Self-Evaluation, Persistence, and Performance Following Implicit Rejection: The Role of Trait Self-Esteem

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Self-Evaluation, Persistence, and Performance Following Implicit Rejection: The Role of Trait Self-Esteem

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In three studies, participants were primed with words connoting interpersonal acceptance, interpersonal rejection, or other aversive outcomes. Study 1 revealed that participants low in self-esteem responded to rejection (compared to other) primes by appraising themselves less positively and more negatively, whereas those high in self-esteem showed the opposite tendency. Study 2 showed that implicit rejection caused participants low in self-esteem to give up sooner on a difficult (unsolvable) anagram task but led those high in self-esteem to persist longer. Study 3 revealed that primed rejection hampered performance among low-self-esteem participants but somewhat improved performance among high-self-esteem participants. Taken together, the findings indicated that people with low self-esteem automatically respond to interpersonal rejection with self-deprecation and withdrawal, whereas those with high self-esteem tend to react with affirmation and perseverance. People with low self-esteem appear to possess few resources for defending against rejection threat.

The desire for interpersonal attachments is one of the most basic and pervasive motivations underlying human behavior (Baumeister & Leary, 1995). What happens, then, when attempts at intimacy are thwarted? Interpersonal rejection may have profound consequences for the way people think and feel about themselves. Being ostracized by a friend, excluded from a group, or jilted by a longed-for lover may arouse concerns about whether one possesses the traits, characteristics, or abilities to be an attractive relationship partner. Rejection may highlight weaknesses, disaffirm strengths, and generally cause people to ponder whether they are worthy of others' high regard. The consequences of rejection may therefore include changes in self-evaluation and a host of behaviors that depend on self-evaluation.

This investigation began with the assumption that fear of social rejection is one of the most basic aspects of human functioning and that even an implicit threat of rejection could activate that fear. We reasoned that the threat of rejection could produce very different responses among people high versus low in self-esteem. People who consistently think highly of themselves may strive to reaffirm the self, such as by rating themselves positively and increasing their efforts to succeed at tasks, as if to prove (to themselves or to others) that they are deserving of social inclusion. People who question their worth, however, may be paralyzed or devastated by the threat of rejection, and they could well react by lowering their opinion of themselves and decreasing efforts on tasks.

Implicit Social Rejection

The desire to be accepted by at least some other people, to the extent that one is able to form lasting relationships marked by positive interactions and mutual concern for each other's welfare, is deeply rooted in the human psyche. Baumeister and Leary (1995) reviewed evidence suggesting that this "need to belong," defined

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as the desire for frequent interactions with others within ongoing, relational bonds, influences cognition, emotion, interpersonal behavior, health, well-being, and many other variables. Reviews of the literature on happiness by Baumeister (1991) and Myers (1992) independently concluded that there was only one strong objective predictor of happiness—whether the person had some significant social ties or was alone in the world. A review of research on health and illness by Lynch (1979) concluded that mortality from all forms of serious illness was higher for the unattached than from people with strong social ties.

It is not absolutely necessary to invoke evolutionary arguments to explain the need to belong, but an evolutionary perspective does furnish ample reason for assuming that natural selection has shaped the human psyche to be strongly motivated to form and maintain social bonds (e.g., Bowlby, 1969). Under the environmental and social conditions that shaped human prehistory, both survival and reproduction would have been greatly facilitated by belonging to a social group.

If human nature is powerfully programmed to seek and maintain social connection, then rejection must activate some of its deepest and most profound fears. Indeed, if the need to belong is as central and powerful as has been suggested, then it may not be necessary to expose people to full-blown rejection to elicit a response; rather, a mere threat or even the idea of rejection may set off automatic responses.

According to Bargh (1997), well-rehearsed responses to environmental stimuli eventually begin to emerge without conscious awareness or control. Automaticity bypasses the need for conscious mediation such that the mere (nonconscious) perception of the stimulus event leads quickly to the cognitive or motivational response with which it has been repeatedly paired. The past decade has provided strong evidence for the automaticity of phenomena such as stereotyping (Devine, 1989; Pratto & Bargh, 1991), evaluation (Bargh, Chaiken, Raymond, & Hymes, 1996; Fazio, Sanbonmatsu, Powell, & Kardes, 1986), impression formation (Chartrand & Bargh, 1996; Srull & Wyer, 1979, 1980), and social behavior (Bargh & Barndollar, 1996; Bargh, Chen, & Burrows, 1996). If a major theme in human social life is the dimension of inclusion versus rejection, then people's responses to it may well become automatic.

Self-Esteem

Two hallmarks of trait self-esteem suggest that this trait will play a strong role in how people cope with interpersonal rejection. First, self-esteem is related strongly to perceptions of inclusion or acceptance by others. In fact, Leary and colleagues (Leary & Baumeister, 2000; Leary, Haupt, Strausser, & Chokel, 1998; Leary, Tambor, Terdal, & Downs, 1995) argue that self-esteem serves as an inner meter of one's perceived inclusionary status. In support of sociometer theory, Leary et al. (1995) showed that feelings of social acceptance covaried significantly and positively with trait self-esteem and that experimental manipulations of interpersonal rejection reliably produced decreases in state self-esteem. Other research has revealed that trait self-esteem correlates negatively with both rejection sensitivity (i.e., the tendency to anxiously expect rejection and perceive rejection in the ambiguous behaviors of others) (Downey & Feldman, 1996) and perceptions of ostracism by others (Sommer, Williams, Ciarocco, & Baumeister, 2001). Perceived rejection also predicts low self-esteem in female adolescents (Harter, 1987, 1993).

The second hallmark of trait self-esteem is perceived competence (Blaine & Crocker, 1993; Dutton & Brown, 1997; Tafarodi & Swann, 1995). People with high self-esteem generally believe that they are capable, efficacious people whose efforts will usually bring about success. Those with low self-esteem possess relatively less confidence in their skills and abilities and maintain relatively low expectations for themselves.

We reasoned that chronic differences in perceived acceptance and competence will cause high- versus low-self-esteem individuals to respond differently to rejection threat. Rejection will be largely unanticipated and even shocking to people with high self-esteem because it is clearly inconsistent with their self-views as competent, attractive people. These individuals will therefore be reluctant to accept rejection feedback as valid or justified. Rejection will come as less of a surprise to people low in self-esteem, who are more likely to question their strengths and appeal to others. Instead, these individuals may interpret signs of dislike or disapproval from others as a logical consequence of their own inherent weaknesses or faults.

In line with these predictions, several studies have demonstrated that people with low self-esteem readily accept unfavorable feedback and alter their self-evaluations accordingly, whereas those with high self-esteem tend to dismiss such feedback as invalid or untrue (Brown & Dutton, 1995; Dutton & Brown, 1997; Shrauger & Lund, 1975; Shrauger & Rosenberg, 1970; Stake, Huff, & Zand, 1995). These findings are informed by several research programs within social psychology. For example, Campbell and colleagues (Campbell, 1990; Campbell & Lavallee, 1993; Campbell et al., 1996) showed that low-self-esteem individuals' self-concepts are temporally unstable, evaluatively neutral, and internally inconsistent, whereas high-self-esteem individuals are more sure of their strengths and weaknesses and are consistent in these beliefs. Kernis, Cornell, Sun, Berry, and Harlow

(1993) demonstrated that unstable low self-esteem is related to greater acceptance of negative feedback, whereas unstable high self-esteem predicts greater rejection of (defensiveness toward) negative feedback. In support of self-verification theory, Swann and colleagues (Swann, Wenzlaff, Krull, & Pelham, 1992; Swann, Wenzlaff, & Tafarodi, 1992) showed that people with negative self-views seek unfavorable feedback, whereas those with relatively positive self-views prefer favorable feedback. Finally, Baldwin and Sinclair (1996) revealed that people with low self-esteem associate acceptance and rejection with success and failure, respectively, whereas those with high self-esteem experience no such contingency. These findings suggest that the former group may automatically associate rejection with a sense of failure.

The responses of people with high self-esteem actually suggest more than a simple dismissal of unwelcome feedback, however. In some cases, people with high self-esteem seem to be actively spurred by bad feedback to try to prove the opposite (e.g., McFarlin, Baumeister, & Blascovich, 1985; Murray, Holmes, MacDonald, & Ellsworth, 1998; Shrauger & Sorman, 1977; Tafarodi & Vu, 1997). Indeed, efforts to affirm the self may occur relatively automatically for these individuals. Dodgson and Wood (1998) measured cognitive accessibility to strengths and weaknesses following failure feedback or no feedback. Their findings showed that strengths were generally more accessible than weaknesses across conditions. However, the discrepancy in accessibility was significantly higher in the failure compared to no feedback conditions for participants high in self-esteem. People with low self-esteem did not focus more on their strengths following failure feedback but rather demonstrated increased accessibility of weaknesses. The authors concluded that those with high self-esteem may automatically recruit strengths in efforts to diminish threats to the self. Other studies similarly have suggested that these individuals are more resilient to negative feedback because they possess greater resources with which to self-affirm and thus restore a positive self-image (Brown & Smart, 1991; Ciarocco, Sommer, & Williams, 1998; Steele, Spencer, & Lynch, 1993).

Self-Esteem and Rejection

Although many studies have examined how self-esteem moderates responses to success and failure feedback, relatively few have examined how self-esteem moderates responses to rejection. On the basis of sociometer theory alone, one might speculate that people with low self-esteem would be particularly concerned about acceptance and hence make strong efforts to succeed. Other work on reactions to (nonsocial) negative feedback, however, suggests that rejection will activate negative thoughts among people with low self-esteem, and such thoughts may overwhelm confidence in their abilities to gain acceptance by way of success or other behaviors. Fraught with feelings of worthlessness, these people may withdraw efforts to affirm their value to others. People with high self-esteem do feel accepted on a more chronic basis, yet belongingness theory predicts that rejection is universally threatening. In the face of threat, a secure and positive sense of self may serve as a resource for refuting the threatening implications of rejection (see also Steele, 1988).

The existing work on rejection threat and self-esteem has yielded somewhat inconsistent findings. Leary and colleagues (1998) found that both rejection (vs. acceptance) feedback and trait self-esteem independently predicted variation in state self-esteem, although rejection and trait self-esteem did not interact. Thus, although people higher in self-esteem generally scored higher on state esteem measures, they were not immune to the negative impact of rejection. However, Nezlek, Kowalski, Leary, Blevins, and Holgate (1997) demonstrated that trait self-esteem attenuated the effects of rejection threat. Specifically, they found that, for excluded participants, decreasing trait self-esteem predicted lower levels of perceived acceptance and more negative self-feelings. For included participants, trait self-esteem did not predict changes in perceived acceptance and self-feelings. Consistent with the findings of Shrauger and colleagues (Shrauger & Lund, 1975; Shrauger & Rosenberg, 1970), high trait self-esteem appeared to buffer individuals against a downward shift in self-evaluations following rejection. The higher their self-esteem, the better excluded individuals were able to resist a temporary loss of esteem.

Overview of Studies

The findings of Nezlek et al. (1997) provide initial support for the present approach. We sought to investigate how rejection could produce differential responses in terms of self-ratings (Study 1), task persistence (Study 2), and successful performance (Study 3). To study habitual, automatic response tendencies, we used a priming manipulation that simply (and unconsciously) activated the idea of rejection rather than exposing people to an actual interpersonal rejection. We predicted that exposure to rejection primes would cause people high in self-esteem to affirm the self through positive self-ratings and strong efforts on the performance task, whereas people with low self-esteem would respond by rating themselves less favorably, giving up rapidly, and performing relatively poorly.

In Studies 1 and 2, participants were exposed to acceptance, rejection, or aversive control primes. (The last condition was dropped for Study 3.) The aversive control condition was included to rule out the possibil-

ity that differences between acceptance and rejection priming conditions could be attributed to valence (instead of content) of the prime. Smith and Petty (1995) found that negative mood inductions resulted in mood-congruent recall among people low but not high in self-esteem. In fact, negative mood produced an increase in positive cognitions among people with high self-esteem. This phenomenon also was demonstrated by Dodgson and Wood (1998), who found that failure feedback increased the accessibility of personal strengths among people with high self-esteem (mood incongruency) but increased attention to personal weaknesses among those with low self-esteem (mood congruency). By including a condition in which we primed bad moods without rejection, we hoped to be able to rule out the alternative explanations based simply on mood congruent and mood incongruent responses.

STUDY 1

The purpose of Study 1 was to test the relationship between implicit rejection and self-appraisals among people low versus high in self-esteem. Some research points to more variation in self-appraisals among those with low self-esteem (Campbell & Lavallee, 1993; Campbell et al., 1996; Stake et al., 1995), suggesting that these individuals will appraise themselves more negatively following rejection, whereas those with high self-esteem will exhibit no change among conditions. A slightly alternative hypothesis is that the latter will adopt a more positive self-concept following rejection threat. People with high self-esteem may counteract rejection threat by affirming their strengths, thereby attenuating a loss of esteem (Dodgson & Wood, 1998). Thus, strong evidence for self-enhancement would result in a pattern of findings in which high-self-esteem individuals' self-appraisals mirrored those of low-self-esteem individuals. The former group would respond to that threat by self-affirming, that is, by rating themselves all the more positively (and less negatively), whereas the latter group would be more vulnerable to the threat and would rate themselves more negatively (and less positively). Priming a bad mood without rejection would not elicit these same responses.

Method

Participants and design. Participants were 51 students enrolled in introductory psychology classes at Baruch College. Three participants were eliminated from analyses because they became confused during the study and failed to provide useable data. The final sample consisted of 48 students (21 men and 27 women). Baruch College is a large, public institution in New York City with an extremely diverse student population; approximately 33% of the entering class is Asian, 27% White, 16% Hispanic, 11% African American, and 13% other background. This diversity was reflected in the present sample.[1] A 3 (acceptance vs. rejection vs. aversive control priming) × 2 (high vs. low self-esteem) × 2 (positive vs. negative trait adjectives) mixed-model design was employed, with trait valence constituting a repeated-measures variable.

Overview of procedure. Acceptance, rejection, or aversive control primes (i.e., negatively valenced primes having nothing to do with rejection) were presented subliminally, on a computer. Participants were then asked to respond "yes" or "no" as to whether several positive and negative trait adjectives described them. The dependent variables were the proportion positive and negative traits to which participants responded "yes."

Priming task. The entire experiment was run using the Superlab program, installed on a Power Macintosh 7600 computer with a 13-in. monitor. For the priming task, participants were told that their task was to state verbally whether each of several words presented on the screen was a person, place, or thing. Participants were led to believe that a microphone placed on top of the computer would be recording and judging the accuracy of their responses. This task provided the cover story for the priming manipulation, which was adapted from prior research (Bargh, Bond, Lombardi, & Tota, 1986; Chartrand & Bargh, 1996). Three small asterisks appeared in the center of the screen and remained visible for 3100 ms. Precisely 3000 ms following the onset of the asterisks, a prime (e.g., "ignore") was flashed either 2.5 cm above or below the asterisks. The prime remained on the screen for 90 ms and was followed immediately by a mask ("xpiqxaiezv") for 10 ms. A word then appeared in the middle of the screen, which participants were to identify as a person, place, or thing. This remained on the screen for 3000 ms. The entire sequence was repeated with a new prime and new word to identify. Each participant received 20 primes, and the order in which primes were presented was randomized for each participant.

A chin rest was used to maintain 34 cm between participants' eyes and the center of the computer screen. This ensured that primes were presented parafoveally, at a visual angle of 4° 15′. Previous research has shown that stimuli presented parafoveally for 90 ms are processed outside of conscious awareness (Chartrand & Bargh, 1996).

The content of the primes varied as a function of experimental condition. Participants were randomly chosen to receive either acceptance primes (e.g., "welcomed," "attached," "bonded"), rejection primes (e.g., "ignored," "dumped," "abandoned"), or aversive control primes (e.g., "destroy," "disease," "pain").

Self-definitions task. The self-definitions task consisted of six practice trials and 31 actual trials that included 15 positive traits (e.g., creative, patient, supportive) and 16 negative traits (e.g., bossy, forgetful, selfish).[2] To maximize variability in endorsement of these traits as a function of priming condition and trait self-esteem, we chose positive and negative traits that characterized most people some of the time. A random letter string ("loquanbpuxidz") appeared in the middle of the screen. The letter string appeared for 2000 ms and was replaced immediately with a trait adjective (e.g., "argumentative"), which also appeared for 2000 ms. For both the practice and actual trials, participants were instructed to hit either the "yes" key or the "no" key to indicate whether the trait adjective did or did not describe them. (For half the participants, small pieces of paper labeled "yes" and "no" were taped to the "p" and "q" keys, respectively; for the remaining half, the labels were switched.) As soon as a response was recorded, the program advanced to the letter string, which again appeared for 2000 ms, followed by another trait adjective, and so on. If participants did not respond to the trait adjective within 2000 ms, the program automatically advanced to the letter string and no response was recorded. All text was presented in black font (New York, size 24), in lowercase type, on a white background. The order in which trait adjectives were presented was randomized for each participant.

Procedure. Participants were run individually. After arriving at the laboratory, participants provided informed consent and completed the Fleming and Courtney (1984) revised version of the Janis/Field self-esteem scale. They were then seated in front of the computer and were asked to place their chins on a chin rest secured to the desk. The experimenter initiated the computer program, which instructed participants that they would be taking part in two tasks, a word identification task and a self-definitions task. Participants were taken through a few practice trials of the self-definitions task. They were told to respond "yes" or "no" as to whether each adjective described them. After completing the practice trials, participants proceeded to the priming task and then back to the self-definitions task. The entire program lasted approximately 7 min. Participants were debriefed and dismissed.

Results

During the debriefing session, the experimenter queried participants for suspicion and awareness of the primes. No one expressed suspicion about the true purpose of the experiment. Twenty participants reported that they did not notice any flashes during the word identification (priming) task; 19 reported that they noticed flashes but could not determine what they were. Nine participants admitted not focusing on the asterisks but rather attempting to guess the location and content of the flash. These participants stated that occasionally they were able to recognize a word, although no participant was able to recall any of these words. Eliminating these nine participants did not appreciably alter the pattern of results, and therefore, all participants were included in the analyses.

Twenty-two participants (43%) failed to respond to one or more trait adjectives in the self-definitions task within the allotted time (2000 ms), resulting in missing data. (All participants responded to at least 12 positive and 12 negative trait adjectives.) To correct for these missing data, proportions rather than raw frequencies were used in the analyses. Two numbers were calculated for each subject: proportion of positive traits endorsed (number of positive traits to which participants responded "yes" divided by the total number of positive traits to which participants responded) and proportion of negative traits endorsed (number of negative traits to which participants responded "yes" divided by the total number of negative traits to which participants responded). We then computed a favorability index by subtracting the proportion of negative traits endorsed from the proportion of positive traits endorsed for each participant. Thus, a person who endorsed many positive traits and few negative traits would obtain a high difference score, reflecting a highly favorable self-concept. Conversely, a person who endorsed a high number of negative traits and few positive traits could be assumed to possess a relatively unfavorable self-concept.

To make full use of trait self-esteem (TSE) scores, favorability ratings were first analyzed using a moderated multiple regression analysis. Following the procedures outlined by Aiken and West (1991), two dummy variables were created, one comparing rejection (0) to acceptance (1) (D1) and the other comparing rejection (0) to aversive control (1) (D2). These dummy variables together reflected the main effect for priming condition. In addition, two terms were created that reflected the multiplicative (interactive) effects of self-esteem and priming condition (TSE × D1 and TSE × D2). All main effects (D1, D2, and TSE) were entered simultaneously into Block 1, and both interactions were entered in Block 2. This method allowed us to test the significance of the interaction terms after controlling for the separate influences of the independent variables. Results revealed nonsignificant trends for priming conditions; rejection primes resulted in somewhat lower favorability ratings than did acceptance primes (D1), $t(44) = .99$, $p = .17$ ($r = .15$) and aversive control primes (D2), $t(44) = 1.05$, $p = .15$ ($r = .16$). Favorability ratings were also significantly and positively associated with self-esteem, $t(44) = 2.62$, $p < .01$ ($r = .37$). In addition, the results revealed

TABLE 1: Favorability Ratings as a Function of Priming Condition and Trait Self-Esteem (Study 1)

	Acceptance	*Rejection*	*Aversive*
High self-esteem	.57 (P = .84) (N = .27) (*SD* = .33) (*n* = 10)	.69 (P = .91) (N = .22) (*SD* = .23) (*n* = 8)	.44 (P = .79) (N = .35) (*SD* = .35) (*n* = 6)
Low self-esteem	.54 (P = .84) (N = .30) (*SD* = .24) (*n* = 7)	.24 (P = .68) (N = .45) (*SD* = .23) (*n* = 8)	.63 (P = .86) (N = .23) (*SD* = .18) (*n* = 9)

NOTE: Higher numbers reflect more favorable self-views. P = proportion of positive traits endorsed, N = proportion of negative traits endorsed.

marginally significant interactions between self-esteem and D1, $t(44) = -.98$, $p = .16$ ($r = -.15$) and self-esteem and D2, $t(44) = -1.31$, $p = .10$ ($r = -.20$).[3]

To better elucidate the nature of the interactions, self-esteem scores were subjected to a median split (low self-esteem = 39-96; high self-esteem = 97-147) and entered within a 3 × 2 ANOVA. Results revealed a significant interaction between priming condition and self-esteem, $F(2, 42) = 5.91$, $p < .05$, $\eta^2 = .22$. Neither of the main effects reached significance (Fs < 1, ps > .20, $\eta^2 = .03$). The means are presented in Table 1. Planned comparisons revealed that high-self-esteem participants' self-appraisals did not differ significantly between acceptance and rejection priming conditions, $F(1, 42) = .90$, $p > .10$ ($r = .21$). However, these participants viewed themselves marginally more favorably following rejection compared to aversive control primes, $F(1, 42) = 2.99$, $p = .09$ ($r = -.42$). Low-self-esteem participants reported significantly less favorable self-appraisals following rejection primes compared to acceptance primes, $F(1, 42) = 4.92$, $p < .05$ ($r = -.57$), and aversive control primes, $F(1, 42) = 9.63$, $p < .05$ ($r = .71$).

Discussion

The findings from Study 1 revealed that low-self-esteem individuals primed with rejection (vs. other cues) subsequently endorsed fewer positive traits and more negative traits when making self-appraisals. This was in contrast to high-self-esteem individuals, whose self-concepts were resistant to downward evaluation. In fact, this latter group showed some evidence of self-concept inflation; favorability of self-appraisals was marginally higher following rejection compared to aversive control primes.

Our findings are consistent with previous evidence (Campbell, 1990) by showing that the self-appraisals of people high and low in self-esteem did not differ appreciably under normal, nonthreatening conditions. Also consistent with prior research, those with low self-esteem were vulnerable to threatening information (Brockner, 1983, 1988; Campbell, 1990; Nezlek et al., 1997), whereas those with high self-esteem showed little evidence of downward evaluation following threat (Brown & Dutton, 1995; Stake et al., 1995). Rejection appeared to activate low-self-esteem individuals' fears of being unwanted or unliked, leading them to evaluate themselves in relatively negative terms, whereas high-self-esteem individuals displayed a nonsignificant tendency to affirm their strengths. The present findings also build on previous research by showing that self-deprecating responses to rejection among people with low self-esteem do not require conscious deliberation but rather are activated on the mere perceptual registration of rejection-related stimuli.

The results of Study 1 also confirm the view that rejection has special properties and is not simply one more version of an aversive or unpleasant idea. The control condition that primed people with other aversive stimuli elicited responses that differed significantly from the responses to rejection priming. If the present results simply reflected mood-congruent and mood-incongruent patterns of responding, then the aversive control and the rejection primes would have elicited very similar responses, but they did not. If anything, the aversive control condition tended to resemble the acceptance prime condition more closely than it resembled the rejection prime.

Self-concept clarity may have restricted the extent to which people with high self-esteem could self-affirm by changing their perceptions of their own traits and abilities. As noted earlier, these individuals are very confident in the traits they do and do not possess (Campbell, 1990). As such, the extent to which they view themselves as having various positive and negative traits may remain relatively unaffected by experimental manipulations (as well as real life instances) of interpersonal rejection.

Another possibility is that variation in self-appraisals was constrained by ceiling and floor effects. Note that the mean proportion of positive traits endorsed by high-self-esteem individuals primed with rejection was .91; nearly 14 of 15 positive traits received a "me" response (Table 1). This leaves very little room for additional movement in a positive direction. In a similar vein, the proportion of negative traits endorsed following rejection may have hit a theoretical low, with high-self-esteem participants unable to view themselves as having fewer than 3.5 (of 16) negative traits. Recall that the negative traits were only moderately negative and characteristic of most people some of the time. Even high-self-

esteem individuals admit to having some negative traits (Campbell, 1990).

To summarize, the results of Study 1 demonstrated that rejection has an adverse impact on the self-concepts of those with relatively low self-esteem. The implication is that the idea of rejection activates negative views of self, which rather easily take center stage in the psyche of someone with low self-esteem. In contrast, people with high self-esteem did not seem to lower their opinion of themselves in response to the threat of rejection. If anything, they shifted toward slightly more favorable self-ratings. Their responses are consistent with the view that that high self-esteem is typically accompanied by effective, efficient defenses that can summon up positive views of self to ward off any negative messages implicit in the threat of rejection.

Although the results of Study 1 were encouraging, we hesitated to place too much weight on them. The results derived from the regression analysis yielded only marginally significant findings. Furthermore, the dependent variable of self-ratings in response to adjectives could reflect a variety of processes, including wishful thinking, strategic self-deprecation, or vain bluster. Before concluding that the threat of rejection activates quite different response patterns as a function of self-esteem, it seemed necessary to demonstrate differences on some behavioral measure. Study 2 was therefore conducted to ascertain how rejection threat and self-esteem would predict how long people would persist in the face of failure.

STUDY 2

The goal of Study 2 was to test the impact of rejection threat on persisting efforts to succeed. Using a different priming task than in Study 1, we primed participants with acceptance, rejection, or aversive cues and measured their persistence on a challenging task. Complete success was rendered impossible by including some unsolvable problems on the task using this procedure, we hoped to learn how long people would be willing to keep trying before giving up.

The empirical literature points to few if any persistence differences in the absence of threat (Shrauger & Sorman, 1977; Tafarodi & Vu, 1997). Yet, following an ego-threatening experience, high-self-esteem people persist longer, whereas low-self-esteem people give up sooner (McFarlin et al., 1985; Shrauger & Sorman, 1977; Tafarodi & Vu, 1997). Consistent with our thesis, we expected implicit rejection to activate concerns over the ability to perform effectively on a difficult task.

Based on the findings of Study 1, we predicted that people would respond quite differently as a function of their level of self-esteem. People with high self-esteem would respond to rejection threat by accessing their positive views of self (as Study 1 suggested) and exhibiting an increased determination to prove themselves by succeeding, and so their persistence would be expected to remain high or even increase in response to rejection. In contrast, rejection would make people with low self-esteem focus on their deficiencies, inadequacies, and other forms of inferiority, and this discouraging view of self would cause them to give up rather easily.

As in Study 1, our interest was in the possibility of automatic, habitual modes of response. Hence, we again used a subtle priming manipulation and expected that participants would remain unaware that their behaviors were under the control of environmental cues.

Method

Participants and design. Participants included 39 individuals (25 men, 14 women) who were drawn from introductory psychology classes at Case Western Reserve University, a small, private institution in Cleveland, Ohio. The sample was predominantly White (approximately 75%), with lower percentages of Asian, African American, and Hispanic participants. Students participated in partial fulfillment of a course requirement. Participants completed the Janis-Field Feelings of Inadequacy scale during mass testing early in the semester and took part in the experiment within 4 to 8 weeks.

Procedure and tasks. After arriving at the laboratory, individual participants completed an informed consent form and proceeded immediately to the priming task. Priming was induced using the scrambled sentence task (Banaji, Hardin, & Rothman, 1993; Srull & Wyer, 1979). Participants were provided 20 four-word clusters. They were told to find the three words in each cluster that best formed a meaningful phrase and then cross out the fourth, irrelevant word. Ten of the four-word clusters were neutral and identical across experimental conditions (e.g., "asleep she the fell," "office call under the"). In the acceptance priming condition, the remaining 10 primes were phrases connoting acceptance or inclusion (e.g., "group the joined a," "them under loves he"). In the rejection priming condition, the remaining 10 primes were phrases suggesting rejection or exclusion (e.g., "from isolated on others," "alone her the left"). In the aversive control priming condition, the remaining 10 phrases were negative but unrelated to rejection ("nauseates food package her," "above crash hurt in").

The experimenter explained that the sentence unscramble task was a measure of cognitive speed and that it must be completed as quickly as possible. To enhance the cover story and reduce the possibility that participants would study the primes, the experimenter stood close by with a stopwatch and pretended to time the participants. As soon as the participant completed the last sentence cluster, the experimenter removed the

TABLE 2: Persistence (in minutes) as a Function of Priming Condition and Trait Self-Esteem (Study 2)

	Acceptance	*Rejection*	*Aversive*
High self-esteem	10.44 (*SD* = 6.22) (*n* = 9)	20.27 (*SD* = 10.02) (*n* = 5)	10.34 (*SD* = 3.04) (*n* = 5)
Low self-esteem	17.94 (*SD* = 4.01) (*n* = 4)	7.05 (*SD* = 4.42) (*n* = 8)	15.98 (*SD* = 9.33) (*n* = 8)

priming task and administered the anagram task. (Participants completed the priming tasks in approximately 2 to 3 min.)

The anagram task was presented as a test of language abilities. Participants were presented with six anagrams, three of which were actually solvable. Participants were told to unscramble the letters and write their solutions in the spaces to the right. They were further told that the test was not a timed test but that they should work on the anagrams as long as they wanted and then simply notify the experimenter when they wanted to stop. The experimenter sat behind a large screen and surreptitiously timed participants' persistence on the task. As soon as participants expressed the desire to stop, the experimenter collected the anagram task and administered the debriefing.

Debriefing. Participants received a full debriefing, including an overview of the hypotheses. Participants expressed no suspicion about the true purpose of the experiment; instead, they attributed their efforts on the anagram task to extraneous factors (e.g., fatigue, frustration, lack of caring).

Results and Discussion

Persistence was recorded in minutes. Thus, if a person persisted for 5 min, 15 sec, a persistence time of 5.25 was recorded. As in Study 1, two dummy variables (D1 and D2) were created to reflect the partial effects associated with rejection versus acceptance and rejection versus aversive control, respectively. These variables along with raw self-esteem scores were entered simultaneously into Block 1, and interaction terms were entered into Block 2 of a moderated multiple regression analysis. None of the main effects reach significance (all ts < 1.0, ps > .17, rs < .16). However, the results revealed a significant D1 × TSE interaction, $t(35) = -2.66$, $p < .01$, $r = -.42$, and a significant D2 × TSE interaction, $t(35) = -2.87$, $p < .01$, $r = -.45$.

Self-esteem scores were subjected to a median split (low self-esteem = 48-97, high self-esteem = 98-142) and entered into a 3 (priming condition) × 2 (self-esteem) between-subjects ANOVA. This analysis revealed a significant interaction, $F(2, 33) = 8.46$, $p < .05$, $\eta^2 = .34$. Neither of the main effects were significant, Fs < 1.0, ps > .20, $\eta^2 = .00$. The means are presented in Table 2. Consistent with the predictions, high-self-esteem people persisted significantly longer when primed with rejection compared to acceptance, $F(1, 33) = 6.65$, $p < .05$, $r = .55$, or aversive words, $F(1, 33) = 5.28$, $p < .05$, $r = -.60$. Conversely, low-self-esteem people persisted for a significantly shorter period of time when primed with rejection versus acceptance, $F(1, 33) = 6.76$, $p < .05$, $r = -.79$, or aversive words, $F(1, 33) = 6.83$, $p < .05$, $r = .55$.

Subtle rejection cues elicited diametrically different responses as a function of self-esteem. Mean persistence times in the acceptance and aversive control conditions were quite similar, regardless of self-esteem. But primed rejection made people with high self-esteem persist significantly longer, whereas the same rejection primes caused those with low self-esteem to give up faster.

These results dovetail nicely with the findings from Study 1 and suggest the broad outlines of two very different coping strategies. We assume that rejection is threatening to everyone regardless of self-esteem level, and indeed, the rejection threat appears to be something different (and more powerful) than the mere suggestion of misfortune or aversive outcomes in general. The threat of rejection apparently causes people with high self-esteem to enhance their views of themselves, as if to defeat rejection and ward off the threat by establishing their worth. Rejection caused them to rate themselves somewhat more favorably (Study 1) and persist longer in attempts to achieve a difficult success (Study 2). Such self-enhancing responses seem quite adaptive and sensible, especially to the extent that they allow people to retain confidence that they will not ultimately end up rejected.

In contrast, the threat of rejection is much more debilitating to people with low self-esteem. Whereas those with high self-esteem seem oriented toward defeating the threat, those with low self-esteem appear to accept it and recognize the futility of trying to overcome it. Rejection made these individuals rate themselves less favorably (Study 1) and give up faster than usual on a difficult task (Study 2).

An alternative explanation for the findings of Study 2 is that the priming may have made people with low self-esteem better able to judge that the anagrams were unsolvable, and so they stopped working sooner, not because of any lack of confidence but rather as an adaptive response to conserve energy that would be wasted by persistence. That alternative explanation is rendered slightly less plausible by prior evidence that people with high self-esteem are better able to avoid wasting time on

unsolvable puzzles (McFarlin, 1985); however, in that study, people were warned that some problems would be unsolvable, and its applicability to the present situation is questionable. In the absence of explicit notification that some problems were unsolvable, people with high self-esteem have been found to persist longer in fruitless effort on unsolvable problems (McFarlin et al., 1985). In any case, it seemed highly desirable to demonstrate that rejection threat would lead to actual differences in performance rather than mere persistence on unsolvable puzzles. Study 3 was conducted for that purpose.

STUDY 3

Study 3 was essentially a replication of Study 2 that replaced the unsolvable anagrams with solvable ones. The dependent variable therefore shifted from mere persistence to actual performance. As we noted, persistence on unsolvable problems (although interesting in itself) is often subject to two different explanations. One is that people who give up early are discouraged and lack the willpower or confidence to continue working, and so their quitting is symptomatic of a self-defeating, maladaptive pattern. The other is that they recognize the problems as unsolvable and therefore make a prudent, rational decision not to waste time on them.

Those two interpretations make different predictions about what would happen with solvable problems. If the early quitters (people with low self-esteem, in Study 2) are giving up because they feel defeated and hopeless, they would likely also show decrements in performance on solvable problems. In contrast, if their early quitting indicates a rational, adaptive pattern of effective self-regulation, then they would be expected to perform perfectly well on solvable problems.

Our analysis of the effects of rejection priming has favored the view that it impairs the ability of people with low self-esteem to function effectively, causing them to shift toward a less favorable view of self (Study 1), which in turn seems likely to undermine their confidence about being able to perform well. Past research has revealed that threat in the form of failure feedback decreases both low-self-esteem people's confidence in their abilities to perform well on a subsequent task (McFarlin & Blascovich, 1981) and their actual performance (Shrauger & Rosenberg, 1970; Shrauger & Sorman, 1977; Tafarodi & Vu, 1997). In contrast, failure feedback increases high-self-esteem people's confidence in their abilities to perform well (Baumeister, Heatherton, & Tice, 1993; McFarlin & Blascovich, 1981). Hence, we favored the prediction that the former group's performance on anagrams would be impaired following implicit rejection threat. Still, the alternative prediction was plausible based on a possible alternative explanation of what we found in Study 2.

Method

Participants and design. Participants were 49 introductory psychology students (32 men, 17 women) at Case Western Reserve University who participated as part of a course requirement. The data for 1 participant were excluded due to familiarity with the priming manipulation. A 2 (acceptance vs. rejection prime) × 2 (low vs. high self-esteem) between-subjects design was employed. At the beginning of the semester, participants completed the Janis-Field Feelings of Inadequacy scale during a mass testing session. They participated in the experiment within 6 weeks of completing the scale.

Procedure. After completing informed consent forms, participants were told that they would be completing two, independent tasks. Participants were randomly assigned to complete either the acceptance or rejection-priming task used in Study 2. They then completed a purported test of language abilities titled the Word Unscramble Test. The experimenter provided a brief explanation of the task and referred to an example printed at the top of the page to ensure that participants understood what they were to do. The experimenter told participants that they would have 3 min to complete as many of the anagrams as they could. The 3-min time limit also was stated at the top of the page. After answering any questions, the experimenter began the stopwatch and left the room. She returned in 3 min, collected the form, and provided the oral debriefing. No participant expressed suspicion about the true purpose of the experiment.

Results and Discussion

A moderated multiple regression analysis revealed a significant interaction between priming condition and self-esteem, $t(44) = -1.75$, $p < .05$ ($r = -.26$). None of the main effects reached significance (ts < 1.0, ps > .16, rs < .15). Self-esteem scores were subjected to a median split (low self-esteem = 50-105, high self-esteem = 106-152) and entered into a 2 (priming condition) × 2 (self-esteem) between-subjects ANOVA. Results indicated a significant interaction, $F(1, 44) = 5.83$, $p < .05$, $\eta^2 = .12$, and no main effects, Fs < .96, $p > .10$, $\eta^2 < .02$. The means are presented in Table 3. Planned comparisons revealed that, compared to acceptance priming, rejection priming significantly hampered performance among people with low self-esteem, $F(1, 44) = 5.74$, $p < .05$ ($r = -.43$) but caused a nonsignificant increase in performance among those with high self-esteem, $F(1, 44) = 1.17$, $p = .28$ ($r = .25$).

The findings were generally consistent with our hypotheses. In line with the persistence differences obtained in Study 2, people with low self-esteem tended to outperform those with high self-esteem in the acceptance priming condition. Because they generally lack

TABLE 3: Number of Anagrams Solved Correctly as a Function of Priming Condition and Trait Self-Esteem (Study 3)

	Acceptance	*Rejection*
High self-esteem	10.12 (*SD* = 4.32) (*n* = 12)	12.10 (*SD* = 3.50) (*n* = 10)
Low self-esteem	13.08 (*SD* = 4.52) (*n* = 13)	9.15 (*SD* = 4.14) (*n* = 13)

confidence in their abilities, the former group may work harder on everyday tasks in efforts to perform at a satisfactory level. However, as expected, implicit rejection undermined any performance advantages. Compared to acceptance priming, rejection priming caused people with low self-esteem to perform significantly worse but led those with high self-esteem to perform somewhat better.

GENERAL DISCUSSION

The results of these studies converge to suggest that different levels of self-esteem are associated with different habitual ways of dealing with the threat of rejection. In all three studies, we primed people with the idea of rejection, and this idea—implanted without their awareness, without the idea of rejection applying specifically to them, and without actual rejection taking place—was enough to evoke different responses from people with high versus low self-esteem. In addition, these differences were not part of a broader pattern of responding to all aversive ideas: Studies 1 and 2 included an aversive control priming condition and people primed with ideas of misfortune and suffering did not respond like people primed with rejection. If anything, the people primed with aversive experiences responded like people primed with social acceptance. Rejection is apparently a special case, which fits the view that it has unusual power to strike at some of the most basic fears and desires in the human psyche.

Across the three studies, rejection priming had a stronger effect on people with low than high self-esteem. This pattern of findings is consistent with other research showing that people with low self-esteem are more responsive to changes in the environment (e.g., Brockner, 1983; Campbell, 1990; Campbell & Lavallee, 1993). Their style of responding suggests that the idea of rejection activates deep fears and self-doubts, against which they have apparently few defenses, and so the net effect is severely debilitating. In Study 1, rejection priming caused these individuals to rate themselves less favorably, endorsing more negative traits and fewer positive traits as valid descriptions of themselves. In Study 2, rejection priming made them reduce their efforts and give up twice as quickly on difficult, frustrating (actually unsolvable) problems. In Study 3, rejection priming caused them to perform worse than usual on solvable problems.

Taken together, these results suggest that rejection elicits a response of hopeless, passive withdrawal from people low in self-esteem. Simply planting the idea of rejection in their minds seems sufficient to cause them to start thinking of themselves in negative terms, possibly as someone who is neither competent nor desirable to others, and this negative view of self leaves them unable to perform effectively on difficult tasks. Indeed, the difficult tasks seem to lead them quickly to a sense of futility: They give up more rapidly and perform more poorly than they normally would. One might object that low self-esteem by definition implies a negative view of self that would render the person prone to give up on difficult tasks. Along those lines, Heatherton and Ambady (1993) concluded that people low in self-esteem make negative, internal attributions for failure and "do not persist at difficult tasks or those in which they may fail" (p. 134). The present results suggest that this is not a general pattern. People with low self-esteem persisted and performed just as well as (if not slightly better than) those with high self-esteem in two of the three conditions. Specifically, when primed with social acceptance, or even when primed with ideas of misfortune other than rejection, the former group was quite capable of working hard, persisting, and even succeeding. But rejection threat clearly undermined these efforts and resulted in a pattern of withdrawal and failure.

In contrast, people high in self-esteem showed a very different pattern of responses that suggests that rejection is not debilitating to them. If anything, these people respond to the idea of rejection by increasing their efforts to succeed and to be accepted. They responded to implicit rejection by rating themselves quite favorably in Study 1, and indeed the trend suggested that they rated themselves more favorably in response to the rejection prime than in either of the other conditions. In Study 2, they doubled their efforts on a difficult task when they had been primed with rejection. In Study 3, rejection prime had no adverse effect on their task performance, and again, the trend pointed toward increased rather than decreased performance.

These findings are consistent with the view that people high in self-esteem have substantial inner resources of confidence and positive feelings on which they can draw in response to external threat (Steele, 1988). For someone with genuinely positive traits, these responses would all be very adaptive ways of dealing with the possibility of rejection because they would help cast the self in a very desirable light, as someone that others ought to

want to include. Meanwhile, though, people low in self-esteem lack any such inner resources with which to fend off the threat of rejection, and so their responses conform to a passive, withdrawing style. The idea of rejection apparently constitutes a threat that is enough to activate a more negative view of self and a tendency to approach difficult tasks as if the situational demands are hopelessly beyond what the self could accomplish.

The present results are perhaps especially noteworthy because they did not depend on actual rejection. One could perhaps sympathize with the response of people low in self-esteem if they had just experienced a genuine, crushing rejection. Our procedures activated the idea of rejection, and even this idea was presented in a way that did not specifically refer to them. Simply implanting the suggestion that somebody, somewhere might experience rejection was apparently sufficient to have a significant impact on the self-appraisals and task efforts of people with low self-esteem.

These findings are quite consistent with the theoretical approach to self-esteem that has been taken by Leary and his colleagues (Leary & Baumeister, 2000; Leary et al., 1995). In that view, self-esteem is centrally and essentially concerned with social acceptance and rejection, and indeed, it serves as an inner meter of one's overall eligibility for social acceptance. Our findings indicated that rejection elicited self-esteem differences that did not appear in response to other kinds of misfortunes, which supports the view that rejection is especially relevant to self-esteem. Moreover, the responses of people with high self-esteem suggest an underlying confidence that in the end they will be able to secure social acceptance. The responses of people with low self-esteem seem to indicate a lack of precisely that.

The present findings also build on prior work by showing that people with high self-esteem are indeed attuned to rejection and concerned about acceptance. Downey and Feldman (1996) revealed that high-self-esteem individuals are less sensitive to rejection than are low-self-esteem individuals, and Baldwin and Sinclair (1996) suggested that the former do not view interpersonal acceptance as contingent on success. These studies would predict little to no response to rejection primes among people with high self-esteem, either because they are insensitive to the primes or because they make no association between primes and good performance. The present data, however, showed that the concept of rejection was both activated and defended against through efforts to maximize performance. High-self-esteem individuals' motivation in the face of rejection threat suggested that they believed there was something to be gained from success on the anagram tasks. Contingency schemas, while perhaps not chronically accessible, appeared to be available.

Limitations

The present studies provide valuable information about some of the ways in which people cope with rejection. However, a few methodological weaknesses related to the size and nature of our samples are noted. These studies employed small sample sizes. The consistent pattern of findings across studies suggests that the effects of rejection priming on cognition and behavior are reliable, although more studies that employ larger sample sizes are needed to increase confidence in the findings. Furthermore, Studies 2 and 3 used homogeneous samples, which likely decreased within-cell variance and contribute positively to overall *F* size. The results from these studies should be replicated with more diverse samples (such as that employed in Study 1) to ensure that effects for persistence and performance are generalizable to heterogeneous populations.

Conclusions and Implications

To conclude, we note that the habitual responses to rejection threat that we have documented here may serve to perpetuate chronically high or low levels of self-esteem. High-self-esteem individuals work harder following rejection threat, and this response may help bring about admiration from others and sustain beliefs of worth and competence. There are unique instances in which persistence is inversely related to performance, and under these circumstances, increased persistence in efforts to prove one's abilities will clearly backfire (McFarlin et al., 1985). Yet, in most academic or professional situations, persistence is positively related to performance, and high-self-esteem people's efforts to prove their worth will engender a higher probability of success and positive regard.

In contrast, low-self-esteem individuals give up and perform worse in response to the mere hint of rejection, and these responses may ultimately reinforce fears of failure, embarrassment, and low self-worth. These tendencies to withdraw from challenging tasks may serve to perpetuate chronically low self-evaluations by way of reducing successes and interpersonal acceptance, creating a rut that low-self-esteem people may find difficult to escape.

NOTES

1. Because race/ethnicity was not the focus of this research, demographic data were collective for descriptive purposes only and were not associated with participants' data.

2. A complete list of trait adjectives may be obtained from the first author.

3. All *t* tests reported here and in subsequent analyses are one-tailed.

REFERENCES

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.

Baldwin, M. W., & Sinclair, L. (1996). Self-esteem and "if . . . then" contingencies of interpersonal acceptance. *Journal of Personality and Social Psychology, 71*, 1130-1141.

Banaji, M. R., Hardin, C., & Rothman, A. J. (1993). Implicit stereotyping in person judgment. *Journal of Personality and Social Psychology, 65*, 272-281.

Bargh, J. A. (1997). The automaticity of everyday life. In R. S. Wyer, Jr. (Ed.), *The automaticity of everyday life: Advances in social cognition* (Vol. 10, pp. 1-61). Mahwah, NJ: Lawrence Erlbaum.

Bargh, J. A., & Barndollar, K. (1996). Automaticity in action: The unconscious as repository of chronic goals and motives. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 457-481). New York: Guilford.

Bargh, J. A., Bond, R. N., Lombardi, W. J., & Tota, M. E. (1986). The additive nature of chronic and temporary sources of construct accessibility. *Journal of Personality and Social Psychology, 50*, 869-878.

Bargh, J. A., Chaiken, S., Raymond, P., & Hymes, C. (1996). The automatic evaluation effect: Unconditionally automatic attitude evaluation with a pronunciation task. *Journal of Experimental Social Psychology, 32*, 185-210.

Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology, 71*, 230-244.

Baumeister, R. F. (1991). *Meanings of life*. New York: Guilford.

Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1993). When ego threats lead to self-regulation failure: Negative consequences of high self-esteem. *Journal of Personality and Social Psychology, 64*, 141-156.

Baumeister, R. F., & Leary, M. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497-529.

Blaine, B., & Crocker, J. (1993). Self-esteem and self-serving biases in reactions to positive and negative events: An integrative review. In R. F. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 55-85). New York: Plenum.

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. New York: Basic Books.

Brockner, J. (1983). Low self-esteem and behavioral plasticity: Some implications. In L. Wheeler & P. Shaver (Eds.), *Review of personality and social psychology* (Vol. 4, pp. 237-271). Beverly Hills, CA: Sage.

Brockner, J. (1988). *Self-esteem at work: Research, theory, and practice*. Lexington, MA: Lexington Books.

Brown, J. D., & Dutton, K. A. (1995). The thrill of victory, the complexity of defeat: Self-esteem and people's emotional reactions to success and failure. *Journal of Personality and Social Psychology, 68*, 712-722.

Brown, J. D., & Smart, S. A. (1991). The self and social conduct: Linking self-representations to prosocial behavior. *Journal of Personality and Social Psychology, 60*, 368-375.

Campbell, J. D. (1990). Self-esteem and clarity of self-concept. *Journal of Personality and Social Psychology, 59*, 538-549.

Campbell, J. D., & Lavallee, L. F. (1993). Who am I? The role of self-concept confusion in understanding the behavior of people with low self-esteem. In R. F. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 3-20). New York: Plenum.

Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology, 70*, 141-156.

Chartrand, T. L., & Bargh, J. A. (1996). Automatic activation of impression formation and memorization goals: Nonconscious goal priming reproduces effects of explicit task instructions. *Journal of Personality and Social Psychology, 71*, 464-478.

Ciarocco, N. J., Sommer, K. L., & Williams, K. D. (1998, May). *On being ignored and not knowing why: The detrimental effects of ambiguous silence*. Paper presented at the Midwestern Psychological Association conference, Chicago.

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology, 56*, 680-690.

Dodgson, P. G., & Wood, J. V. (1998). Self-esteem and the cognitive accessibility of strengths and weaknesses after failure. *Journal of Personality and Social Psychology, 75*, 178-197.

Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology, 70*, 1237-1343.

Dutton, K. A., & Brown, J. D. (1997). Global self-esteem and specific self-views as determinants of people's reactions to success and failure. *Journal of Personality and Social Psychology, 73*, 139-148.

Fazio, R. H., Sanbonmatsu, D. M., Powell, M. C., Kardes, F. R. (1986). On the automatic activation of attitudes. *Journal of Personality and Social Psychology, 50*, 229-238.

Fleming, J. S., & Courtney, B. E. (1984). The dimensionality of self-esteem: II. Hierarchical facet model for revised measurement scales. *Journal of Personality and Social Psychology, 46*, 404-421.

Harter, S. (1987). The determinants and mediational role of global self-worth in children. In N. Eisenberg (Ed.), *Contemporary issues in developmental psychology* (pp. 219-242). New York: John Wiley.

Harter, S. (1993). Causes and consequences of low self-esteem in children and adolescents. In R. F. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 87-116). New York: Plenum.

Heatherton, T., & Ambady, N. (1993). Self-esteem, self-prediction, and living up to commitments. In R. F. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 131-145). New York: Plenum.

Kernis, M. H., Cornell, D. P., Sun, C., Berry, A., & Harlow, T. (1993). There's more to self-esteem than whether it is high or low: The importance of stability of self-esteem. *Journal of Personality and Social Psychology, 65*, 1190-1204.

Leary, M. R., & Baumeister, R. F. (2000). The nature and function of self-esteem: Sociometer theory. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 32). San Diego, CA: Academic Press.

Leary, M. R., Haupt, A. L., Strausser, K. S., & Chokel, J. T. (1998). Calibrating the sociometer: The relationship between interpersonal appraisals and state self-esteem. *Journal of Personality and Social Psychology, 74*, 1290-1299.

Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology, 68*, 518-530.

Lynch, J. J. (1979). *The broken heart: The medical consequences of loneliness*. New York: Basic Books.

McFarlin, D. B. (1985). Persistence in the face of failure: The impact of self-esteem and contingency information. *Personality and Social Psychology Bulletin, 11*, 153-163.

McFarlin D. B., Baumeister, R. F., & Blascovich, J. (1985). On knowing when to quit: Task failure, self-esteem, advice, and nonproductive persistence. *Journal of Personality, 52*, 138-155.

McFarlin, D. B., & Blascovich, J. (1981). Effects of self-esteem and performance feedback on future affective preferences and cognitive expectations. *Journal of Personality and Social Psychology, 40*, 521-531.

Murray, S. L., Holmes, J. G., MacDonald, G., & Ellsworth, P. C. (1998). Through the looking glass darkly? When self-doubts turn into relationship insecurities. *Journal of Personality and Social Psychology, 75*, 1459-1480.

Myers, D. (1992). *The pursuit of happiness*. New York: William Morrow.

Nezlek, J. B., Kowalski, R. M., Leary, M. R., Blevins, T., & Holgate, S. (1997). Personality moderators of reactions to interpersonal rejection: Depression and trait self-esteem. *Personality and Social Psychology Bulletin, 23*, 1235-1244.

Pratto, F., & Bargh, J. A. (1991). Stereotyping based on apparently individuating information: Trait and global components of sex stereotypes under attention overload. *Journal of Experimental Social Psychology, 27*, 26-47.

Shrauger, J. S., & Lund, A. K. (1975). Self-evaluation and reactions to evaluations from others. *Journal of Personality, 43*, 94-108.

Shrauger, J. S., & Rosenberg, S. E. (1970). Self-esteem and the effects of success and failure feedback on performance. *Journal of Personality, 38*, 404-417.

Shrauger, J. S., & Sorman, P. B. (1977). Self-evaluations, initial success and failure, and improvement as determinants of persistence. *Journal of Consulting and Clinical Psychology, 45*, 784-795.

Smith, S. M., & Petty, R. E. (1995). Personality moderators of mood congruency effects on cognition: The role of self-esteem and negative mood regulation. *Journal of Personality and Social Psychology, 68*, 1092-1107.

Sommer, K. L., Williams, K. D., Ciarocco, N. J., & Baumeister, R. F. (2001). When silence speaks louder than words: Explorations into the interpersonal and intrapsychic consequences of social ostracism. *Basic and Applied Social Psychology, 23*, 227-245.

Srull, T. K., & Wyer, R. S., Jr. (1979). The role of category accessibility in the interpretation of information about persons: Some determinants and implications. *Journal of Personality and Social Psychology, 37*, 1660-1672.

Srull, T. K., & Wyer, R. S., Jr. (1980). Category accessibility and social perception: Some implications for the study of person memory and interpersonal judgment. *Journal of Personality and Social Psychology, 38*, 841-856.

Stake, J. E., Huff, L., & Zand, D. (1995). Trait self-esteem, positive and negative events, and event-specific shifts in self-evaluation and affect. *Journal of Research in Personality, 29*, 223-241.

Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 21, pp. 261-302). San Diego, CA: Academic Press.

Steele, C. M., Spencer, S. J., & Lynch, M. (1993). Self-image resilience and dissonance: The role of affirmational resources. *Journal of Personality and Social Psychology, 64*, 885-896.

Swann, W. B., Wenzlaff, R. M., Krull, D. S., & Pelham, B. W. (1992). Allure of negative feedback: Self-verification strivings among depressed persons. *Journal of Abnormal Psychology, 101*, 293-306.

Swann, W. B., Wenzlaff, R. M., & Tafarodi, R. W. (1992). Depression and the search for negative evaluations: More evidence of the role of self-verification strivings. *Journal of Abnormal Psychology, 101*, 314-317.

Tafarodi, R. W., & Swann, W. B., Jr. (1995). Self-liking and self-competence as dimensions of global self-esteem: Initial validation of a measure. *Journal of Personality Assessment, 65*, 322-342.

Tafarodi, R. W., & Vu, C. (1997). Two dimensional self-esteem and reactions to success and failure. *Personality and Social Psychology Bulletin, 23*, 626-635.

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