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DOES REJECTION ELICIT HOSTILITY IN REJECTION SENSITIVE WOMEN?

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When women express hostility, the target is typically a significant other. Our efforts to account for this observation center on the role of rejection sensitivity—the disposition to anxiously expect, readily perceive, and overreact to rejection—in women’s hostility. We have previously shown that dispositional anxious expectations about rejection by a significant other prompt women to readily perceive rejection and to react with hostility in situations that activate rejection expectations. These findings led us to propose that the hostility of women in such situations is a specific reaction to perceived rejection. Results from three studies support this proposition. Using a priming-pronunciation task paradigm, Study 1 revealed that rejection thoughts facilitated hostile thoughts to a greater extent in women high in rejection expectations (HRS) than in those low in rejection expectations (LRS). Chronic accessibility of hostile thoughts was unrelated to rejection expectations. Study 2 found that, following rejection by a potential dating partner, HRS women evaluated their prospective partners less positively than LRS women. Partner evaluations were unrelated to rejection expectations in a nonrejection control condition. Using a daily diary methodology, Study 3 showed that HRS women were more likely than LRS women to report a conflict with their romantic partners only when they had felt rejected on the previous day.

The study of maladaptive behavior in women has traditionally focused on difficulties of a self-destructive nature (e.g., Canetto & Lester, 1995; Cross, 1993; Nolen-Hoeksema, 1987). Maladjustment in women in the form of aggression and socially harmful behavior is just beginning to re-

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ceive attention. Research on close relationships has contributed to a growth in this interest on women's aggression and socially-harmful behavior by showing that direct physical aggression (Archer & Ray, 1989; Arias, Samios, & O'Leary, 1987; Ben-David, 1993; Cate, Henton, Koval, Christopher & Lloyd, 1982; Deal & Wampler, 1986; Plass & Gessner, 1983), verbal aggression (e.g., Billingham & Sack, 1987; de Weerth & Kalma, 1992), and the undermining of others' social relationships (e.g., Bjorkqvist, Osterman, & Lagerspetz, 1992; Cairns & Cairns, 1994; Crick & Grotpeter, 1995) are all strategies women use to inflict harm in their relationships.

Researchers are beginning to clarify the contexts in which women's aggression is particularly evident, the conditions that elicit it, the form it takes and the functions it serves. First, women's aggression and hostility are particularly likely to be expressed in private contexts toward their significant others such as romantic partners (see Ben-David, 1993). Second, the conditions that trigger the expression of verbal or physical hostility by women toward significant others tend to involve devaluation of their relationships (Harris, 1993). Third, women's direct expression of aggression appear to serve an expressive rather than an instrumental function in that it typically emerges in the wake of experiences that elicit overwhelming feelings of anger, despair and helplessness (Ben-David, 1993; Eskin & Kravitz, 1980). Consequently, it has been suggested that women's expressions of aggression and hostility often reflect a loss of self-control; thus, they are reactive rather than reflective or instrumental in nature (Campbell, Muncer, & Coyle, 1992).

What social-cognitive processing system might give rise to this distinctive pattern of aggressive behavior in women? Our efforts to address this question have focused on examining the role of sensitivity to rejection in women's expression of hostility. Drawing selectively from both attachment and attributional accounts of relationship schema, we have conceptualized rejection sensitivity (RS) as the disposition to anxiously expect, readily perceive, and overreact to rejection (for further details see Downey & Feldman, 1996; Downey, Lebolt, Rincon, & Freitas, 1998; Feldman & Downey, 1994). Because we view anxious expectations of rejection by significant others as being at the core of RS, we have operationalized RS as anxious expectations of rejection in situations that afford the possibility of rejection by significant others. We refer to people who tend to anxiously expect rejection as High RS (HRS) and those who more calmly expect acceptance as Low RS (LRS).

Our prior research has documented a link between repeated experiences of rejection from significant others and RS (Bonica & Downey, 1999; Downey, Khouri, & Feldman, 1997; Feldman & Downey, 1994). Such experiences are thought to lead people to form rejection expectancies that

are subsequently activated in situations where rejection is possible. Once activated in such situations, anxious expectations of rejection are thought to prompt a readiness to perceive rejection. Accordingly, in both experimental and field studies HRS people have been found to perceive rejection in ambiguous cues more readily than LRS people (Downey & Feldman, 1996; Downey, Lebolt, 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). Given their readiness to perceive rejection, it is not surprising that HRS people tend to overestimate their partners' dissatisfaction with the relationship and their desire to end it (Downey & Feldman, 1996, Study 4).

Nonetheless, the partners of HRS people are less satisfied with their relationship than the partners of LRS people for reasons that differ by gender (Downey & Feldman, 1996, Study 4). Partners characterized HRS women as hostile and unsupportive and these behaviors helped explain why HRS women's partners were more dissatisfied than partners of LRS women. By contrast, HRS men were characterized as jealous and controlling and these behaviors helped account for their partners' greater dissatisfaction relative to LRS men's partners. Further evidence that HRS women, but not HRS men, may be differentially susceptible to engaging in expressive or reactive hostility toward their romantic partners was provided by an observational study of couples discussing an unresolved issue in their relationship (Downey, Freitas, Michaelis, & Khouri, 1998). In this situation, which elicited concern about rejection to a greater extent in HRS women than HRS men, HRS women showed heightened levels of hostility whereas HRS men did not.

These findings support a distinctive association between anxious expectations of rejection and hostility in women. The question of why women who fearfully expect rejection engage in the type of hostile behaviors that are likely to elicit actual rejection remains to be addressed. One possibility is that women who anxiously expect rejection are dispositionally hostile; they have come to expect rejection because they recurrently experience it as a result of their frequent displays of hostility. An alternative explanation is that anxious expectations of rejection, such as those elicited by conflict situations, cause HRS women to engage in hostile behavior because they prompt them to readily perceive rejection; the perception of rejection, in turn, triggers a cognitive-affective overreaction that can emerge in hostile behavior. Accordingly, HRS and LRS women should differ in their level of hostility only when rejection is perceived. By contrast, if HRS women are simply more dispositionally hostile than LRS women, they should show higher levels of hostility than LRS women across situations.

GOALS

The goal of research presented in this article is to test whether HRS and LRS women differ in hostility only when rejection is experienced rather than cross-situationally. This article reports the results of three studies that tested this hypothesis. The first study used a sequential priming-pronunciation paradigm to assess the extent to which priming thoughts of rejection would automatically facilitate hostile thoughts. We hypothesized that priming thoughts of rejection would facilitate thoughts of hostility to a greater extent in HRS than LRS women. We did not expect that thoughts of hostility would be more chronically accessible to HRS than LRS women, as should occur if HRS women were dispositionally more hostile than LRS women.

The second study was undertaken to examine whether rejection triggers hostile actions to a greater extent in HRS than LRS women. Specifically, we hypothesized that, following a rejection by a potential dating partner whom they had not yet met but who had provided them with biographical information, HRS women would evaluate the potential partner's biographical information less positively than LRS women. We did not expect that HRS women would evaluate their prospective partners less positively than LRS women in the absence of a rejection, as should occur if HRS and LRS women differed in dispositional hostility.

The third study investigated whether feelings of rejection trigger hostility in ongoing relationships to a greater extent in HRS than LRS women. Specifically, we used daily diary data to test the hypothesis that HRS women would show a higher probability than LRS women of getting into a conflict with their romantic partners on the day after they reported feeling rejected. We did not expect to find differences between HRS and LRS women in the likelihood of conflict on other days, as should occur if HRS and LRS women differed in dispositional hostility.

STUDY 1

Study 1 investigated the automaticity of the association between thoughts of rejection and thoughts of hostility using a sequential priming-pronunciation task paradigm (e.g., Bargh, Raymond, Pryor, & Strack, 1995). In this paradigm, participants pronounce, as quickly as possible, a target word presented on a computer screen that is preceded by the presentation of a prime word. Previous research has established time to the onset of pronunciation as a reliable measure of the strength of mental associations (e.g., Bargh et al., 1995; Bargh, Chaiken, Raymond, & Hymes, 1996). The assumption underlying this paradigm is that, to the extent that responses to target words representing a particular concept

are facilitated by the presentation of prime words representing another concept (as compared to a control or neutral prime), an automatic mental association exists between the concept represented by the prime and the concept represented by the target. According to the literature on the automaticity of thought, such a facilitation effect is evident to the extent that one cognitive-affective structure becomes automatically accessible when another is activated (e.g., Bargh et al., 1995; Bargh & Pietromonaco, 1982). The automatic association is thought to become established when one structure is consistently activated by the other structure over the course of a person's social-cognitive learning history.

The study tested four specific hypotheses. First, we hypothesized that HRS women would begin to pronounce hostility words (e.g., hit) faster than LRS women when the words were preceded by rejection words (e.g., abandon). It was important to establish that rejection had a facilitation effect on hostility in HRS women that was distinct from the facilitation effect that rejection might share with other negatively toned thoughts. For this reason, we controlled in our analyses for the time it took participants to start pronouncing hostile words when preceded by non-rejection negative words connoting disgust (e.g., vomit).

Second, we hypothesized that HRS and LRS women would not differ in latency of pronouncing hostile words when they were preceded by neutral words (e.g., board). This would imply no differences between HRS and LRS women in the chronic accessibility of hostility words, as should occur if HRS women were dispositionally more hostile than LRS women.

Third, we hypothesized that HRS and LRS women would not differ in the speed with which they began to pronounce rejection words that were preceded by hostility words. A hostility \rightarrow rejection association would be expected if a dispositional tendency toward hostility in HRS women had tended to elicit rejection causing the elicitation of thoughts of hostility to facilitate thoughts of rejection.

Finally, we hypothesized that HRS and LRS women would not differ in the chronic accessibility of rejection thoughts. Rather, differences in the accessibility of rejection thoughts should be evident only in situations where rejection is a possibility. Therefore, we did not expect HRS and LRS women to differ in the speed with which they began to pronounce rejection words when preceded by neutral words.

METHOD

SAMPLE AND PROCEDURE

Participants were recruited through advertisements posted around campus for a two-session study. In the first session, a sample of 121 fe-

male Columbia University undergraduates completed the Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996) described below and were paid \$5 for their participation. Participants who were identified as scoring high (above 75th percentile) and low (below 25th percentile) on the RSQ were then recontacted and invited to participate in the second session. The participation rate for the second session was 69%. The priming experiment was held from 5 to 14 days after participants completed the RSQ.

Participants took part in the priming experiment individually. They were told that the purpose of the study was to understand how people processed different types of words and were asked to begin pronouncing words that would appear on their computer screen as quickly as possible. Following Bargh et al. (1995), each trial of the pronunciation task began with three asterisks presented in the middle of the screen. Four seconds later, a prime word was flashed either slightly above or below the middle of the screen. After 90 msec, the prime was replaced with a string of letters (XRELOPQWTG) which stayed on the screen for 10 msec. Then the target word appeared in the middle of the screen and remained on the screen until participants pronounced the word. Four seconds later the next trial started with the presentation of the three asterisks again. For each trial, the time from the onset of a target word's presentation to the start of its pronunciation (e.g., participant's voice reaches a preset threshold) was recorded by a program written in the C language.

The experimenter stayed with the participants throughout a practice session of five prime-target pairs to make sure that they understood the procedure. Then the experimenter left the participant alone in the experimental room to complete the actual experiment.

Participants were debriefed after the experiment and were given \$5 as a compensation for their participation. During debriefing, they all gave consent for their data from the two sessions to be connected.

MEASURES AND MATERIALS

RSQ. The RSQ assesses the anxious expectations component of RS. A detailed account of its development is provided in Downey and Feldman (1996) and the complete measure is available on the World Wide Web (www.columbia.edu/w/~gd20). The measure was initially developed from open-ended interviews in which students were asked what they thought would happen, and how they would feel, in hypothetical situations in which they were requesting something of a significant other, such as a romantic partner, friend, or parent. Answers varied along two dimensions: (a) degree of concern and anxiety about the outcome, and (b) expectations of acceptance and rejection. In pilot testing,

responses along the two dimensions did not covary systematically. Of theoretical interest were people who both expected rejection and were concerned about this outcome in various interpersonal situations.

The final 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 each 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 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 score was then multiplied by the score for degree of anxiety or concern. 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.

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 (1996, Study 3) provided evidence that in terms of its predictive utility, RS was not redundant 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.

The median RSQ score for the participants in Session 1 of the present study was 9.65 ($M = 9.52$, $SD = 3.01$). HRS and LRS females (those who scored above the 3rd quartile (11.41) and below the 1st quartile (7.44), respectively) were preselected from this sample and invited to participate in the second session, which consisted of the priming experiment. Twenty-one HRS and 20 LRS women agreed to participate and were paid an additional \$5. The mean RSQ scores of the final HRS and LRS groups (13.22 and 5.8, respectively) were not different from the mean for each of the two eligible subsamples (13.21 and 5.95, respectively).

Priming Stimuli. For the priming stimuli, we conducted pilot work to generate words that best exemplified the following four categories: rejection, hostility, disgust, and neutral. Disgust words, those that refer to things which evoke a sense of disgust, were generated as a set of control words for negative affect common to both the rejection and hostility categories. First, a sample of 15 students created a list of words for each of the four categories. Ten words were selected for each category. A different sample of 15 students were asked to choose the six words that best represented each category. For each category, the six words that were chosen the most were retained for further analyses. The rejection words were *abandon, betray, exclude, ignore, leave, reject*. The hostility words were *anger, hit, hurt, rage, revenge, slap*. The disgust words were *disgust, infect, itch, pity, pollute, vomit*. The neutral words were *board, build, chalk, dress, form, map*.

For the final analyses, a sample of 40 students were asked to rate how well the concepts of rejection, hostility, and disgust describe each of the 24 words on a scale from 1 (not descriptive at all) to 6 (extremely descriptive). A series of regression analyses were conducted on the mean rejection, hostility, and disgust ratings to confirm the category membership of the stimulus words. Results revealed that the rejection concept was rated as more descriptive of rejection words than of hostility words ($t(38) = 6.4, p < .001$), disgust words ($t(38) = 12.9, p < .001$), and neutral words ($t(38) = 22.3, p < .001$). The hostility construct was rated as more descriptive of hostility words than of rejection ($t(38) = 8.9, p < .001$), disgust ($t(38) = 13.6, p < .001$), and neutral ($t(38) = 17.5, p < .001$) words. The disgust category was rated as more descriptive of disgust words than of rejection ($t(38) = 3.4, p < .002$) and neutral words ($t(38) = 13.6, p < .001$), but not of hostility words ($t(38) < 1, ns$).

Further clustering analysis was conducted to investigate the pattern of descriptiveness ratings across the categories of rejection, hostility, and disgust for each individual word. Mean descriptiveness ratings were subjected to the FASTCLUS nonhierarchical clustering procedure in SAS and a 4-cluster solution was requested. Results indicated that the words clustered as hypothesized with the exceptions of two disgust words: "itch" and "pity," which were clustered in the neutral category. These two items were nevertheless retained as disgust words since the disgust category was rated as more descriptive of both words than either the rejection or hostility categories. Hence, all 24 words were retained in their related categories to be used as the final priming stimuli.

In the priming experiment, the prime and target words in each trial were randomly selected from the six words in each category. There was a total of 108 pairs: six of hostility -> rejection, rejection -> hostility, disgust -> rejection, rejection -> disgust, disgust -> hostility, and

hostility -> disgust, and 12 of neutral -> rejection, neutral -> hostility, neutral -> disgust, rejection -> neutral, hostility -> neutral, and disgust -> neutral.

RESULTS

ARE REJECTION AND HOSTILITY THOUGHTS MORE CHRONICALLY ACCESSIBLE TO HRS WOMEN THAN TO LRS WOMEN?

In testing for chronic accessibility effects, we assumed that the time it takes to start pronouncing rejection (i.e., abandon) and hostility (i.e., slap) target words, when primed by neutral words (i.e., map), would reflect individual differences in chronic accessibility.

Repeated measures one-way ANOVAS were conducted on the mean pronunciation times (latency) of neutral -> rejection and neutral -> hostility trials, with participants' rejection sensitivity as a dichotomous between-subject variable. Univariate analyses indicated no significant differences between the HRS and LRS women in the chronic accessibility of either rejection words ($M = .79$, $SD = .16$ and $M = .81$, $SD = .22$, respectively; $t(39) < 1$, *ns*) or hostility words ($M = .74$, $SD = .18$ and $M = .78$, $SD = .19$, respectively; $t(39) < 1$, *ns*). Multivariate analyses also indicated that the within-subject difference in the chronic accessibility of rejection and hostility words were not different for HRS and LRS women ($F < 1$, *ns*).¹

IS THE AUTOMATIC ASSOCIATION BETWEEN REJECTION AND HOSTILITY STRONGER FOR HRS THAN LRS WOMEN?

A one-way ANOVA was conducted on the latency of rejection -> hostility trials with RS as a dichotomous between-subject factor. Results indicated that HRS women pronounced hostility words that followed rejection words significantly faster than LRS women (HRS: $M = .69$, $SD = .12$; LRS: $M = .80$, $SD = .18$; $t(39) = 2.37$; $p < .03$).

To rule out the possibility that rejection words would be pronounced more quickly following the presentation of any negative word, as well as to control for the chronic accessibility of hostility words, the ANOVA analysis reported above was recomputed with the latency of pronouncing hostile words when primed with negative, non-rejection words (i.e.,

1. To allay concerns that the findings may be an artifact of the cutoff points used to designate someone as HRS or LRS, all analyses reported for each study were also run using continuous RS scores. The pattern of results remained the same.

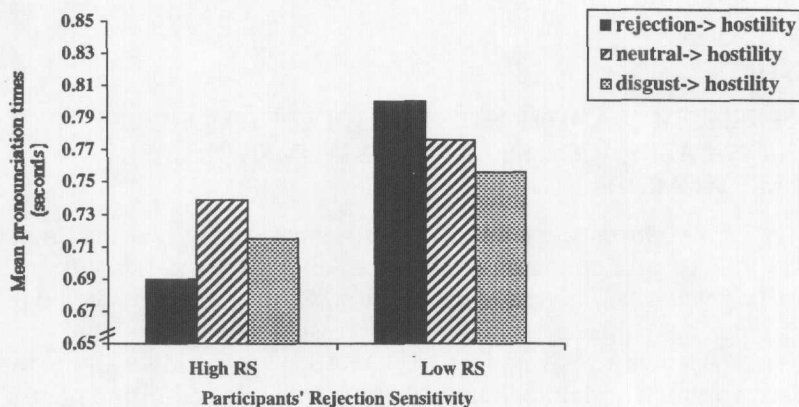


FIGURE 1a. Mean pronunciation times of neutral -> hostility, rejection -> hostility and disgust -> hostility trials as a function of participants' rejection sensitivity

disgust -> hostility trials) and the latency of neutral -> hostility trials included as covariates. The differences between HRS and LRS women in latency of rejection -> hostility trials remained significant ($t(37) = 3.159, p < .01$). These results are illustrated in Figure 1a.

IS THE REJECTION-HOSTILITY ASSOCIATION UNIDIRECTIONAL?

We hypothesized that the automatic association between rejection and hostility thoughts in HRS women was unidirectional such that rejection would prime hostility but hostility would not prime rejection. To test this hypothesis, ANCOVAs were conducted on the latency of hostility -> rejection trials with RS as a between-subject variable. The latency of disgust -> rejection trials was included as a within-subject covariate to rule out the possibility that rejection words would be pronounced more quickly following the presentation of any negative word.

Pronunciation time of rejection words following the presentation of hostility words was not significantly faster for HRS women than for LRS women, controlling for the mean latency of disgust -> rejection trials (HRS: $M = .80, SD = .16$; LRS: $M = .85, SD = .20$; $t(38) < 1, ns$). These results are illustrated in Figure 1b.

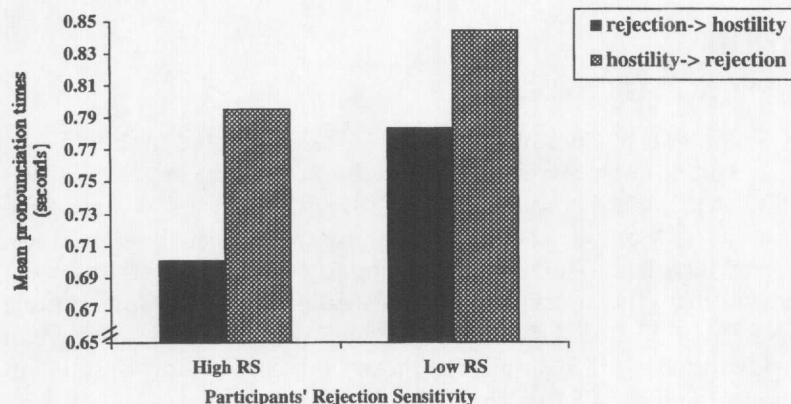


FIGURE 1b. Mean pronunciation times of rejection -> hostility and hostility -> rejection trials as a function of participants' rejection sensitivity

STUDY 2

Whereas thoughts of hostility are not chronically more accessible in HRS than LRS women, Study 1 indicated that they are activated more readily in HRS women than in LRS women when primed with thoughts of rejection. The next step was to determine whether hostile thoughts activated by rejection thoughts translate into hostile behaviors. Study 2 was a laboratory experiment in which female participants exchanged biographical sketches with a potential dating partner (who was in actuality fictitious) with whom they expected to interact over the Internet. Following the exchange of biographical sketches, participants were told that the interaction would not occur. Women in the experimental condition were told that the male participant did not want to continue (which was expected to induce a sense of rejection). Women in the control condition were given a situational explanation, equipment failure, for why the interaction would not occur.

Participants were then given the opportunity to evaluate their impressions of their assigned partner's biographical sketch. We operationalized hostility as the reduced positivity of the women's evaluations of their partner. We hypothesized that HRS women would evaluate their partner's biosketch less positively than LRS women in the

rejection condition. In the control condition, however, the evaluations of HRS and LRS women were not expected to differ in positivity.

METHOD

SAMPLE AND PROCEDURE

Female students at Columbia University were recruited for a two-part experiment through advertisements posted around campus. Participants ($N = 121$) who completed the RSQ described in Study 1 during the first session of the study were scheduled to participate in the second session 2 to 7 days later. The 109 women who completed the second session received \$10 for their participation. The median RSQ of the final sample was 9.83 ($M = 10.11$, $SD = 3.82$). Women who scored above the median were identified as HRS ($n = 55$) and those who scored below the median were identified as LRS ($n = 54$).

When participants arrived for the second session, they were led to believe that a male participant was scheduled for the same experiment in another room. Upon entering the experimental room, the participants read a written page of instructions that described the study as designed to increase understanding of the formation and maintenance of relationships over computers (e.g., Internet "chat rooms" and on-line dating services). This study would require them and the (fictional) male participant in the other room to first exchange essays about themselves to facilitate the on-line interaction. After reading their partner's essay, participants would record their expectations about the upcoming interaction, and their impression of their partner based on his essay. They would then get the opportunity to "talk" over the computer with their partner for 10 minutes. After the 10 minutes, they would be expected to give their impressions of the on-line interaction. Finally, they were told that they would have the option of meeting their partner at the end of the study.

The experimenter explained the procedure and then gave each participant 5 minutes to write a short biosketch of themselves that would be given to their male communication partner. (The experimenter always referred to the participant's partner with the masculine pronoun.) Once the participant finished writing her biosketch, the experimenter left the participant alone for a few minutes, telling her that she was going to the other room to exchange the biosketches.

After a few minutes, the experimenter returned with the essay that the partner had purportedly written. In fact, each participant received the same prepared essay, which was based on essays written by male college students in pilot testing. After participants read their partner's essay, they indicated their level of agreement with the statement "I think the interaction will go well" on a scale ranging from 1 (I don't agree at all)

to 6 (I agree strongly). The participant was told that the experimenter would receive a call from the other room when the partner was ready to proceed with the computer interaction. A little later, the experimenter received a call from a confederate in the presence of the participant and was supposedly informed of a problem. In the control condition, the experimenter informed the participant that they would not be able to complete the computer interaction because of a technical computer problem (situational explanation). In the experimental condition, the participant was told that her partner did not want to continue with the experiment and had left (rejection explanation).

After the manipulation, the experimenter asked the participant to complete a second questionnaire on the participant's impressions of her partner based on his essay, and for which the computer interaction part was not necessary.

This questionnaire included the following questions, which participants answered on a scale ranging from 1 (I don't agree at all) to 6 (I agree strongly): "On the basis of the statement, I like the other person," "The statement made a good first impression on me," and "I think I would get along with this person."

After completing this questionnaire, participants were thoroughly debriefed and compensated for their participation. In the debriefing, eight participants in the experimental condition expressed they were suspicious of the procedure during the experiment. Since excluding data of these participants from the analyses did not change the results, the results reported below are based on the complete sample.

MEASUREMENT OF HOSTILITY

For this study, we conceptualized hostility as indirect retaliatory rejecting behavior, which would be expressed in the reduced positivity of participants' evaluations of their communication partner based on his biosketch. To validate this conceptualization, we presented an independent sample of 31 female Columbia undergraduates with a fictitious scenario analogous to the experimental procedure, in which a man committed a rejecting behavior toward a woman in a dating context (i.e., a man not showing up for a blind date). Participants were then presented with each of the statements in the actual study in a reverse-phrased form as examples of things the woman said to her friends about the man and were asked to rate the degree to which each statement was a reflection of both hostile and rejecting behavior on a 7-point scale ("1-not at all" to "7-extremely"). The mean ratings of hostility for the three statements "I did not like the other person," "I do not think I can get along with this person," and "The person did not leave a good first impression on me"

were 5.42 ($SD = 1.29$), 4.55 ($SD = 1.91$), and 5.23 ($SD = 1.45$), respectively. The mean rejecting behavior ratings were 5.74 ($SD = 1.32$), 5.06 ($SD = 1.67$), 5.61 ($SD = 1.63$), respectively. The rejection and hostility ratings were not significantly different for any item. These results supported our assumption that these statements reflected both retaliatory rejecting behavior and hostile behavior in this context. Thus, in the experiment participants' ratings across the three evaluative statements were averaged to create a composite evaluation index ($\alpha = .87$) with the assumption that lower ratings on this measure would reflect hostility.

MANIPULATION CHECK

To establish that our experimental manipulation was specifically inducing feelings of rejection rather than generalized anxiety, a subsample of the participants ($n = 45$) were also asked to rate their emotional state on pre- and postmanipulation mood questionnaires. This subsample did not differ in RS from the subsample that did not fill-out the mood questionnaires ($t(107) < 1$; ns).

Participants rated their feelings of "rejection" on a scale from 0 (not at all) to 4 (very much). Their general anxiety-related emotions were assessed by averaging their ratings of how "anxious," "nervous," "tense," "comfortable," and "relaxed" they felt ($\alpha = .80$). We expected that participants' postmanipulation ratings of rejection would be higher in the experimental condition than in the control condition, but we did not expect such a difference for the postmanipulation ratings of anxiety.

An ANCOVA was conducted on post-manipulation ratings of rejection with RS (HRS vs. LRS) and experimental condition (rejection vs. control) as between-subjects factors and pre-manipulation ratings as the covariate. As expected, participants in the experimental condition expressed higher levels of postmanipulation rejection than participants in the control condition (Rejection: $M = 1.0$, $SD = 1.06$; Control: $M = .19$, $SD = .51$; $t(40) = -3.44$; $p < .002$), controlling for their premanipulation rejection ratings. Neither RS nor the interaction between RS and experimental condition was related to postmanipulation ratings of rejection. Differences in postmanipulation ratings of rejection as a function of experimental condition remained significant even when we controlled for postmanipulation anxiety ratings ($t(39) = -3.10$; $p < .004$). Postmanipulation anxiety ratings, on the other hand, were neither related to RS, experimental condition, nor the interaction between them. These results indicated that our experimental manipulation induced feelings of rejection that were distinct from feelings of general anxiety.

RESULTS

DO HRS WOMEN RATE THEIR PARTNERS LESS POSITIVELY THAN LRS WOMEN FOLLOWING REJECTION?

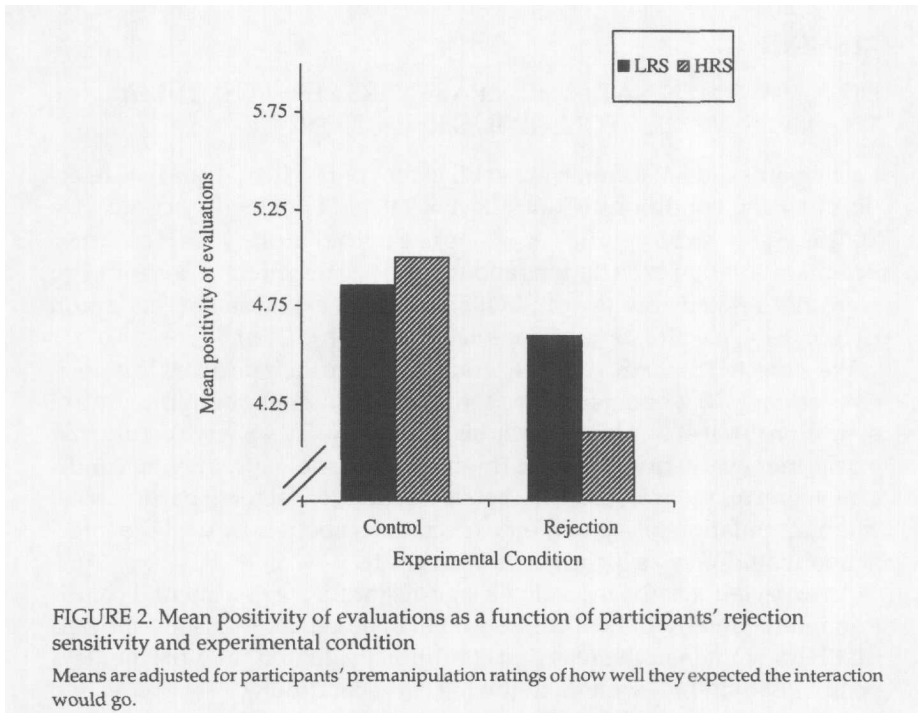
Participants did not differ in mean RS in the control ($n = 54$) and the rejection ($n = 55$) conditions (Control: $M = 9.97$, $SD = 4.09$; Rejection: $M = 10.25$, $SD = 3.58$; $t(108) < 1$, ns). Furthermore, participants' pre-manipulation expectations about how well the interaction would go were not related to either RS ($t(105) < 1$, ns), experimental condition ($t(105) = 1.4$, $p < .16$), or their interaction ($t(105) < 1$, ns).

We expected that HRS women would evaluate their partners less positively than LRS women in the rejection condition but not in the control condition. To test for this hypothesis, 2×2 ANCOVAs were conducted on partner evaluations with RS (high vs. low) and experimental condition (control vs. rejection) as between-subjects factors. Participants' pre-manipulation rating of their expectations about how well the interaction would go was included as a covariate.

As expected, results indicated a significant RS \times experimental condition interaction ($t(104) = -3.13$; $p < .003$). Planned comparisons showed that HRS women in the rejection condition evaluated their partner less positively than LRS women in the rejection condition ($t(54) = -3.45$, $p < .001$), and than both LRS ($t(52) = -5.08$, $p < .001$) and HRS women ($t(53) = -6.00$, $p < .001$) in the control condition (HRS-Rejection condition: $M = 4.01$, $SD = .79$; LRS-Rejection condition: $M = 4.58$, $SD = .66$; HRS-Control condition: $M = 5.04$, $SD = .48$; LRS-Control condition: $M = 4.94$, $SD = .80$). These results are illustrated in Figure 2.

STUDY 3

Study 2 provided evidence that HRS women were more hostile (indexed by reduced positivity of an evaluation) than LRS women toward a potential partner when the partner rejected them but not otherwise. An advantage of the experimental design used in Study 2 was that it allowed us to eliminate characteristics of an ongoing relationship as an explanation for hostility towards partners. However, because understanding women's hostility within the context of their important relationships is the ultimate concern of our research, Study 3 examined whether Study 2 findings extend to women's hostility in their ongoing romantic relationships. Our use of a daily diary design in this study allowed us to look at HRS and LRS women's hostility toward romantic partners as a function of the day-to-day variation in feelings of rejection. As in Study 2, we hy-



pothesized that HRS women would react in a hostile way toward their romantic partners only when they feel rejected. We used conflicts to index hostility. Validating this choice, we have previously found that HRS women behave in a more hostile way than LRS women toward romantic partners during conflicts (Downey, Freitas, et al., 1998). We expected HRS women to show a higher probability of reporting conflicts than LRS women on days after they felt rejected, but not otherwise. The likelihood of conflicts for LRS women was not expected to be related to feelings of rejection.

METHOD

SAMPLE AND PROCEDURE

Dating couples were recruited to participate for pay in a study of romantic relationships through announcements posted on the Columbia University campus. The study was restricted to couples in committed relationships and who had been together for at least 6 months. Couples in long distance relationships were excluded from the study. Mean length of relationship was 18.6 months ($SD = 14.2$). Of the women, 53%

were Caucasian, 34% were Asian-American, 5% were Hispanic, 3% were African-American, and 5% were from other backgrounds. The women's mean age was 21 years ($SD = 2.9$). Fifty-eight percent of their male partners were Caucasian, 20% were Asian-American, 7% were African-American, 4% were Hispanic, and 11% were from other ethnic backgrounds. The male partners' mean age was 22 years ($SD = 3.7$). Ethnicity was unrelated to RS.

Couples who completed the study received \$50 in compensation. Each member of a couple who expressed interest in the study was mailed a package containing one consent form, five packets, and five return envelopes. The first packet was a "background" questionnaire that included questions about demographic information, RS, dating history, dating patterns, and the current dating relationship. The final four packets each consisted of seven identical structured questionnaires to be completed at the end of each day for a total of 28 days. Participants were also asked to complete both the background questionnaire and the daily diaries privately and to refrain from discussing their responses with their partners. Each member of a couple returned each week's set of diaries in a separate sealed envelope at the end of each week.

All couples who completed the study were heterosexual. At least one member of 108 couples contacted us to express interest in the study. In 81 of these couples, the woman completed the background questionnaire and 61 of these women also completed at least 2 weeks of diary data. In fact, all except four of these women completed at least three weeks of diaries. Time constraint was the primary reason given by those who did not complete the diary part of the study. The RS scores of women who provided at least two weeks of diary data did not differ from the scores of their counterparts who completed background questionnaires but provided less than 2 weeks of diary data. The diary analyses reported below are based on the 61 women who provided both the background questionnaire and at least 2 weeks of diary data. These women completed diaries on 94.2% of the possible 28 days and their diary completion rate was not associated with their RSQ score.

MEASURES

Background Questionnaire. This questionnaire included the RSQ and questions designed to obtain demographic data (e.g., age and ethnicity). In this sample, the median RSQ score for women was 8.9 ($M = 8.3$, $SD = 2.8$). Although somewhat lower than the median for the previous two studies, this median is similar to what has been found in other studies of dating couples (Downey & Feldman, 1997; Downey, Freitas, et al., 1998,

Study 2). HRS women were defined as those scoring above the sample median and LRS women as scoring below the sample median. Partners' RSQ scores were not significantly correlated either when the measure was used continuously ($r = .14, p > .10$) or categorically ($r = -.01, p > .10$).

DIARY MEASURES

The following diary measures completed by the female partners were used in the study:

Rejected Mood. Four items assessing feelings of rejection were embedded in a mood checklist. Participants were asked to indicate on a 4-point scale, from 0 ("not at all") to 3 ("a lot"), how much they had experienced these feelings over the course of the day. The four items were: insecure, alienated, rejected, and lonely ($\alpha = .82$). The woman's average daily level of feeling rejected was 0.65 ($SD = .73$).

Conflict. Participants were asked to indicate whether they had experienced conflict with their romantic partner (conflict = 1; no conflict = 0).

ANALYSES

This study of 61 women for up to 28 consecutive days yielded a data set with two levels of analysis. The within-person level reflects daily variation over time within a person (e.g., variation over the diary period in likelihood of conflict). The between-level reflects differences between people (e.g., whether HRS or LRS). The within-person level of analysis can be used to estimate each person's average level of conflict or feelings of rejection over the diary period, and it can be used to establish each person's reactivity to feelings of rejection, for example (e.g., likelihood of conflict as a function of feelings of rejection). The between-person level of analysis can be used to examine whether HRS and LRS women differ in these processes (e.g., in mean level of conflict or feelings of rejection, or in reactivity to feelings of rejection).

The analyses were conducted using a multilevel or hierarchical linear model approach, which permits the simultaneous analysis of within- and between-person variation (Bolger & Zuckerman, 1995; Bryk & Raudenbush, 1992; Kenny, Kashy, & Bolger, 1998). In contrast, conventional linear models either aggregate across within-person data, resulting in information loss, or conflate within- and between-person variation, resulting in incorrect tests of significance (see Kenny, Kashy, & Bolger, 1998). A modification of PROC GLM in SAS was used to obtain weighted least squares estimates of the relevant multilevel models (see Kenny et al., 1998).

The diary data analyses we conducted addressed two basic types of questions.

Question 1: The first question was whether HRS and LRS women differ on the average day in the probability of reporting conflict, for example. A multilevel approach to this question requires that we estimate a within- and a between-person equation. The within-person equation specifies that a woman's likelihood of conflict on a given day, C_t , is a function of her mean level across all days, a_0 , plus a residual component specific to each day, q_t :

$$C_t = a_0 + q_t \quad (1)$$

The between-person equation specifies that mean differences across all days between HRS and LRS women as follows:

$$a_{0i} = b_0 + b_1RS_i + e_i \quad (2)$$

Assuming that RS_i is coded 0 for the LRS group and 1 for the HRS group, then b_0 is the mean of the LRS group and b_1 is how many units higher in likelihood of reporting conflict, the HRS group is over the LRS group.

Question 2: The second question that multilevel analyses were used to test was whether the relation between variables measured at the daily level (i.e., relation between women's feelings of rejection and conflict with their partner) differs for HRS and LRS women. To reduce ambiguity about the causal direction of effects, we assessed whether the effect of the previous day's feelings of rejection on change in the likelihood of conflict with one's partner today was contingent on the woman's RS.

As above, a multilevel approach involves specifying a within- and a between-person equation. The within-person equation specifies that value of the dependent variable (i.e., conflict) for a given woman on a given day, C_t , is predicted by the level of the dependent variable on the previous day, C_{t-1} , the level of the independent variable (e.g., feelings of rejection) on the previous day, R_{t-1} , and a residual component of the dependent variable, specific to each day, r_t . The variable r_t is assumed to have a mean of 0 and a constant variance across persons and days. The equation is as follows:

$$C_t = a_0 + a_1C_{t-1} + a_2R_{t-1} + r_t \quad (3)$$

Estimates of a_0 , a_1 and a_2 are obtained for each woman in the sample. The between-person equation specifies that for each woman i the ef-

fect (a_{2i}) of the independent variable (R_{t-1}) on the dependent variable C_t is a function of Woman i 's RS_i , as follows:

$$a_{2i} = d_0 + d_1RS_i + f_i \quad (4)$$

Assuming that RS_i is coded 0 for the LRS group and 1 for the HRS group, d_0 is the mean responsivity to feeling rejected of the LRS group and d_1 is how many units higher in responsivity to feeling rejected the HRS group is over the LRS group. If we substitute $d_0 + d_1RS_i + f_i$ for a_2 in Equation 3, it yields the following combined equation:

$$C_t = a_0 + a_1C_{t-1} + d_0R_{t-1} + d_1R_{t-1}RS_i + f_iR_{t-1} + r_t \quad (5)$$

Thus the coefficient d_1 can be thought of as an effect of the interaction between feelings of rejection and RS.

RESULTS

CONFLICT

Women reported conflict on 18% of diary days. Multilevel analysis, as described above in Question 1, showed that HRS and LRS women did not differ significantly in reported conflict rates over the diary period (HRS: $M = .20$, $SD = .40$; LRS: $M = .16$, $SD = .37$, $F(1,59) = 1.26$, $p = .27$).

FEELINGS OF REJECTION

Multilevel analysis, as described above in Question 1, showed that HRS women reported higher average daily feelings of rejection than LRS women (HRS: $M = .77$, $SD = .78$; LRS: $M = .52$, $SD = .66$, $F(1,59) = 4.6$, $p < .05$). Because of these group differences in mean feelings of rejection, it was important to test whether the association between conflict today and feelings of rejection yesterday differed as a function of between-person differences in mean level of feelings of rejection across the diary period. The multilevel analyses as described above in Question 2 were conducted substituting a woman's mean feelings of rejection over the diary period for their RS score. The Feelings of Rejection \times Mean Feelings of Rejection term was nonsignificant ($b = .04$, $F(1,59) = .87$, ns). Thus, any differences between HRS and LRS women in the likelihood of conflict as a function of feelings of rejection is not attributable to mean differences between these groups in feelings of rejection over the diary period.

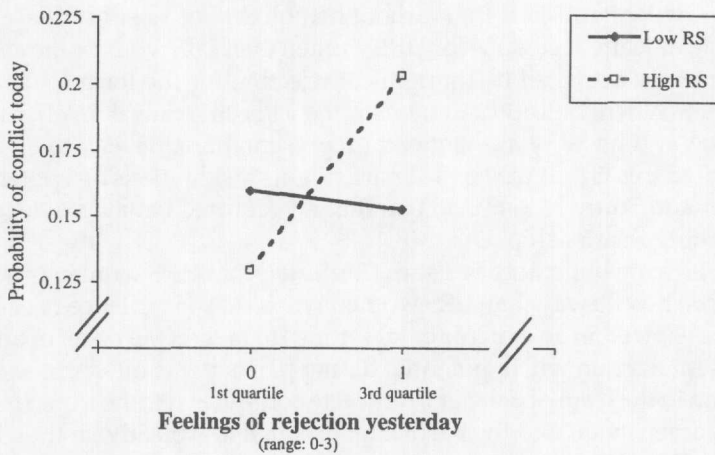


FIGURE 3. Probability of getting into a conflict today predicted by participants' feelings of rejection yesterday and their rejection sensitivity

Predicted values are based on the following equation:

$$\text{Conflict}_t = .16 - .001 \text{ Conflict}_{t-1} - .007 \text{ Feelings of Rejection}_{t-1} - .03 \text{ RS} + .08 \text{ RS} \times \text{Feelings of Rejection}_{t-1}.$$

ARE HRS WOMEN MORE REACTIVE THAN LRS WOMEN TO FEELINGS OF REJECTION?

Multilevel analyses as described above in Question 2 were conducted to establish whether the association between conflict today and feelings of rejection yesterday differed for HRS and LRS women. The analyses yielded a significant positive Feelings of Rejection \times Rejection Sensitivity interaction, supporting our prediction that HRS women were more reactive than LRS women to feeling rejected ($b = .08$; $F(1, 59) = 5.73$, $p < .02$). Figure 3 provides the predicted likelihood of current day conflict as a function of the previous day's feelings of rejection for HRS and LRS women. The figure shows that, in LRS women, the likelihood of conflict today was independent of whether or not they felt rejected yesterday. By contrast, in HRS women, the likelihood of conflict today was increased if they felt rejected yesterday and decreased if they did not feel rejected.

GENERAL DISCUSSION

The goal of this article was to establish whether hostility in women who anxiously expected rejection was a specific reaction to perceptions and feelings of rejection rather than a marker of dispositional hostility. Together, the three studies we reported yielded support for this hypothe-

sis. Study 1 established that although thoughts of hostility were not more chronically accessible for HRS women than LRS women, they were more readily activated by thoughts of rejection for the former than for the latter. Whereas Study 1 demonstrated a specific causal link between rejection and hostility at the mental representational level, Study 2 investigated this link at the level of participants' evaluations of a potential partner and Study 3 examined it at the self-reported behavioral level in an ongoing relationship.

Results from both Studies 2 and 3 indicated that HRS women only act in a more hostile way than LRS women when they experience rejection. Study 2 showed in an experimental setting that when the onset of an expected interaction with a potential dating partner was interrupted by a rejection in the form of partner's refusal to continue with the experiment, HRS women evaluated the partner's biosketch less positively than LRS women. When the interaction was interrupted due to equipment failure, on the other hand, the evaluations of HRS and LRS women did not differ. Study 3 used a daily diary study to investigate the hypothesized rejection → hostility link in women's ongoing romantic relationships across a 4-week period. It revealed that HRS women were more likely than LRS women to report getting into conflicts with their romantic partners only after days they reported feeling rejected.

An important contribution of Studies 2 and 3 was to show that, even when HRS and LRS women perceive similar levels of rejection, HRS women have stronger hostile reactions to it. This is consistent with our conceptualization of RS that HRS individuals not only readily perceive rejection, but also *overreact* to perceived rejection.

IMPLICATIONS

Our findings support the view that HRS women are not cross-situationally more hostile than LRS women. Rather, HRS women are more susceptible to expressing hostility only when they perceive rejection. Thus, the psychological process that underlies HRS women's hostility involves a person-by-situation interaction whereby this cognitive-affective processing disposition is triggered only in the presence of particular situational features (Mischel & Shoda, 1995). More generally, our findings illustrate the importance of adopting an approach to understanding hostility that bridges the gap between the interpersonal approach, which emphasizes conflict resolution styles, and the intrapersonal approach such as social cognitive and attachment perspectives, which addresses how the dispositions people bring into social interaction influence information processing and behavior (see also, Bradbury & Fincham, 1988).

WHY DOES REJECTION LEAD TO HOSTILITY?

Although our results establish the rejection → hostility link in HRS women, they do not specifically address why rejection leads to hostility. A possible explanation is that when HRS women perceive even mild rejection, they may view it signifying the irreversible loss of the relationship. This, in turn, may evoke a desire to take revenge, leading HRS women to express their hurt and hopelessness in the form of hostile retaliation.

Underlying our assumption that HRS women's hostility is an expressive, reactive, affectively mediated response, rather than an instrumental, reflective, cognitively mediated response to rejection, is the belief that in HRS women, rejection elicits emotional distress. This distress may then inhibit access to complex cognitive-mediational processes, resulting in information processing becoming rapidly driven by emotional impulses (Davis, 1992; Fanselow, 1994; LeDoux, 1995; Metcalfe & Mischel, 1999; Zillmann, 1993). Consequently, when rejection is perceived, HRS women may be unable to access and utilize self-regulatory strategies that would enable them to reappraise the situation or to come up with alternative strategies to deal with it. Thus, hurt and anger become readily translated into reactive hostility.

REACTIVE VS. REFLECTIVE REACTIONS

Our present findings, combined with previous findings lend support to the idea that women's aggression and hostility may be expressive or reactive in nature. We have previously shown that HRS women, for example, employ reactive verbal aggression tactics (e.g., blaming or saying something spiteful) to a greater extent than LRS women during conflicts with romantic partners (Downey, Freitas, et al., 1998). Although our focus in this paper is on reactive hostility, we have some evidence that HRS individuals' reactions might take a form other than aggression (e.g., depression; see Downey, Kim, & Ayduk, 1998) or might express more reflective, goal-oriented strategies. Reflective reactions may be enacted to control the situation in the belief that such actions can be taken to prevent imminent rejection or to regain acceptance.

One way for HRS individuals to control the situation is to suppress their emotionally driven cognitions and behaviors and employ strategies such as compliance and self-silencing (Jack, 1991). These types of reflective behaviors, however, have their own dangers. Self-silencing is a risk factor for depression (Gratch, Bassett, & Attra, 1995; Jack & Dill, 1992) and compliance can serve to reinforce a perpetrator's abusive behavior, increasing the risk of future victimization. In contrast to the sup-

pression of one's own behavior as a strategy, rejection cues may also trigger coercion strategies in some HRS individuals. Such strategies involve attempts to alter the partner's behavior and may manifest themselves in the use of threats and/or guilt induction to force the partner to accede to the HRS individual's wishes. Coercive strategies may characterize HRS men more than women. Downey and Feldman (1996, Study 4), for instance, showed that the female partners of HRS men reported more relationship dissatisfaction because of HRS men's jealous and controlling behaviors. Such behaviors have also been found to be typical of abusive husbands (e.g., Dutton, 1988; Walker, 1979, 1984).

GENDER DIFFERENCES

Even though we have clearly established a rejection → hostility link in HRS women, our previous findings fail to support a similar link in RS men (e.g., Downey, Freitas, et al., 1998). One reason why gender differences may arise in the rejection-sensitive processing disposition may be that reactions to rejection take gender-specific forms. HRS men's reactions to rejection may be more likely to involve reflective, controlled responses whereas HRS women may be more likely to respond reactively (see Downey & Feldman, 1996, Study 4). Situational cues that trigger perceptions and feelings of rejection may also be gender-specific. For instance, HRS women may perceive threats of loss of the relationship as particularly rejecting, whereas HRS men may be more sensitive to the rejection contained in threats to their social status and social personas. Both possibilities suggest that future research needs to explore the operation of the RS process in men by identifying male-relevant trigger stimuli as well as male-specific forms of overreaction.

Another factor that might contribute to gender differences in the RS processing disposition may be that HRS men are a more heterogeneous group than HRS women suggesting that multiplicative models may be particularly appropriate for men. Consistent with this view, we have some preliminary evidence indicating that HRS men with a stronger masculine gender-identity are more angered by hypothetical scenarios of rejection by their partners than are HRS men with a relatively weaker masculine identity (Ayduk & Downey, 1999). This implies the existence of a "masculine" subtype of HRS men who may be more vulnerable to acting aggressively when they feel rejected. Another possibility is that awareness of social norms against male aggression toward women in college populations may reduce the likelihood of hostility and aggression in HRS men, unless they have poor self-regulatory capacities to control their emotions.

CONCLUSIONS

This article presents evidence that women who are sensitive to rejection become hostile in reaction to rejection cues. By conceptualizing RS as a cognitive-affective processing disposition that is activated in theoretically relevant interpersonal contexts, we have begun to shed some light on some of the dynamics involved in female hostility. Our results illustrate that a more complete understanding of women's hostility and aggression in close relationships requires taking into account the significance of interpersonal acceptance and rejection for them.

An important goal of our research program is to investigate types of overreactions to rejection other than reactive hostility in both HRS women and HRS men. Accomplishing this goal requires going beyond the generic unconditional expressions of such behaviors as aggression and recognizing how situations interact with individual vulnerabilities in generation of interpersonal behavior. This article represents our first attempt at accomplishing this goal.

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