it, we conducted analyses using the concern and the expectations dimensions measured by the RSQ separately. Time 2 BDI score was regres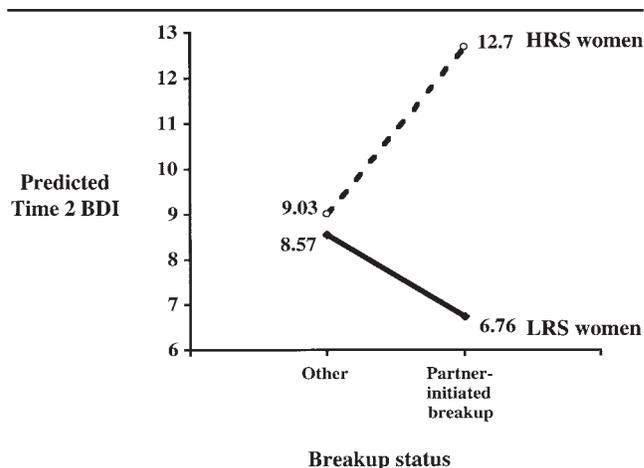sed on rejection concerns, rejection expectations, partner-initiated break-up, and the two-way and the three-way interactions between these variables, including Time 1 BDI score as the covariate. The Rejection Concerns × Rejection Expectations × Partner-Initiated Breakup interaction was significant at $p = .06$, $b = 2.76$, $t(164) = 1.87$. Similar to the results presented in Figure 1, plotting the parameter estimates from this analysis showed that women who had both high rejection concerns and high rejection expectations and who had experienced a partner-initiated breakup were higher in depressive symptoms at Time 2 than was the rest of the sample.

Does the Effect of Partner-initiated Breakup on Depressive Symptoms Depend on Initial Level of Depressive Symptoms?

In their critique of the diathesis-stress models of depression, Coyne and Whiffen (1995) raised the possibility that a Vulnerability Factor × Interpersonal Stress interaction can be explained by other interaction terms, including initial depressive symptoms. The presence of an Initial Depressive Symptoms × Interpersonal Stress interaction, for example, can be interpreted as indicating that people who are initially high in depressive symptoms are especially vulnerable to further life stress. Thus, it was important to examine whether the RS × Partner-Initiated Breakup term remained significant when controlling for this interaction. To examine the robustness of our findings in the face of this and other possible alternative explanations, we first conducted a regression analysis with all the two-way and three-way interactions

between Time 1 BDI, RS, and partner-initiated breakup as well as the main effects of these variables. The three-way interaction was not significant, indicating that the effect of RS × Partner-Initiated Breakup did not depend on initial level of depressive symptoms. The only significant interaction term was between RS and partner-initiated breakup, $b = 3.35$, $t(165) = 2.08$, $p < .05$; Time 1 BDI × RS × Partner-Initiated Breakup, $b = -.07$, ns; Time 1 BDI × Partner-Initiated Breakup, $b = .03$, ns; and Time 1 BDI × RS, $b = .02$, ns. Results from a subsequent analysis that excluded the three-way interaction term also indicated that Time 1 BDI × Partner-Initiated Breakup effect was not significant. In this analysis, the RS × Partner-Initiated Breakup was again the only significant interaction term, $b = 2.77$, $t(166) = 2.73$, $p < .008$; Time 1 BDI × Partner-Initiated Breakup, $b = .02$, ns; and RS × Time 1 BDI, $b = .01$, ns.

Is RS a Stronger Predictor Than Attachment Style of Depressive Symptoms Following Rejection?

To examine whether the effect of RS × Partner-Initiated Breakup on Time 2 depressive symptoms would hold when controlling for Attachment Style ™ Partner-Initiated Breakup interactions, we first standardized scores on each attachment style. Then we conducted three separate regression analyses, each time introducing one of the three attachment styles and its interaction with partner-initiated breakup to our original model. In each of the analyses, the RS × Partner-Initiated Breakup term remained significant, $b = 3.20$, $t(163) = 3.13$, $p < .002$; $b = 3.21$, $t(163) = 3.00$, $p < .003$ and $b = 3.24$, $t(163) = 3.13$, $p < .002$; for secure, avoidant, and anxious-ambivalent interactions, respectively; whereas the Attachment Dimension × Partner-Initiated Breakup terms were not significant when controlling for RS: secure, $b = 1.19$, $t < 1$, ns; avoidant, $b = -1.41$, $t < 1$, ns; and anxious ambivalent, $b = 1.00$, $t < 1$, ns. When RS and its interaction with partner-initiated breakup were not included in the analyses, none of the Attachment Style × Rejection interaction terms were significant (all ts < 1). In these analyses, only the main effects of attachment cognitions predicted Time 2 BDI: secure, $b = -1.23$, $t(165) = -2.44$, $p < .02$; avoidant, $b = 1.24$, $t(165) = 2.59$, $p < .01$, except for the anxious-ambivalent dimension ($b = .50$, $t = 1$, ns).

Does Academic Stress Elicit Depressive Symptoms in HRS Women?

We hypothesized that the interaction term between academic stress, operationalized as grade disappointment, and RS would not predict depressive symptoms because academic goals are not differentially valued by HRS and LRS women. First, we regressed Time 2 BDI on academic stress controlling for Time 1 BDI. Academic stress alone did not predict Time 2 BDI, $b = -0.67$, $t < 1$.

Neither did the interaction between RS and academic stress predict Time 2 BDI, $b = -1.56$, $t(173) = -1.45$, $p > .14$, supporting our hypothesis that depressive symptoms is related to RS only when goal nonattainment is in a domain of specific concern to HRS women.

DISCUSSION

This study found that HRS women reported a greater increase in depressive symptoms over the course of an academic year than LRS women if they had experienced a partner-initiated breakup but not if the breakup was self or mutually initiated. Furthermore, academic stress did not trigger depressive symptoms differentially for HRS and LRS women. These findings indicate that women high in RS are at heightened risk for depressive symptoms only when they encounter loss in a goal domain that is specifically related to their concern over rejection.

These results are consistent with both the cognitive-interpersonal and dependency/sociotropy models of depressive symptoms (Blatt & Zuroff, 1992; Hammen, 1992), but they also extend these models by delineating more precisely what it is about interpersonal loss and attachment or dependency/sociotropy cognitions that make some people vulnerable to depressive symptomatology. Toward this end, we theoretically differentiated loss that communicates rejection (e.g., partner breaking up) from any relationship loss, arguing and empirically showing that the former serves as the specific trigger feature for depression in women who fear and expect rejection. Furthermore, using an expectancy-value view of personality diathesis for depression, we postulated that rejection elicits depression in people who expect rejection to the extent that they are also concerned about preventing its occurrence. This may be because for people who expect and fear rejection (i.e., high in RS), perceived rejection not only confirms their worst fears but also signals that they themselves were incapable of preventing rejection and securing acceptance, potentially leading them to feel despair and hopelessness. Thus, in contrast to the cognitive-interpersonal and dependency/sociotropy models that do not make explicit predictions about which aspects of relevant cognitions serve as vulnerability factors, this study proposed that anxious expectations of rejection are the specific moderators of the rejection-depression link. In support of this claim, the results showed that RS, but not attachment styles or dependency/sociotropy, predicted increased depressive symptoms following rejection.

Implications for Future Research

The finding that rejection—not simply any interpersonal loss—elicits depressive symptoms in HRS women implies that RS is a situation-specific personality

diathesis rather than a global, cross-situational marker of vulnerability. This is consistent with current conceptualizations of personality in terms of person-by-situation interactions (e.g., Cantor & Kihlstrom, 1987; Dweck & Leggett; 1988; Mischel & Shoda, 1995; Shoda & Cervone, 1999). To illustrate, in the Cognitive Affective Personality System (CAPS) (Mischel & Shoda, 1995), it is the distinctive, highly contextualized but stable profiles of if-then situation-behavior relationships that constitute the individual's characteristic signature of personality. Accordingly, this research shows that exploring the if-then (i.e., if rejection, then depression) profiles for RS may help us better understand the dynamics among the expectations, beliefs, goals, schemas, and competencies that may underlie this personality prototype (Ayduk et al., 1999; Baldwin & Meunier, 1999; Baldwin & Sinclair, 1996).

Conceptualizing vulnerability factors such as RS in terms of if-then profiles also has implications for intervention. By identifying the situations that activate maladaptive behaviors in vulnerable individuals, therapeutic interventions can specifically target relevant trigger features. This study showed that partner-initiated breakups elicit depressive reactions in HRS women. Future research may explore whether leading HRS women to reconstrue partner-initiated breakups as a new beginning may help them get over their despair.

Reactions to rejection: Depression versus hostility. Taken together with our previous work (Ayduk et al., 1999; Downey et al., 1998) the results of this study suggest that HRS women's reactions to perceived rejection may take the form of either hostility or depression. Recent research on stress and coping suggests that depression may be an expression of the same underlying stress mechanism that generates hostility (Folkman & Lazarus, 1986; Renouf & Harter, 1990). Whereas hostility may be an immediate response to rejection, depression may be a delayed one. Bowlby (1980) argues that in response to disruptions of the attachment bond, children first go though a period of protest characterized by anger. Anger is subsequently replaced by despair and sadness when the child cedes hope that the disrupted attachment bond will be restored.

It is also possible, however, that some HRS women may be more vulnerable to hostility than to depression and others may be more vulnerable to depression than hostility. The dominant form of reaction may depend on whether they have a tendency to blame others or themselves for the rejection. Those who blame others should be more likely to react to rejection with externalizing behavior such as hostility. Those who blame themselves, in contrast, should be more likely to feel despair and get depressed. Future research needs to address these possibilities more directly.

Mechanisms That Link Rejection to Depression in HRS Women

We have so far argued that rejection triggers depressive symptoms in HRS women because it represents a loss along the route to attaining important relationship goals despite one's best efforts, leading to feelings of being unworthy of love. There may also be other intermediary mechanisms that link rejection to depression. Consistent with earlier attributional models of depression (e.g., Seligman, Abramson, Semmel, & von Baeyer, 1979), one possibility is that HRS women characterize rejection in terms of global, stable, and irreversible loss of personal relationships. Thus, rejection may lead to a sense that life is meaningless, resulting in despair and depression (see Hammen, 1992).

The effect of such an attributional bias on depression may also be accentuated because rejection may deprive HRS women of perceived control and efficacy (Bandura, 1986; Thompson, 1981). Because HRS women fear and expect rejection, they may try harder than LRS women to prevent it. Thus, when rejection happens, it may convey to them the message that rejection is inevitable despite their best efforts. Such perceived lack of efficacy and control may also prevent HRS women from using problem-solving strategies that may mitigate the impact of perceived rejection.

HRS women may also have poor interpersonal relationships in general (see Downey et al., 1998). The lack of a strong social support system that can be mobilized to buffer them in times of interpersonal loss may then maintain or perpetuate the women's depressive symptoms that follow a failure to prevent rejection (see Barnett & Gotlib, 1988, for a review).

Can the Rejection-Depression Link Be Altered?

Although our research links RS with depression and other negative outcomes (e.g., Ayduk et al., 1999), some HRS people may be more resilient than others in the face of rejection. For example, we have recently found that self-regulatory competency indexed by childhood delay of gratification ability buffers HRS people against internalizing symptoms such as low self-worth and self-esteem, inability to cope with stress, and social rejection (Ayduk et al., in press).

Experimental studies of delay of gratification have shown that the ability to forgo immediate gratification for a delayed but preferred reward is mediated by effective attention deployment in the service of arousal reduction (Mischel, Shoda, & Rodriguez, 1989). Attention deployment strategies used to successfully delay gratification include purposeful self-distraction and cognitive reframing operations that cool the frustrating hot aspects of the delay situation (Mischel et al., 1989). Converging evidence from developmental research (e.g.,

Derryberry & Rothbart, 1997) also underscore the importance of flexible attention deployment in arousal regulation, distress management, and impulse inhibition. Together, this research thus suggests that interventions that target individuals' ability to cool their negative reactions to rejection presumably via cognitive-attentional strategies such as reconstrual and self-distraction may benefit HRS individuals' well-being.

Caveats and Conclusions

There were several limitations of the study. First, because we relied on self-report data to assess both the presence of breakup and the initiator of the breakup, this variable solely reflects perceived views of the breakup. Second, academic stress was assessed retrospectively, at the end of the academic year. Thus, participants' report of what grade they had expected at the beginning of the academic year may have been confounded by knowing the actual grades they got at the end of the year. Third, this study did not assess maladjusted outcomes other than depressive symptoms; therefore, we can not draw conclusions about whether HRS women's reactivity to rejection is specific to depressive symptoms or generalizes to other types of psychiatric symptoms. Finally, we did not assess clinical depression using diagnostic criteria. Thus, it is not clear whether the findings generalize to clinical depression (Coyne & Whiffen, 1995).

These caveats notwithstanding, this study demonstrates the value of adopting a goal perspective in understanding the social origins of depression, especially in those who anxiously expect rejection in interpersonal contexts. The findings showed that women anxiously expecting rejection were more vulnerable to depressive symptoms than women expecting acceptance when they experienced interpersonal events that communicated rejection and presumably led to perceptions of goal failure. A challenge for future research would be to explore how such a rejection →depression contingency can be altered through such means as cognitive reappraisal and effective self-control strategies.

NOTE

1. Because breakup data was obtained at the same time as Time 2 Beck Depression Inventory scores, current depression may have biased the recall of who initiated a breakup. Of concern was whether depressed mood differentially biased high rejection sensitivity (HRS) women in the direction of recalling more rejection such as more partner-initiated breakups. This would imply that rather than a rejection experience causing depression in HRS women, depression may bias HRS women toward recalling rejection. To assess whether depressed mood differentially biases recall of rejection as a function of RS, 50 female undergraduates completed an abbreviated Rejection Sensitivity Questionaire and were randomly assigned to a sad or neutral mood induction using the Velten (1968) method. After a mood manipulation check, they indicated whether their most recent breakup was self-, partner-, or mutually initiated. The sad-mood manipulation induced depressed mood (assessed with the Affects Balance Scale) (Derogatis, 1975) to a significantly greater extent than the neutral manipulation, irrespective of RS. Regression analyses revealed that neither depressed mood, RS, nor the interaction of mood and RS influenced reports of who initiated breakup. These findings held regardless of whether the RS measure was administered before or after the mood manipulation. These results argue against the possibility that depressed mood biased HRS women's recall of who initiated their most recent breakup with a romantic partner.

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